



Mambu

enabling microfinance

Tesouraria



The Vision

Microfinance helps the poorest of the poor by giving them access to much needed credit to build a new home, pay for education or create a self-sufficient business to improve their lives.

This is a new vision for enabling microfinance throughout the world.

Technology facilitates incredible growth, improves industries and improves how people can work.

So far, technology for microfinance has placed a great burden on these organizations, diverting them from focusing on providing their services. And the smallest organizations that need the technology the most, are unable to afford to access it.

Mambu is a solution to this problem.

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A person is riding a bicycle through a lush green field. In the background, there are several traditional huts with thatched roofs. The landscape is rolling and green, with hills in the distance under a cloudy sky. The text is overlaid on the top left of the image.

Bamboo is the fastest growing plant in the world.

But only when all the conditions are right.

Bamboo has been eaten, worn, used to build bicycles and homes.

It is versatile and obtainable to all.

The origin of the word Bamboo is Mambu

Microfinance Matters

Why Microfinance Matters

Almost three billion people live on less than \$2 USD per day and yet they are in as much of need of financial services as anybody. Only 17% of those have access to basic services like savings to guard against rats, fires and irresponsible spending, but traditional banks do not seek out these customers. They save informally by investing in jewelry that could be stolen or livestock that could die, burying cash that could be eaten by insects, giving their savings to neighbors or local cash collectors to hold, or participating in informal savings groups. They take loans from the sources that are available to them, which could engage in price gouging interest rates and illegal practices that could ultimately leave their clients more impoverished than before. Informal loans and savings are prone to fraud, mismanagement, and do not have the flexibility of banks. However, these people often have nowhere else to turn, as they have no money with which to open a savings account, no collateral with which to secure a loan and no credit record. Furthermore, illiteracy may prevent people from completing the paperwork necessary to use bank services. Therefore it is critical for microfinance institutions to grow to meet the needs of these individuals.

Microfinance organizations use different methods than traditional banks, for example using group

The very poor need basic financial services like loans and savings just as much as anybody

MFIs are lacking in affordable modern tools to support them and better serve their clients

loans instead of formal credit analysis for credit metrics, and using paper, spreadsheets and custom software rather than expensive electronic banking solutions. In this way, the poor can have access to the credit that they need to support their families and businesses and live more fulfilled lives. In order to ensure that potential clients do not remain poverty-stricken or resort to exploitative methods for their financial solutions, microfinance institutions need to be given the tools to grow so that they can reach out to everyone in need.

Microfinance is Evolving

In 1976, Muhammad Yunus gave a \$27.00 loan to furniture makers in Bangladesh, who fully repaid it even with a profit. Thirty years later, he was awarded the Nobel Peace Prize, one year after the United Nations' 2005 Year of Microcredit, announcing to the world the benefits of providing financial services to the poor. While many MFIs started as individual NGOs funded by donors, some are growing into professional businesses offering a fuller portfolio of banking services, larger branch networks, distribution outlets like ATMs and the ability to make greater investments in technology to provide better services to more clients. New technology like wireless and mobile devices could help microfinance services to evolve and bring services to more remote areas where branches cannot reach. However, the majority of microfinance providers worldwide are still small and lacking in modern tools to support them and to better serve their clients.



DEFINITION

Microfinance is the supply of loans, savings, and other basic financial services to the poor at a smaller scale than regular banking.

A microfinance institution (MFI) is an organization that provides microfinance services, ranging from small non-profit organizations to large commercial banks.

A management information system (MIS) is an information collection and analysis system, usually computerized, that facilitates access to program and participant information.

Software-as-a-Service (SaaS) is a software delivery method that provides access to software and its functions remotely as a Web-based service. SaaS allows organizations to access business functionality at a cost typically less than paying for licensed applications since SaaS pricing is based on a monthly fee.

Microcredit organizations are very different in their individual operations, product designs and missions, however they all share common attributes and only very few organizations are able to disregard these and still operate on a self-sustainable basis. In general MFI operations are divided into fieldwork and office or branch operations.

Credit officers and so-called promoters usually do the fieldwork, as they evaluate potential clients in

markets and villages they visit and promote the organization's services to the community. They check stores of loan applicants, compare prices with competing stores, consult on how to improve business and often collect repayment receipts from clients.

All MFIs have some sort of office in which the fieldwork is coordinated. However these offices can vary from a cramped ten-person, one-room backyard

operation to multi-story buildings in urban areas with dozens of employees. Some of the larger MFIs actually operate branches in a bank-like manner where clients are served on front desks, can inquire about the products offered and the status of their loans or repayments. In micro banks additional services such as savings or micro-insurances are offered in the branches, and in some cases clients will be able to transfer money to other clients.

Traditional Banking

Microfinance Organizations

	Traditional Banking	Microfinance Organizations
Customer Profiles	Working to upper class and have easy access to banks	Lower class often living in rural areas lacking either means, ability or knowledge to access banking services
Approx. Client Income	Usually well above \$50/day	Commonly below \$10/day
Products Offered	Loans, savings, remittances, assets/investments, mortgage, etc.	Group and individual loans, group and individual savings, remittances, micro insurances
Size of Loans	Commonly more than \$1000	Widely varying from \$10 - \$1000
Duration of Loans	More than 6 months	Intra-day to one year
Interest Rates (APR)	Stable and usually less than 15%	Usually > 20 %, easily rising up to 40% in loans < \$ 200
Credit Metrics	Credit scoring, HUB organizations, credit analysis	Intuition, peer- and social pressure, evaluation of business ideas
Cost Per Loan Dollar	Relatively evenly distributed	Rises exponential the smaller the loans
Technology Used	Expensive core banking solutions and Management Information Systems (MIS)	Paper, Spreadsheets, custom-made solutions and few off-the-shelf MIS

MFI Challenges and Needs

Self-Sustainability

Microfinance is a volatile sector with some estimates that as few as 1% of the organizations become self-sustainable over the long term. The others are strongly dependent on donor funding and may end up being merged together, joining other institutions, needing to attract commercial funding or simply having to fold. Another hint for their inability to scale to self-sustainability is that more than 73% of all MFIs had fewer than 2,500 clients with only very few branches serving them.

Tchuma is one of the largest MFIs in Mozambique, serving about 10,000 clients in southern Mozambique out of Maputo. Having credit officers in the field and lots of information distributed in the diverse branches, they send paper forms from one branch to another via regular mail. As most loan eligibility decisions are made at the headquarters, evaluation sheets and additional data has to be sent to the headquarters for review. Department managers and loan officers then travel to the main branch once in a week to discuss the reviewed loan requests. In this process it can take up to three weeks from when a client has been evaluated by the credit officer to when he receives notice on whether the loan has been granted or not.



RESEARCH

Information Exchange between MFIs

MFIs face a big challenge sharing business-critical information between branches and from field staff, as most of their information about clients is acquired on paper forms. Even if an information system is available, a significant overhead is required to enter data from paper forms into the information system. However, current information systems do not efficiently support some of the organizations' processes such as determining loan eligibility. This activity requires review of information on multiple different staff levels in the organization, which are often often hundreds of kilometers apart of each other.

Transparency

As recently some MFIs have become more competitive and try to differentiate from each other, clients face numerous microcredit providers to choose from. As they have no prior knowledge in banking and products vary widely without displaying annual interest rates, it becomes hard for individuals to compare and choose the best option. On the investors and donors, side the same is true: they find it hard to invest in MFIs without knowing organizations in detail and evaluating their efficiency which results in poor investments and prevents a lot of investors from moving into the market.

Reliable IT Support

IT solutions available to the MFI market are mostly on-premise products. This means they are either installed on servers in all branches or centralized in a datacenter. Acquisition costs for technical infrastructure, hardware and even more so their maintenance are astronomical for small organizations. Many small organizations have come to use cheap custom-made solutions which are oftentimes not supported any longer by their authors after a short period of time.

Information Systems Designed for Usability

There is no information system in the market which has been specifically designed for the MFI market and fully supports work processes, social structures and business activities of the organizations. With even the most dominant providers in the MFI software market losing one client for every two they acquire year after year, there is a clear unaddressed need for a solution designed for use in this market.

As few as 1% of the microfinance organizations become self-sustainable over the long term

Current Software Product Solutions might not be the best suited to meet the needs of smaller MFI organizations. The current market for portfolio management software available to microfinance and microcredit institutions is scattered with only very few companies providing software to more than a handful of MFIs.

Spreadsheets and paper are still used by many small MFIs to manage their organizations, which is a perfectly acceptable solution for very small organizations with only few clients or in very remote areas. However this option of managing an MFI does not scale and will not allow MFIs to increase their efficiency and ultimately will not allow them to reach self-sustainability. Many MFIs lack even the most basic IT skills so their employees will work even

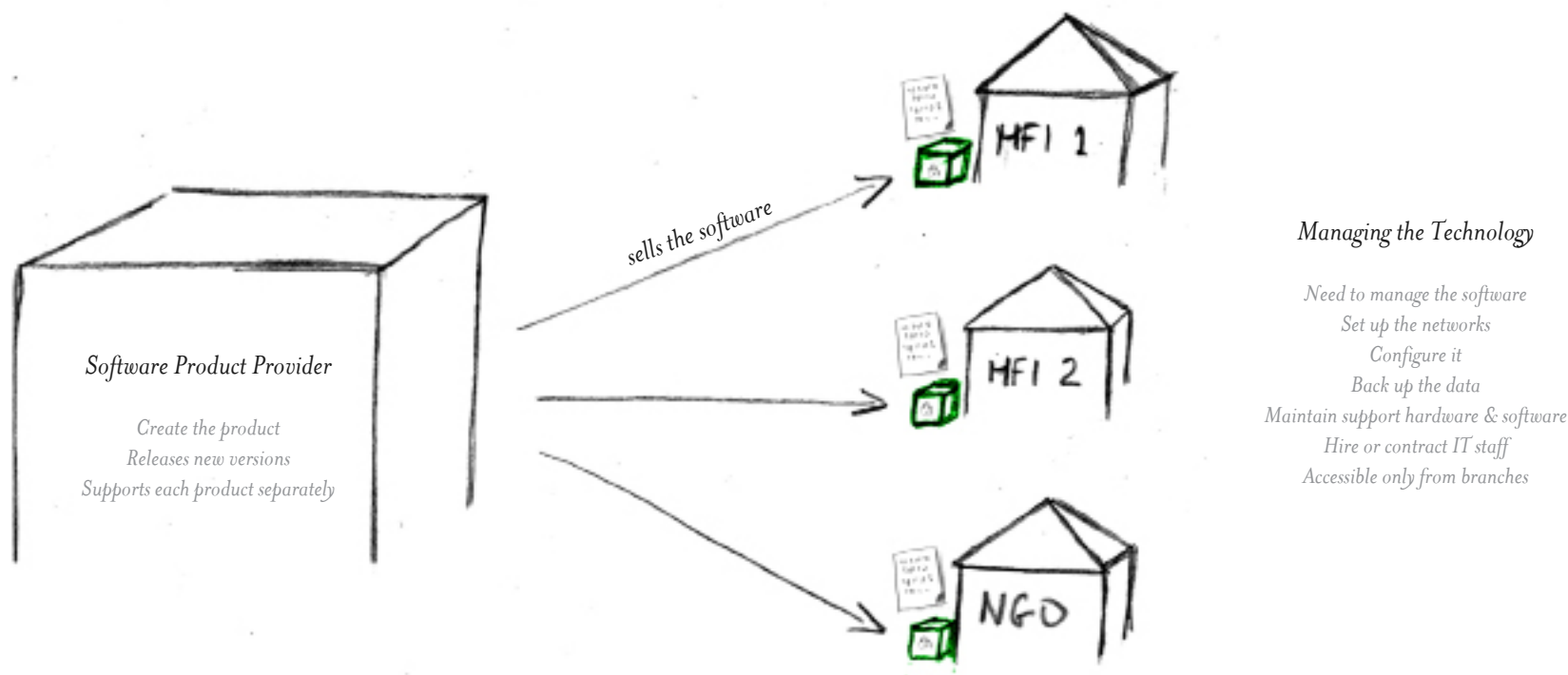
less efficiently with spreadsheets than using a more advanced software solution.

Custom-built software is relatively cheap to acquire in most countries where MFIs operate and therefore the job of building software to run the MFI operations is often outsourced to small IT firms or even friends. However the quality often suffers and the long-term viability and scalability of these software solutions are often miserable.

Off-the-shelf software that can be bought from their provider as is – so called off-the-shelf products – requires minimal adaption and gets installed on computers or servers owned by the MFI. Currently almost 100 solutions like this exist of widely varying prices, features, quality and localizations. Of these,

the providers may or may not be still supporting their software, as getting in contact with them is difficult. Providers often advertise their software locally and so have little global presence. Loan Performer is currently a popular solution with over 250 MFIs using it. It is relatively cheap, well-featured and available in numerous languages. MIFOS on the other hand is an online solution that is open-source, free to download and use by any organization. It is currently most visibly being used by Grameen Koota in Bangalore, serving more than 250,000 clients and has further plans to launch in the Philippines.

However with approximately half of all MFIs using the previously mentioned custom-built software, there are clear needs that are unmet in the off-the-shelf market.



Problems Common to On-Premise Products

All software that is installed on computers or deployed on servers owned by an organization is called on-premise software. Common to all on-premise software products in the microfinance domain is their considerable requirements to invest into hardware infrastructure, setup and maintenance. Small MFIs are unable to invest these sums and therefore the MFIs targeted with these products mostly have from 5,000 to 25,000 clients. Solutions targeting the sub-2,500-client market of MFIs – 73% globally in 2005 – as well as countless NGOs providing microcredit services are not readily available.

“Many, many small MFIs would benefit from better ways to manage their information, but the market doesn’t yet seem to know how to serve this group.”

Lauren Braniff, CGAP Information Systems Expert



Software Services

A few software providers have just started creating software services, which can be used over the Internet for a monthly subscription fee. Audech.com is a Bangalore-based startup who recently launched a service edition of Mifos called MAS and is piloting mobile access to this solution in India. In addition as of November 2009, IBM and Grameen have announced the pilot project of the IBM Microfinance Processing Hub. It is also a SaaS platform to support microfinance operations. Billing per-account, per month they deployed the solution with

very large MFIs in India and Mexico. The Processing Hub provides banking-oriented on-demand services to microfinance organizations. Very little usage information is currently available, but it appears the target market for this product are solely very large microfinance institutions as an IBM attempt to leverage its banking software and consulting expertise to bridge the gap between microfinance and banking institutions.

There is still a need for a solution to serve the small to medium MFIs which make up the majority of markets and provide the most services.



RESEARCH

We were able to see numerous MFIs using different software solutions in Mozambique. Tchuma was using Promosoft software designed for banking. Banco Oportunidade was using a custom-built solution which they are trying to standardize across the Opportunities International MFI enterprise. A few MFIs were using Loan Performer with mixed results and were highly receptive to alternative solutions. This seems consistent with global long-term experience with software like Loan Performer where as few as only one of two clients keeps using it after the first year.



MERCADO DO PAU IN MAPUTO. PAINTINGS ARE ONE OF THE MOST COMMON PRODUCTS IN THIS HANDCRAFT MARKET

A Novel Solution

Mambu is an online portfolio management software service for growing microcredit organizations. It lets microcredit organizations outsource their technical challenges and allows them to focus on their core business: improving the lives of the poor by providing essential finance services such as loans. Mambu is affordable, designed for usability and - by being available online - allows the organization to access their information anytime, anywhere. Ultimately, Mambu will be able to increase organizational transparency, directly connect donors to clients and support advances to microcredit business practices such as the use of agents and mobile technology. All are essential needs of microcredit organization and unfulfilled by any single solution.

Mambu is an online service an MFI can subscribe to, not a product to buy. Its design is targeted to the needs of small organizations where the up-front and maintenance costs of most on-premise software products impose unreasonable high entry barriers and online services are not catered to their specific needs. Mambu being subscription-based does not require extensive set-up, maintenance or technical expertise in the organization. All that is required to access the service is a computer with an Internet connection and a web browser. Or even a cell phone. The solution is maintenance-free for the organizations using it. As Internet is becoming more and more available and reliable in the developing world, a solution like Mambu will soon have worldwide applicability.

Let's examine how Mambu works and how it's different and better than existing solutions.

Provide an online microcredit portfolio management service

which will...



IMPROVEMENTS

Outsource the technology

Reduce the complexity

Lower cost of ownership

Scale with their growth

Support social connectivity

Increase accessibility & flexibility

Heighten transparency

Improve usability

"It's like outsourcing your essential electricity or water needs."

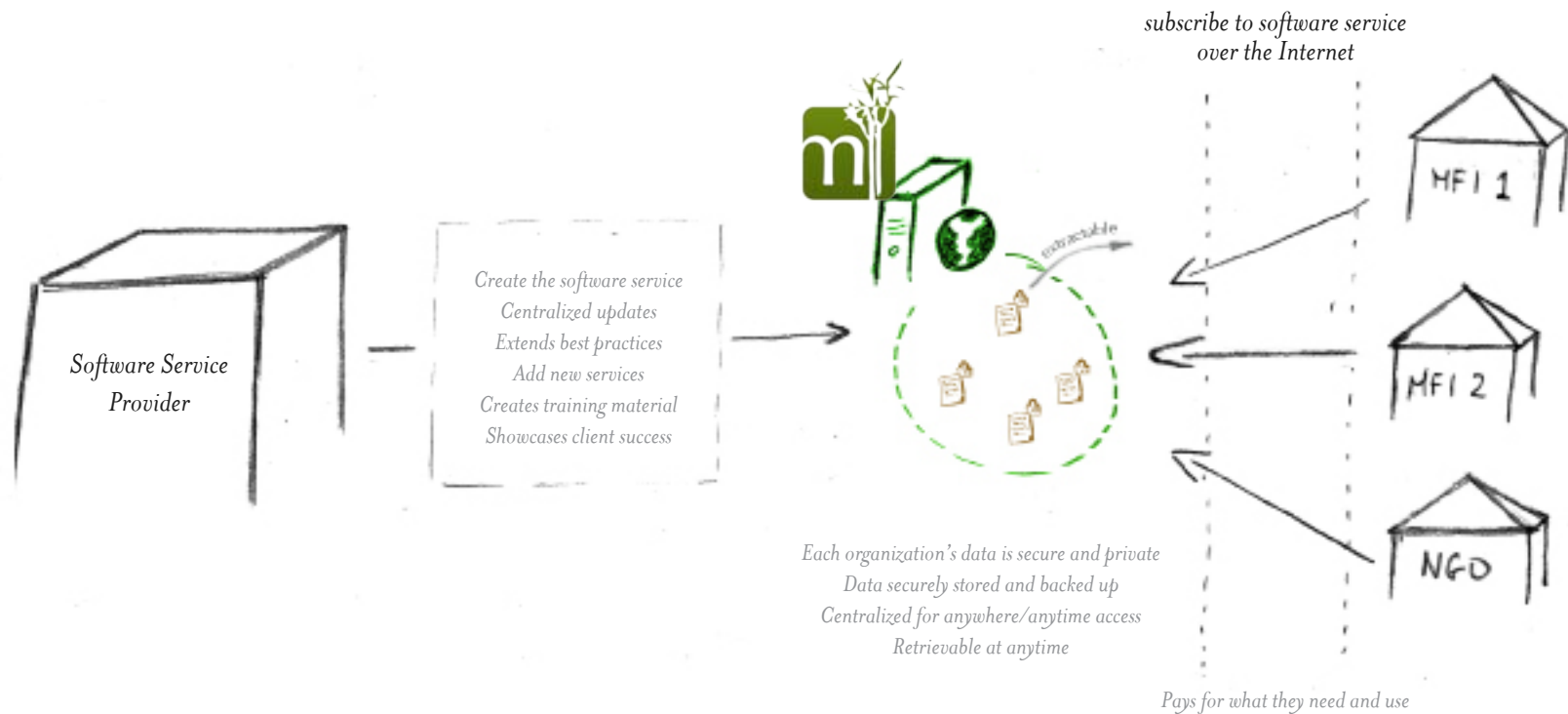
Adão Saranga, Tchuma Systems Analyst

The new software service model by Mambu changes how MFIs now access their software, and how a software company provides it. The software service provider now hosts his product online takes care of configuring the software, supporting the hardware, backing up the data, resolving issues, optimization, networking and other technical complexities. The complex infrastructure required to support the software is abstracted away from the MFIs. The provider now creates the software product, improves it and implements global best practices extended to all MFIs seamlessly.

The organizations themselves access this software via the Internet be it through a computer, a cell phone or any other medium. Instead of purchasing it, they pay a subscription to the service provider relative to their needs. This reduces numerous risks on the organization since it is easy to start and end using the service. Their data is stored centrally and secured by the software service provider. The MFI organization can, of course, access and retrieve all their information at any time should they choose - but the real advantage comes from having it taken care of by the provider. Each organization has their own private, secure space within the service which

they can access anytime from anywhere. Training, support and other services will be provided primarily online but can still be extended through traditional channels.

In this new delivery model, the software is now provided as a service which is paid for and used as much or as little as is required by the organizations. This allows the organizations to pay a fair price according to their needs and allows the service provider to be able to serve many organizations at an affordable cost by designing for similarities and supporting the differences.



Access Anytime, Anywhere

All that would be required to access Mambu is a computer with an Internet connection and a web browser. MFI staff will then be able to access organization information, keep track of clients and perform their work from anywhere. This is a big underserved need in current on-premise software systems and has the potential to redefine the meaning of a “branch” to MFIs.

Affordable

The subscription costs for Mambu would be tailored to the MFI’s scale. Initially the costs for the solution will be a fraction of the cost for traditional on-premise software and scale up proportionally to the MFI’s growth as it uses Mambu for more clients or employs more staff to work with more clients.

Designed For Use

Mambu is being designed by usability and web technologies experts, based on extensive fieldwork to appropriately reflect work processes, social structures and business activities of MFIs. Organizations can also just sign up for the service online and instantly start using it receiving convenient online training as they go along.

No Need For Technical Expertise

All server infrastructures, backup, maintenance, updates and other technical burdens will be taken care of by the Mambu service provider. The MFIs can focus on their core business and be sure their data is safe and always available. Even if they outgrow the service, they will be able to easily export their data and move to a new software solution.

Leveraging Economies Of Scale

Ultimately, Mambu would be able to increase organizational transparency, directly connect donors to clients through an integrated online platform and support advances to microcredit business practices such as the use of agents and mobile technology. All are essential needs of microcredit organizations and unfulfilled by any single off-the-shelf solution, but can be provided by a service like Mambu once it serves a significant portion of the MFI market.

All that is needed to access Mambu from anywhere at anytime is an Internet connection



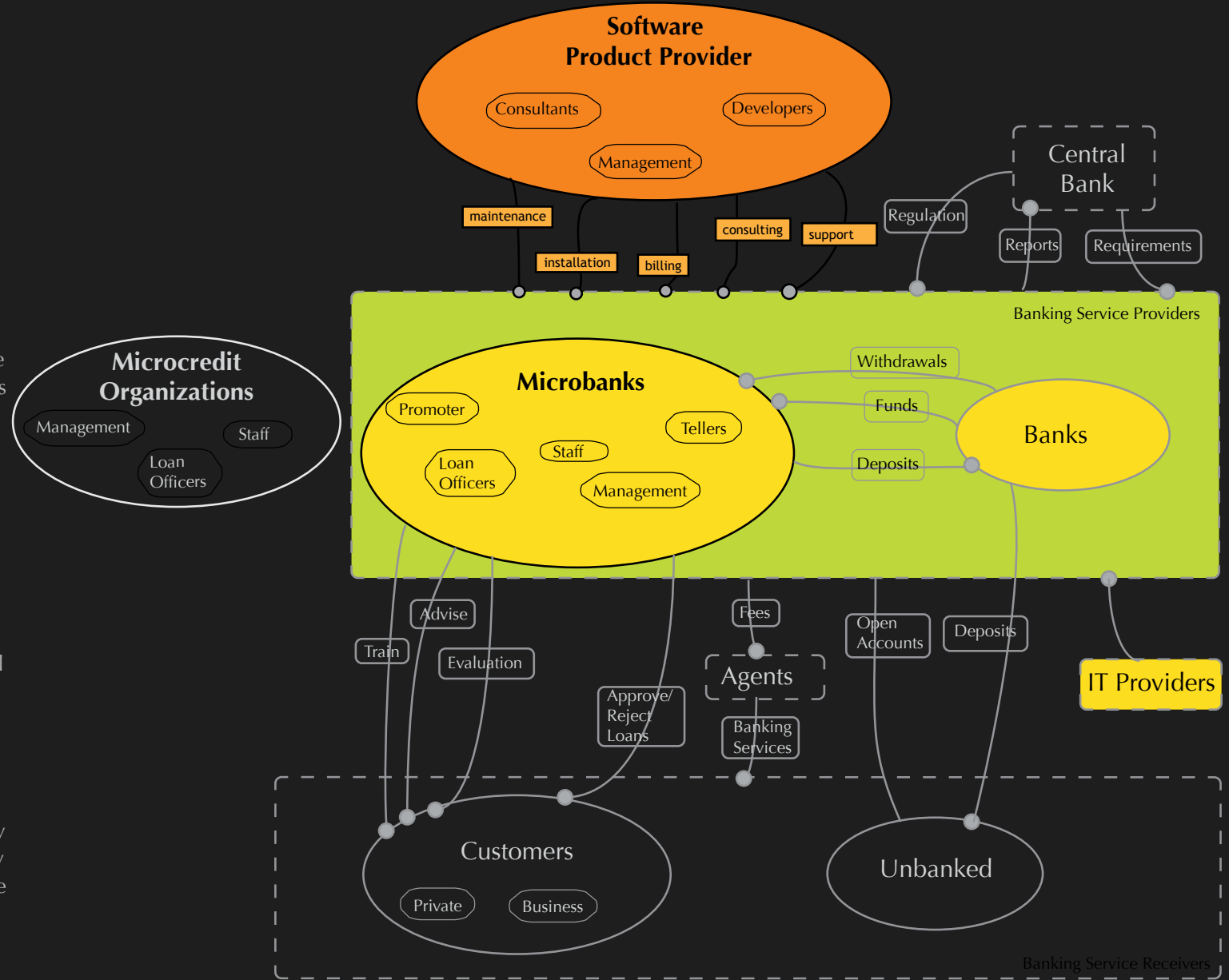
A LOAN CLIENT TALKING ABOUT HIS BUSINESS IN A MARKET OUTSIDE OF CHIMOIO

How the Existing Model Works

In the current service model, a software company develops and sells software products to MFIs and microbanks. Usually a support contract with annual payments is also arranged. This model leaves small and growing microcredit organizations aside as the up-front costs of the product are not affordable to them or do not cater to their specific needs.

The software product is paid for as a whole even if the MFIs will only require a small part of the features. After selling the product to an institution, the company providing the software will install it through a time-consuming process before the MFI can really evaluate how fitting it is. This may require the complex setup of new hardware, networking and redundancy, which will need to be maintained.

The MFI as the owner of the product is still responsible for its configuration, for backing-up the data, optimization and bug resolution. To help them with this, they need to pay either for consultants from the provider or an external IT provider. The process of customization, although possible, is difficult and slow costing the organization valuable time and money. This model works well for enterprises, larger MFI organizations and banks that need local, real-time availability and who can afford to pay and maintain it, but is ill-suited for the majority of smaller and medium-sized institutions. These institutions are not interested and ill-equipped to deal with the burden of purchasing and maintaining large software products.

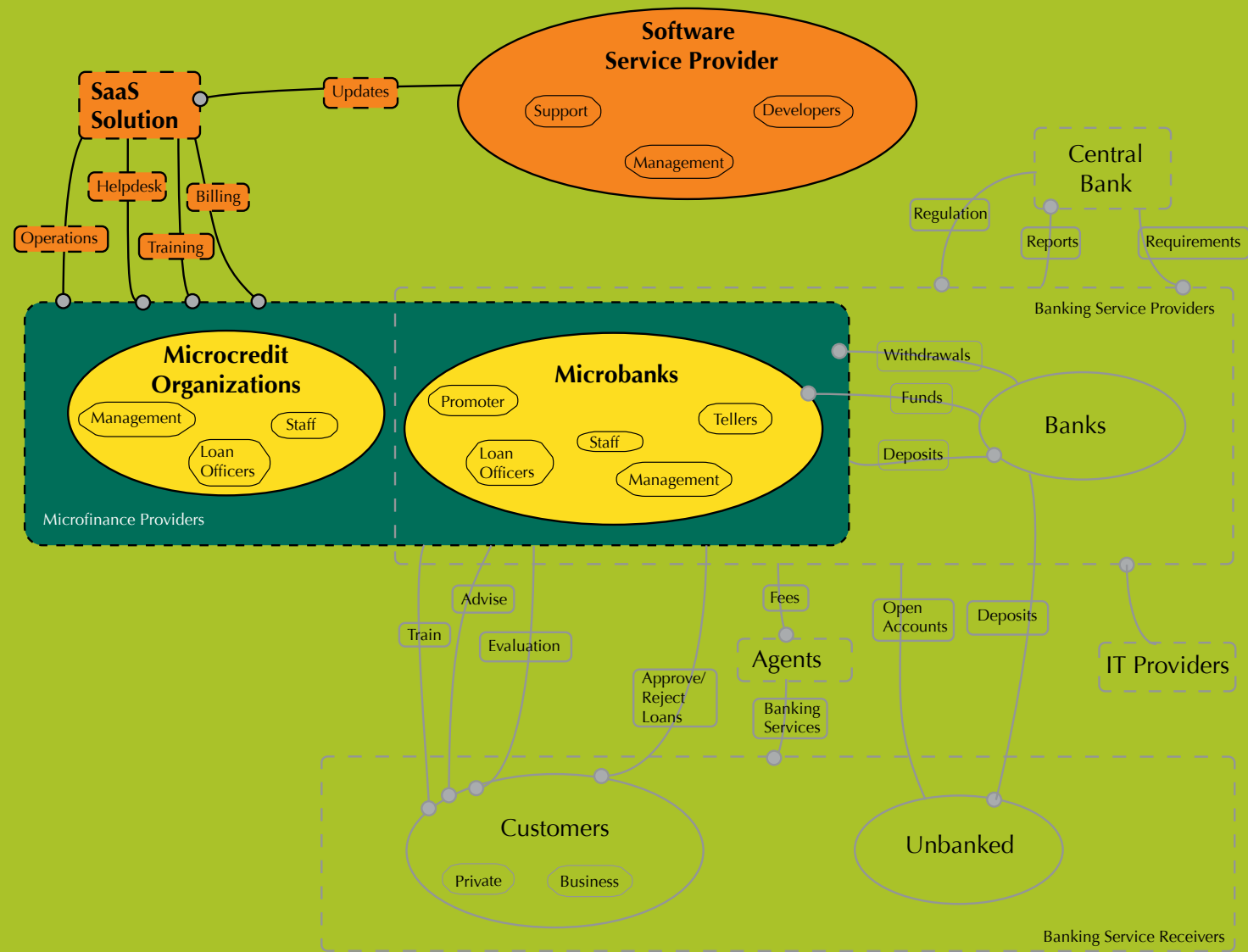


A New Model for a New Service

The biggest change in the Software as a Service model - like Mambu - is that the provider creates a software that MFIs subscribe to as an online service. The core software and hardware are no longer maintained by the MFI, but by the service provider. As an immediate result it brings small microcredit organizations into the process by allowing them to access the same quality of technology as the bigger organizations but with significantly reduced costs. In this model the software provider is responsible for all the updates, software and hardware installation, backing-up and bug resolution allowing the MFIs to focus on their core activities.

Consultants and IT providers are also removed from the picture as the provider takes care of the technical overhead of the software solution. Instead, the solution maintains the organizations' autonomy by providing online training, billing and support on demand. The communication in the organization is also improved in this model, as the information is accessible from anywhere and at anytime and is decentralized.

This new model would encompass anything from the very tiny to medium MFIs and NGOs very well and eventually could scale to support microbanks as well in areas where Internet access is very reliable and the service has proven itself as reliable for real-time customer operations.



New Service Journey

With the framework for how the Mambu SaaS model works in place, the next step is to support the MFIs in every step of their journey of experiencing Mambu. Designing for the entire experience ensures that an organization's first and last experiences aren't just about paying for the service, but are about building trust and a relationship with the company and people providing it.

Mambu as a service begins and ends very much outside just the portfolio management and related software. The entire Mambu experience needs to be supported for its success. The diagram on the right highlights how Mambu facilitates this entire of customer journey starting from the creation of awareness in multiple contexts, ending when an MFI may decide to stop using the service and export all its data for any number of reasons.

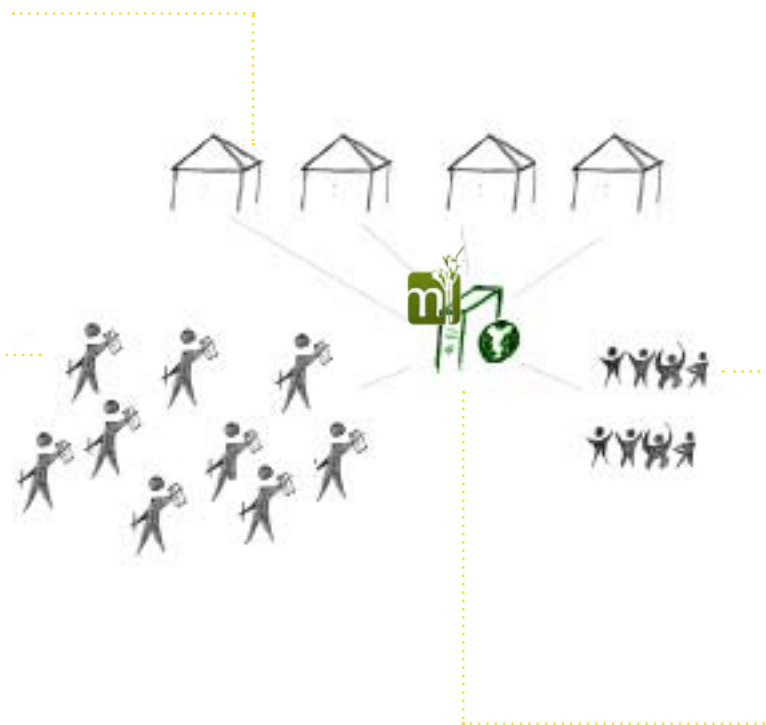
In between decision-making and migration, the processes have to be fully supported until an MFI can actually perform its day-to-day activities with Mambu. MFIs may or may not have an existing solution running at the core of their business. It is understood that migrating to a new system can be painful and sometimes the cause of some apprehension. To overcome this problem Mambu offers extensive online training and support in most stages of the customer journey. Mambu will also leverage community support where MFIs can share the best practices and learn from others.

Having described the organizational experience of Mambu, the following pages look at the intra-organization impact of using it.



Interconnected Branches

An MFI running Mambu will be able to access their data from anywhere. This will help them share information, eliminating time and cost of travel and improving business management. For example, a loan evaluation process that involved travelling staff with paper evaluation forms between branches for approval can now be executed remotely by sharing the information and discussing it via Mambu. With all the data in one secure location, redundancy and synchronization are a thing of the past.



Enabled Mobile Staff

As Mambu will be accessible from almost any Internet-enabled devices, field staff carrying such device would be able to easily connect to Mambu from any location and enter or retrieve information. It will provide more flexibility to those staff members in the field that need to travel to remote areas. The field staff would be able to focus more on the clients and also be able to provide them with the latest information at any time.

Informed Clients

If a loan client can gain access to Internet it would be possible for them to access his own account much as is done with online banking in the developed world. They would be able to see repayment schedules, view their history and even take training courses to learn about money, health, business and other advice MFIs and NGOs are often spreading. Also, Mambu's notification system could keep the clients informed about loan approval, payment schedule, new offerings and any other relevant information through SMS.

Improved Operations

Mambu associates all information with people, places and time and allows anyone to comment and communicate about any activity in the organization. This supports the social operations, lets the organization see their activity as it is happening and map information to the people who are impacted by it. This can be tied to a notification system to provide relevant alerts to the interested parties within MFIs when activity of interest occurred, or when action is required. For instance, if a client visit is required, the corresponding credit officer may be notified either through the system or through SMS. Increasing transparency, increasing communications and supporting the social networks are just some of the ways Mambu will improve MFI operations.

Increasing transparency, increasing communications and supporting the social networks are just some of the ways Mambu will improve MFI operations.



LOCALS BUYING CHICKEN FROM A TRUCK IN THE STREETS OF CHIMOIO

Service Experience

Extending The Vision

With the basic foundation of Mambu in place, this section examines how Mambu could extend its services to encompass the different ways microfinance is being served throughout the world and introduce a few new ones. Mambu would create a new framework whereby new services, advances in technology and improved business practices would be shared throughout every participating microfinance organization.

Each vision

concept is

presented with an illustration of how it would work and how it overcomes current challenges or improves the experience of

using each MFI service. These services enable MFIs at every level, enabling credit officers, branch staff, and the microfinance organization as a whole, and connecting institutions to the MFI.

Enabling Credit Officers

Credit officers play a crucial role in any MFI, acting as connectors between branch and field operations. With new technology like smart phones and digital pens transmitting information through Mambu, credit officers would be able to reduce the time spent in activities such as traveling to deliver gathered information, and focus more on the interaction with clients. These processes would be easily integrated with loan evaluation and similar fieldwork to help MFIs stay updated on clients' behavior more effectively.

Credit officers play a crucial role in any MFI, acting as connectors between branch and field operations

Enabling Branch Staff

Branch staff would be able to communicate at any given time with field staff facilitating the decision-making processes. Mambu would also facilitate typically time-consuming tasks, like generating reports, offering an easy and more efficient way. For certain branch activities that are unique to an MFI, Mambu would be open to allow external developers to contribute and benefit while serving MFIs.

Enabling The Organization

The concept of branch as a central hub where all the communication and main operations take place would be replaced by a decentralized entity where communication can be extended to any place with Internet access. The information would flow faster and more easily increasing the organization's efficiency. Mambu would also be open to support new advances in microfinance practices like banking agents as they become available with little overhead to the MFIs.

Connecting Institutions

Mambu would facilitate and promote the transparency between different MFIs, promoting a secure exchange of information and enabling them to grow based on a shared understanding of good practices and their clients. The service would also allow MFIs to access and share specific information about loan clients' behaviors and integrate it in the process of determining loan eligibility. External institutions such as those providing funds to MFIs through donors, like Kiva, would be connected to the service and able to reach them directly because of their transparency. Mambu could serve as an MFI's face to the world to promote the social good they are performing and bring attention to their needs.



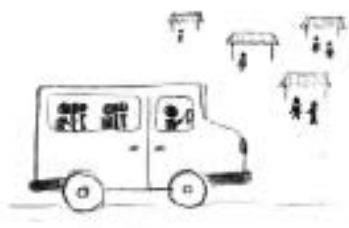
RESEARCH

Extensive primary and secondary research was performed before proposing the Mambu solution. The team analyzed the domain, looking at existent service models and technological solutions that proved to be successful in other countries. Field work was done Mozambique between Maputo, Chimoio and Xai-Xai interviewing bank experts, clients, unbanked people and traveling with credit officers while observing and experiencing their interactions with clients. All the information gathered during this time drove the concept generation and design ideas in the next stage of the project, which were later taken back to Mozambique for further validation through one week of discussions with experts in five different institutions providing microcredit services.

Evaluating Loans occurs when a client requests a loan from an MFI. A credit officer is chosen based on location to be responsible for the whole evaluation process of this client. It can be a lengthy process considering multiple trips spent gathering information about the potential client. The credit officer collects information about the kind of business and profits and also talks to other people working close to the potential client to find out about his habits, routines

and general behavior while managing his business. All the information collected in the field is written directly in evaluation sheets and previously could only be entered in the system when the loan officer went back to the branch at the end of the day. The branch visits may not be daily and in some cases the evaluation forms are mailed around taking days if not weeks before they are processed - if they haven't been lost. This is a process that Mambu would redesign by

allowing access to client data forms anywhere with Internet access. They could even use a smart pen to automatically enter data into the system as they write. The loan officer could see their visit schedule, be notified of urgent visits required or be able to stay connected to relevant branch activities without having to travel as often. With Mambu, this vital service is supported and enhanced without compromising the ability to still visit the branch or mail evaluation.



A credit officer travels via public bus to a remote village to evaluate potential clients.



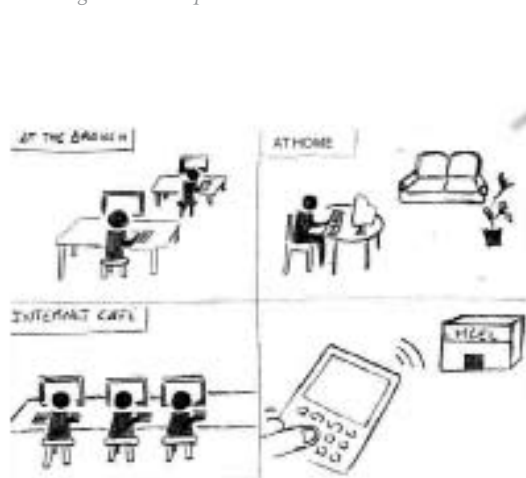
He talks to the potential client at the market where they have their business.



Also goes to potential client's house, talks to his family and neighbors and collects information about his personal belongings.



And adds some notes from his observation.



He enters the information either at the branch, at home, through a phone or anywhere he can access the Internet



There, he fills all the requested forms - personal and business and saves it in the potential client's profile



The updated information is available at all branches and offices



The credit officer can be notified to go collect additional information from the field or else, the eligibility process start

Reduction of Operational Costs

By using Mambu to send evaluation information directly to the branch, the credit officer does not have to travel or mail forms back to the branch for the purpose of entering the data in the system. The MFI will then reduce the operational costs and better optimize the use of credit officers' time.

Less overhead means more clients being better served



RESEARCH

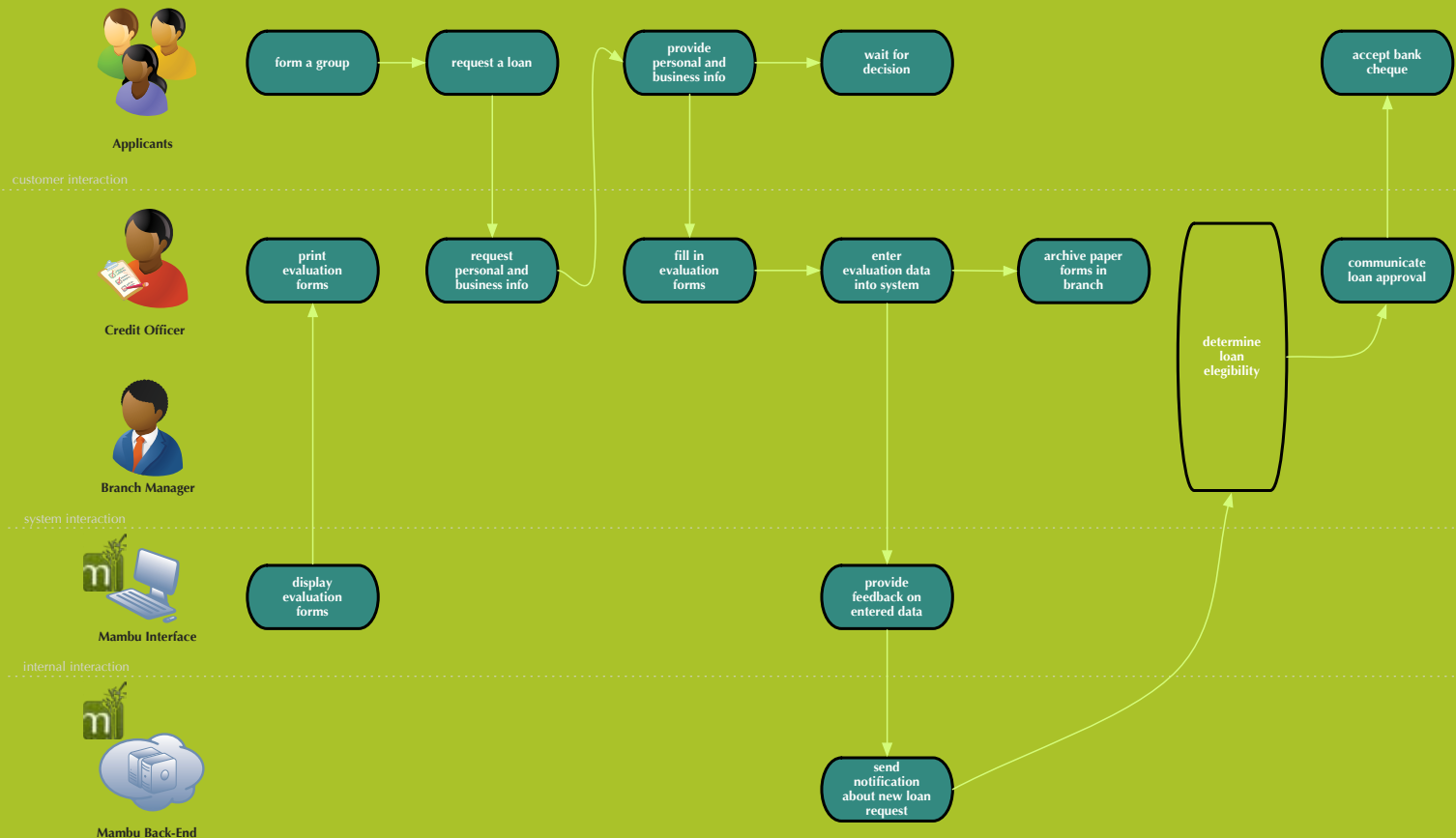
While in Mozambique we had a chance to travel with credit officers from the branch to the villages where they were visiting clients. As these villages were usually more than one hour away from the branch, the credit officer would always have to count with that time to return and take the information back to the branch before the end of day.

Increased Speed of Information & Efficiency

With Mambu, information will circulate faster and more reliably and accelerate the process of approving loans as the evaluation data can be accessed at any time by the evaluating committee who can communicate back to the credit officer in the field. This will increase the MFI's efficiency as there will be a faster rate of approved loans, less overhead and more clients better served.

Credit Officer Has More Time For Clients

Credit officers usually have many clients and spend most of their workdays visiting and directly dealing with them to make sure the social component of their relationship is maintained over time. By keeping a friendly relationship with clients, and advising them on best business practices credit officers are also playing an important role reminding them the advantages of on-time repayments and making sure the MFI receives it on the right dates.



Collecting Loan Repayment Information is a key element within the fieldwork processes of MFIs that allows them to keep track of their clients' progress. Currently, they gather receipts in the field and must carry stacks of receipts from the field to the branches to be entered by branch staff. These receipts indicate that a client has paid back an amount of their loan.

With Mambu, the credit officer could enter receipt data by computer or PDA, using Mambu's interface to find accounts within specific locations and add receipts in a logical order, minimizing data entry errors within a form automatically based on repayment history or other factors. The data would then travel wirelessly from the credit officer's electronic device

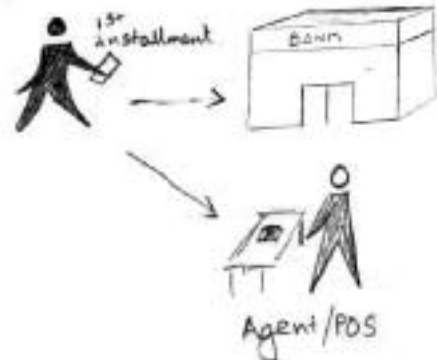
through a secure connection and would get updated in the database of all of the MFI branches. So, the credit officer would not need to travel back to the branch to deliver the loan repayment data but rather could send the information from anywhere with Internet access.



A loan client receives a check from the MFI as his loan amount.



And receives the loan amount from the bank



When it's time, he can pay the installment at the bank or to an agent.



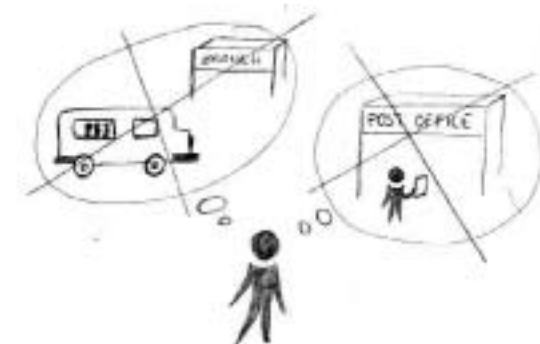
The client gives the receipt to the credit officer when he goes to the village to collect repayments' proofs.



The credit officer enters the receipt data using a computer or smartphone.



All the branches get the updated information



... and the credit officer doesn't need to travel or spend a long time to mail the information.



INTERVIEWING BOM'S LOAN CLIENTS WHILE OTHERS WAIT CLOSE TO THE MOBILE BANK TO PERFORM THEIR TRANSACTIONS

Reduction in Errors

Providing the credit officers the possibility of sending information will reduce errors in passing the repayment information to the branch staff in cases where great distances need to be travelled.

Increased Efficiency

When credit officers travel back and forth from the field to the branch and take time to mail information, they increase MFIs' operational costs. With Mambu, credit officers would not need to travel or spend a long time mailing information to get it back to the branch. MFIs would have access to the repayments information in real time, which would increase the efficiency of the microfinance organization as a whole.

Increased Transparency

If credit officers can collect and log loan repayment information within the MIS, they can increase the transparency of the MFI by providing the data necessary to assess transactions more accurately.

Banking Agents is a new but highly successful model for accessing microfinance services that has been widely implemented in countries like Brazil, South Africa, Kenya and numerous others. A retail outlet is contracted by a financial institution to process the clients transactions - usually using a point-of-sales device. As the client deposits money with the agent, it is removed from the agent's account thus maintaining the financial balance. This process would work in reverse if a client was to withdraw money from an agent, the POS would notify the banks to transfer money from the client's account

to the agent's. Similarly, other services could be supported including bill payments, transfers, insurance payments and others. This model is currently of great interest to larger MFIs who could greatly increase their reach of serves at a much lower cost. However, small ones would have as much to benefit as well but are unable to manage an agent network due to several reasons.

In markets where this service is available, Mambu would be able to integrate with this model to reduce the need for clients to travel to the institution to

provide a receipt proof of repayment; or the loan officer to visit the client. Mambu would connect to the local payment hub and inform the institutions of repayments information in real-time. The client could still keep the physical receipt as proof of payment if desired. For small MFIs, they would be able to plug-in to an existing infrastructure at no cost and utilize all the benefits of banking agents available to them in their local countries. This would also allow them to focus on offering better services to their clients rather than prioritizing expansion of their branch networks.



A loan client receives a loan from an MFI



When it comes to repayment he goes to a general store nearby

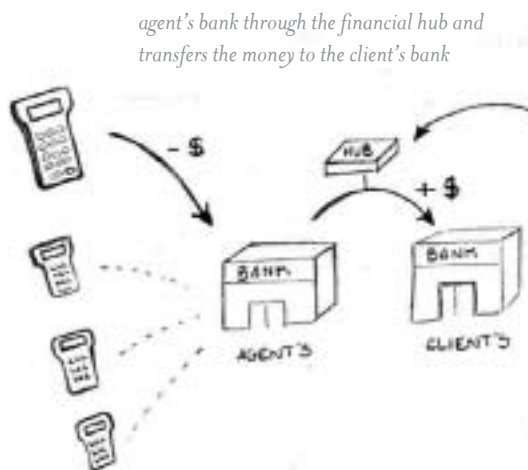


He purchases some groceries and also gives cash for his repayment to the agent.



The agent takes the cash and enters the payment information into a POS device connected to Internet

The device establishes the connection with the agent's bank through the financial hub and transfers the money to the client's bank



The payment information is updated in Mambu and the MFI is notified.

The MFI can then see the repayment has been made



The client is happy for not having to travel far to bank branches which may be intimidating to them.



The agent is happy to see his business growing from the foot traffic, reputation and to get a fee for providing the service...



...and the MFI is happy for being able to expand their service to more clients with no need to change technology solutions and to reduce the workload at the branches

Easy Adoption Of New Technology

Allowing Mambu to take care of the mediation between the hub, banks and their organization, MFIs can quickly adopt the use of banking agents if the network is available in their country. If each organization had to connect to the agents network their would be duplication of efforts and increase overhead on each MFI. Small MFIs would not be able to afford the maintenance of an agent network on their own, but participating in a shared infrastructure for an agent network would be highly beneficial. Mambu could provide this infrastructure, one country, one network at a time making it accessible to all organizations in that country.

Reducing Transaction Time

Working with the central hubs and banks, Mambu reduces the needs for clients to visit branches or for loan officers to visit clients for the purpose of receipt collection. While regular visits are an essential part of the social activities of MFIs, receipt collection is a large burden which slows down the entire process. A new channel, quickly accessible and widely available is now possible through this service.

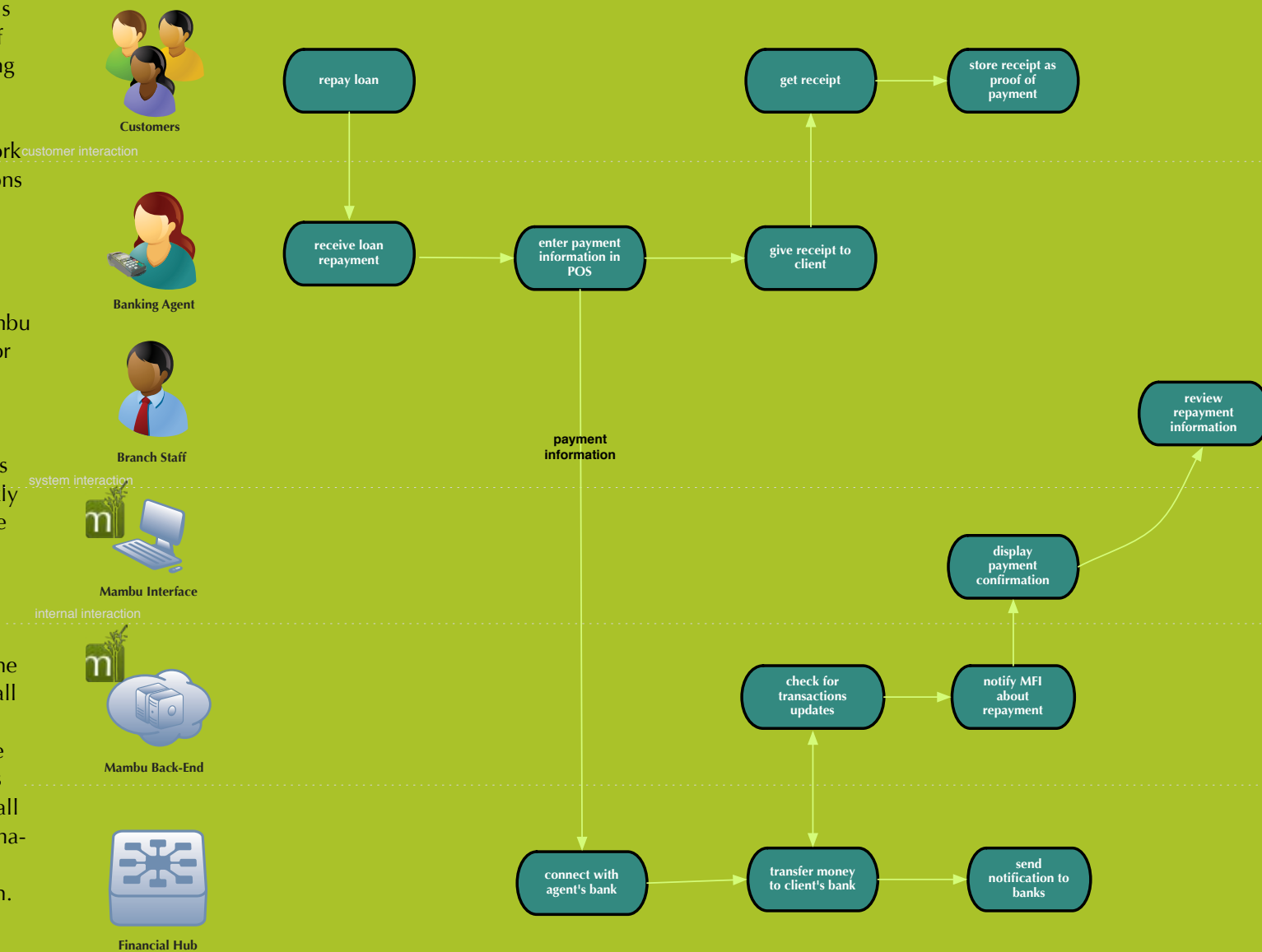
Integrated Solution

Integrating a service like banking agents with the MFI's existing portfolio management solution, all information is consistent, readily available and accessible to all branches. A loan officer in one city could be informed via cell that a client has made an overdue repayment via an agent and all branches would be synchronized on this information as well. This would also improve management and resource planning of the organization.



RESEARCH

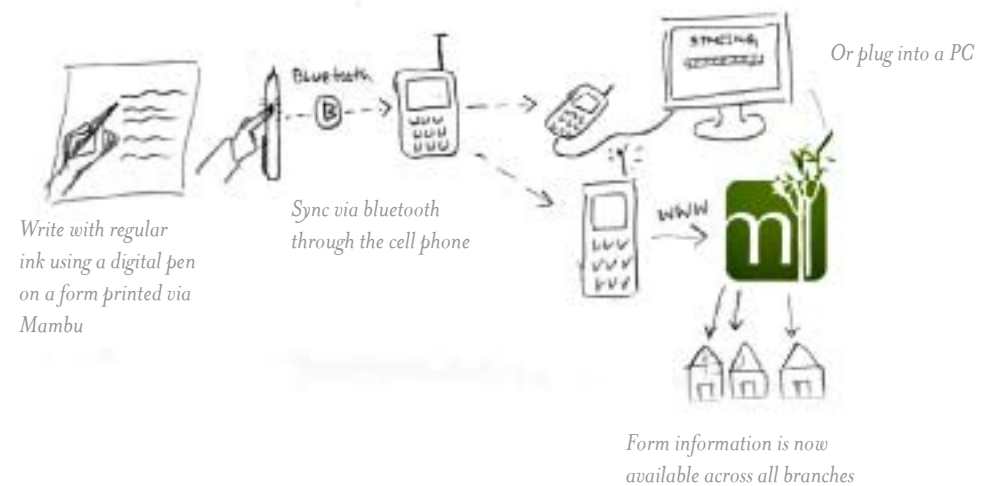
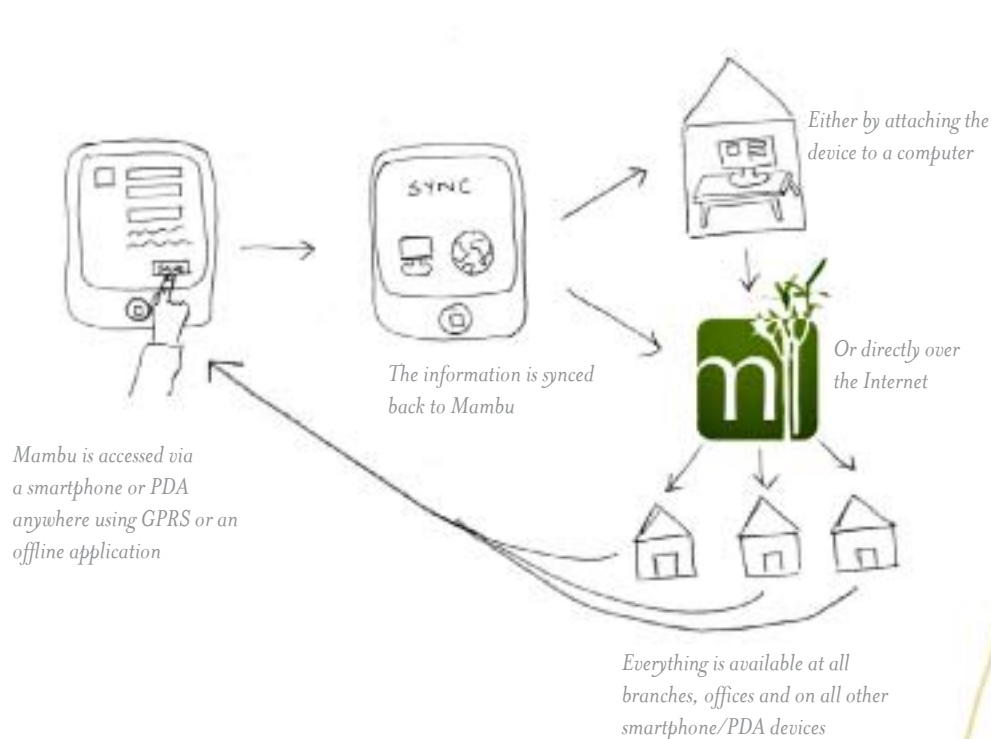
Banking agents are not yet commonly used in Mozambique discussions are ongoing on whether or not to implement a network and the microfinance institutions are certainly interested in becoming a part of it, if its cost effective. Secondary research revealed a need to increase openness and communication between financial networks to increase the efficiency of agents. Agents are also far less intimidating than formal bank branches which make customers more receptive to them.



Smartphones and Digital Pens are ways to support field staff like credit officers who are so integral to MFI operations. Currently, field officers from microfinance organizations have to record all the information that they collect in the field on paper forms, then travel great distances back to their respective branches to share the information with branch staff and managers. In the future, field officers in Mambu's system will be able to use smart phones

or digital pens with those same forms to store data with location information, time, identity of the writer, and identity of the paper form and specific pages. Digital pens have already been shown to be an effective solution for significantly reducing processing costs and cutting reply times of credit officers in the field. Furthermore, the digital pen is easy to use and would require little staff training. Advantages in turnaround time, mobility and

data entry minimization could help microfinance institutions to grow more rapidly with Mambu. Although mobile wireless technology presents risks such as up-front and maintenance costs, and loss or theft, the technology has great potential to increase the efficiency of MFIs by giving credit officers the ability for rich communication while they are out in the field with clients.



RESEARCH

The smartphone and digital pen solutions received a strong support from an NGO providing microcredit services, because of the time the information currently takes to get from the field to the branch. Their credit officers travel hundreds of kilometers to visit their clients and the collected information is then mailed to the branch in a process that takes one to two weeks – a waste of time to an institution that wants to respond as fast as possible to their clients' loan requests. Banco Oportunidade de Mozambique was also receptive of the digital pen concept.

On-The-Spot Services

Instead of relying on the branch, the credit officer can become more useful and self-sustaining by receiving training and performing activities such as loan evaluation on the go directly from their mobile device. A smart device can be used to evaluate clients and get all of the data into the information system as soon as it is gathered. A credit officer's smartphone can also help train them with videos, be able to evaluate their needs to choose the best products for them and allow them to shape better informed clients.

Single Data Entry

The digital pen would require only one pass of data entry as the information would be directly updated from the paper sheets to the system, rather than being recorded onto paper forms and then entered into the system. This would save in total staff hours and contribute to increased MFI efficiency. Mambu's interface could provide easy data checking so branch staff can ensure that the written data matches what is entered in the system.

It's not just about data: a smart device can be used for training, capacity building and staying informed

Reduction of Operational Costs

If credit officers do not have to travel back to the branch with only the purpose of taking back the collected information, then the MFI could cut those transportation costs. Also, less data entry would mean that those expenses would be spared as well. Less operational costs would mean more money to put elsewhere, ultimately gaining more clients at a faster pace.



Connecting with Kiva is an opportunity to better connect clients with donors around the world. Kiva is a micro-lending website that connects donors and small MFIs from all around the world. MFIs that are connected with Kiva create and upload their loan clients' profiles to Kiva's website, allowing people all over the world to access it and choose to give a loan to a specific entrepreneur based on those profiles. The profiles are translated to English by Kiva using volunteers. The MFIs disburse the loans to clients and

receive the funds from Kiva's donors once a month, using those funds to backfill the already disbursed loan. For the MFIs, the extra work is greatly offset by increased capital flow and also getting to know a few of their clients a lot better. As the clients start repaying the loan, the MFIs also payback to Kiva and lenders. Currently, MFIs have to insert repayments information in Kiva's website and managing it is one of the challenges MFIs have to deal with. The same data has to be introduced twice by the MFI – once into

their own system and then in Kiva's website. Mambu would connect MFIs directly to Kiva avoiding the double entry of data and saving time by simplifying the process. As the MFIs' clients would start repaying the loans this information would be updated in Mambu and sent to Kiva and vice versa. Kiva is an innovative way to connecting entrepreneurs to the developed world and Mambu would further simplify and improve the process.



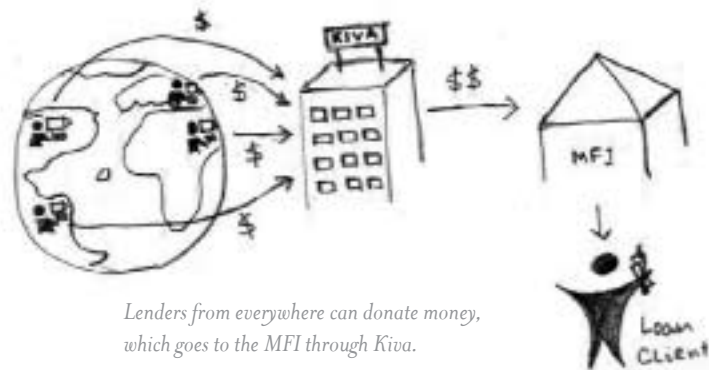
A loan client needs additional money to grow his business.



The credit officer goes to the client's place, evaluates his credentials and writes a story about his business.



A loan application is created in Mambu and published to the whole world through Kiva Connect.



Lenders from everywhere can donate money, which goes to the MFI through Kiva.



As the loan client pays back, the information is updated in the system and the MFI repays Kiva, which in turn pays the lenders.

Simplified Data Entry

Mambu would be directly connected to Kiva's website which will turn the updating process easier. The MFIs would not have to deal with the challenge of having to manage Kiva's website and would only have to enter data once in Mambu. It would immediately update Kiva's website with the repayments information and directly upload the clients' profiles saving the MFIs' time and increasing efficiency.

Automated Kiva Auditing

By having the Kiva and Mambu information available, Kiva could audit to make sure the money is being used as promised. This is currently done by sending Kiva fellows to these developing countries - a process which will still continue as it is both a learning and competence building experience - but would simplify the process of auditing the MFI using Kiva saving both them and Kiva time and money.



RESEARCH

Hluvuku in Mozambique had joined Kiva for six months before they really started using it because of the challenges of learning the new system on top of their portfolio management solution.



CREDIT OFFICER FROM BOM GREETING A CLIENT

Connecting MFIs Together is an untapped opportunity in a new online services. In the microfinance sector, currently there is no place where MFIs can share information about their clients be it timely or untimely payment of loan installments, behavior within a group, or any other facts that an MFI may be interested in during the loan evaluation process. Mambu could bridge this gap by providing a common platform where MFIs can share information

about their clients with each other. Certainly this is a sensitive topic and depends heavily on central bank regulations of each country, but the benefits of a system like this would be more appropriate in a microcredit venue than a regular credit scoring system traditional banks use: Clients could be given a rating system where they are awarded points based on their behavior, timely repayment of a loan, but also training in money management or their respec-

tive businesses. Based on their accumulated points, a client might enjoy benefits in the future such as loans offered at reduced interest rates or a last installment waiver. With the use of such system, MFIs not only would be able to access additional information during their client's loan evaluation process but would also stand to benefit from having smarter clients.



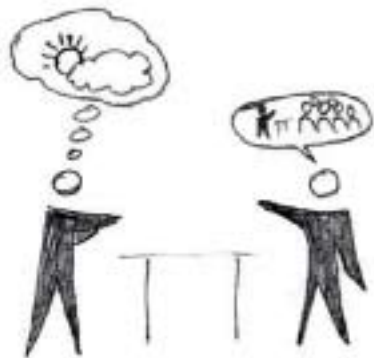
A potential loan client applies at a new MFI



The MFI checks his credentials with other MFIs and finds out that he was previously rejected due to not contributing his fair share to a group loan.



The MFI doesn't immediately grant him the loan he asked for but instead...



Explains that he can have training sessions which if he completes will make him eligible for a loan again.



He starts attending the training sessions and learns about managing his money, his business and other helpful financial tips



Once training is completed successfully, the MFI updates the information and all other users of the service can also see it



He finally gets the loan at a lower interest for doing well in the training.

Reduced Risk In Loan Repayment

By providing loans to educated and informed borrowers, the MFIs would ensure that there are higher chances of repayment by the client.

Additional Facts During Loan Evaluation

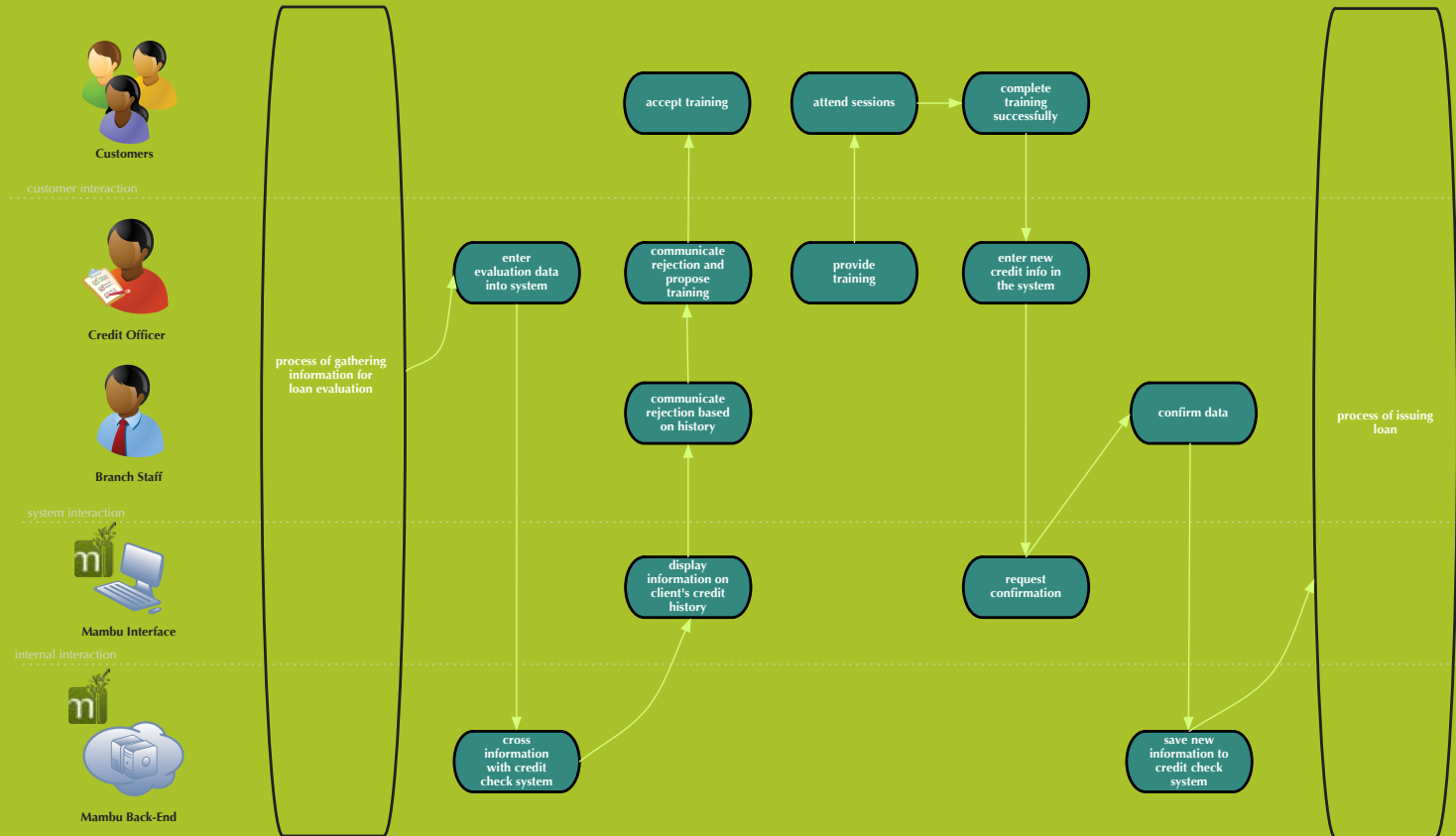
With MFIs sharing certain client information with each other, the MFIs could take advantage of any existing fact about clients that are present in the system while evaluating their loan application.

Reward Based System To Inspire Clients

The reward system would keep the clients inspired and focused in the loan repayment and other activities associated with their loan as they would know they can enjoy certain benefits based on their credit points. Moreover, clients whose loan request had been turned down in the past due to bad credit points could be given a second chance to improve those based on training or acquired proven skills to handle loan money.

Encourage Training

Capacity-building of clients is one of the largest challenges in the microfinance field. Better educated, more informed clients are able to make make smarter decisions which not only help themselves but increase the chance of success of the organizations lending credit to them.



NOTE

The credit check system is not intended to punish clients for past behavior in previous loans but instead to give them the opportunity to develop their financial skills, grow their business and leave the poverty level.

Localized Extensions is a way for local developers to help small MFIs through Mambu. As a global service, it is inevitable that there will be country or organization specific needs which Mambu will be unable to fulfill at an affordable cost. Local information technology developer companies in those countries can better meet these demands. The Mambu design supports this by allowing third party developers to create extensions - or modules - and

providing these extra features to MFIs. The extensions would connect to Mambu through Application Programming Interfaces (APIs). Developers could also recognize an opportunity in the MFI marketplace and develop additional modules which they could offer to local or worldwide microfinance providers. This opens up new opportunities for the developers and allows MFIs to have access to any specific solutions that are unique to them or not yet supported by

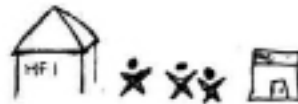
core Mambu functionality. Quality control can be maintained by creating a marketplace with a review process within Mambu - so all organizations know that any third party modules they use will be stable, secure and provide the promised functionality. While it is likely that initially mostly larger organizations would be most interested in this service, it would not only let Mambu enable MFIs but also the organizations who want to assist them.



A small MFI needs to create government reports every month.



Doing so by hand takes a very long time that could be better used elsewhere.



They contact a local IT company to create a solution for them.



The IT company creates the solution as an extension of Mambu and places it on the site.



The MFI uses the extension to create the reports and the IT company generates revenue from this.



Soon, various IT companies are all providing local solutions which can be bought and used by MFIs all over the country.



THE ENTRANCE TO A MARKET OUTSIDE CHIMOIO. MCEL STORES ARE A CONSTANT ALONG THE STREETS AND CROWDED PLACES

Meeting Local Needs

MFI organizations may worry if one world-wide solution would be able to meet all their unique needs. This service design allows them to be confident they are not confined to the pre-existing functionality in Mambu but that it can be further extended and customized.



RESEARCH

One of the MFIs we visited in Mozambique was implementing a new software product specifically developed to respond to a particular need they identified – to empower farmers and make sure their investment is based on a real business opportunity. The product was being developed by a local IT company and although it is based on one client’s need, the IT company’s goal is to sell it to other institutions as soon as its value starts being recognized.

Local Support

By having technology developers working with the Mambu service, they could become experts in the domain and serve to be a source of providing local support to the MFI organizations if needed.

Government Reporting

Producing reports to a central bank can be a daunting and time-consuming task for MFIs. This process could be automated on a country-by-country basis by having local developers create a reporting standard within the system. The reports would be automatically filled as much as possible from the available portfolio information to reduce the efforts required by the MFIs.

Increasing Organizational Transparency would give external entities a clearer view of MFIs' performance, thus securing donors, investors and other interested parties. There is some obscurity in the current system: While regular banks under Central Bank governance have to reveal APRs (annual performance rates) of their credit products in most countries, MFIs oftentimes use complex monthly, weekly or daily interest rates to explain their products to clients.

Because of this, clients of MFIs will find it hard to compare which loan of which MFI might be cheaper. Clients and potential donors therefore face a very cluttered market in which it is hard to select MFIs that operate efficiently and do not spoil their respective market with inappropriate interest rates. Upon their wish, Mambu would be able to provide standardized, certified and automatically up-to-date online profiles of MFIs which are signed up for the

service, which allow both donors and clients to make a well-informed choice in the market in which they are interested. And for NGOs not interested in the commercial aspects of microfinance, this transparency is an opportunity to show the world the social good they are doing through their services.



An MFI is trying to obtain additional funding to expand their services.



They create a public profile revealing information about their history, products offered, number of clients and other information already in the system



Donors, investors and individuals around the world can see the MFI's information and contact them about donations



Having found a match the donors can lend money to the MFI.



As the MFI succeeds, it pays back the donors.



Donors will trust MFIs more and can reach them directly because of their transparency.



MFIs can learn from each other and adopt best practices. And good honest MFIs can now grow faster and provide better services.



RESEARCH

Progresso is an NGO who provides microcredit services in Mozambique, serving clients in the greater Maputo area. Interviewing representatives of the organization, we confirmed the bi need of the NGO to increase its transparency: to showcase the social good they're doing and raise awareness of their accomplishments, which in turn helps with justifying further funding.

Increase Openness, Increase Funding

Information service providers like mixmarket.org or mftransparency.org already provide a large amount of information about registered microfinance providers worldwide. These service providers are dedicated to provide key performance indicators of contributing organizations, contact information for donors and other relevant data on a per-country basis in an easy to understand manner. Mixmarket.org, for example, provides an additional, simple 1 to 5 "diamonds" rating for each registered organization, based on the MFIs decision on which data will be disclosed to the public.

"Our Vision is a microfinance industry operating with healthy free market conditions where consumers and other stakeholders can make informed decisions." – Mftransparency.org

However these service providers cover only about 10 percent of all MFIs worldwide and very little information about the countless NGOs providing microcredit services. Ultimately Mambu could make a significant contribution to raise transparency in the entire domain by partnering with one of these service providers. Based on their templates and representation of key performance indicators MFIs using Mambu could decide to disclose information about their operations to the general public.

As a result even small MFIs will be able to present themselves to a global donor audience and receive additional funding. In addition humble management of the MFIs is encouraged, as disclosed data is a direct, unfiltered excerpt of the data available in their management information system: Mambu.

Featured MFI

AN EXAMPLE OF MFI TRANSPERENCY DATA PUBLISHED BY MIXMARKET.ORG

PRIZMA PRIZMA

Country
Bosnia and Herzegovina

Mission
Prizma's mission is to enable prosperity of clients and organization, through long-term provision of quality financial and other services. Prizma's...

Gross loan portfolio (USD)
51,801,418

Borrowers per staff member
308

Number of active borrowers
55,820

Information disclosure



■ Total assets
■ Gross loan portfolio
■ Total equity

Ghana

Looking for another country?

APED

Gross loan portfolio
1,943,622

SAT

Gross loan portfolio
13,860,817

Maata-N-Tudu

Gross loan portfolio
1,237,961

MIX MARKET IN NUMBERS

Total active clients

79,383,860

Average loan balance per borrower

511

Indonesia 3,973,063,887

Colombia 3,433,379,958

Peru 2,977,079,945

Mexico 2,660,692,551

MIX NEWS

December 5, 2009
2009 Nicaragua Microfinance Benchmarking Report Now Available

December 3, 2009
2008 MFI Benchmarks - Microfinance institutions face



enables



leads to

Each new service experience enabled by Mambu is, itself, based on models in existence somewhere in the world that have proven to help MFIs better serve their customers, improve

.....▶ *One solution that is easier to adopt, easier to use and easier to manage*

their business and become self-sustainable. What Mambu provides is an integration of these services, leveraging the advantages of each, improving on the weaknesses and making them accessible to other MFIs with little or no additional overhead.

By centralizing the management of these services, the Mambu vision would greatly reduce the burden on countless organizations providing microfinance services worldwide. And by leveraging the distributed nature of its users, Mambu would be able to provide these services at a fraction of the cost that would be otherwise required. They would be available from the largest MFIs to the smallest organizations that are interested in using them to improve their operations to better serve their clients.

Through integration of these services, Mambu would provide one platform that would inherently be easier to adopt, easier to use and easier to manage than the separate solutions.

With the service and long-term vision in place, the following sections look at how to start designing, building it and making the vision come to reality.





MICROBANK SERVICES INSIDE BOM'S MOBILE BANK IN INCHOPE.

Design for Activities

Designing for Activities

Mambu is designed with a human centered software engineering approach to guide the system towards a better fit with the real needs of MFIs. Activities identified in the initial stage of research were prioritized to have a feasible development cycle for Mambu. MFIs may perform additional activities as they grow, some of which will be shown in the model in the following section, but they fell outside the initial research focus of Mambu, i.e., small to medium sized MFIs. Every activity that is supported by Mambu will be explained in this section along with the identified tasks within them and in each case the solution will be provided either in the form of a process sketch or through sample interfaces.

MFIs may perform additional activities as they grow

Considering Tasks

The high-level activities performed by the MFIs are then examined at a more detailed task level and those tasks have been designed based on the observations collected through fieldwork. By further exploring the detailed tasks involved within each activity, it was possible to identify the MFIs' pain areas in each of those and finally they were simplified and redesigned to be supported by Mambu.

Supporting the roles

Mambu is designed for the activities and tasks based on the roles of the system: each activity is performed by certain roles of users and may not be applicable for others. For example, a credit officer's best interest may not be generating a government report which is of utmost importance to the MFI executives.

"Gaining access to appropriate back-office technology was the single most important obstacle for the growth of small institutions and the microfinance industry in general."

Alberto Jimenez, Global Business Advisor for the Financial Services Sector of IBM

By supporting different roles through activities, we made sure that the data displayed on the interface is properly abstracted and people have access to information relevant to them. It also ensures that information is not misused by being exposed to wrong users. The role model in the following section highlights each of those roles and their relationship and influence on each other.



RESEARCH

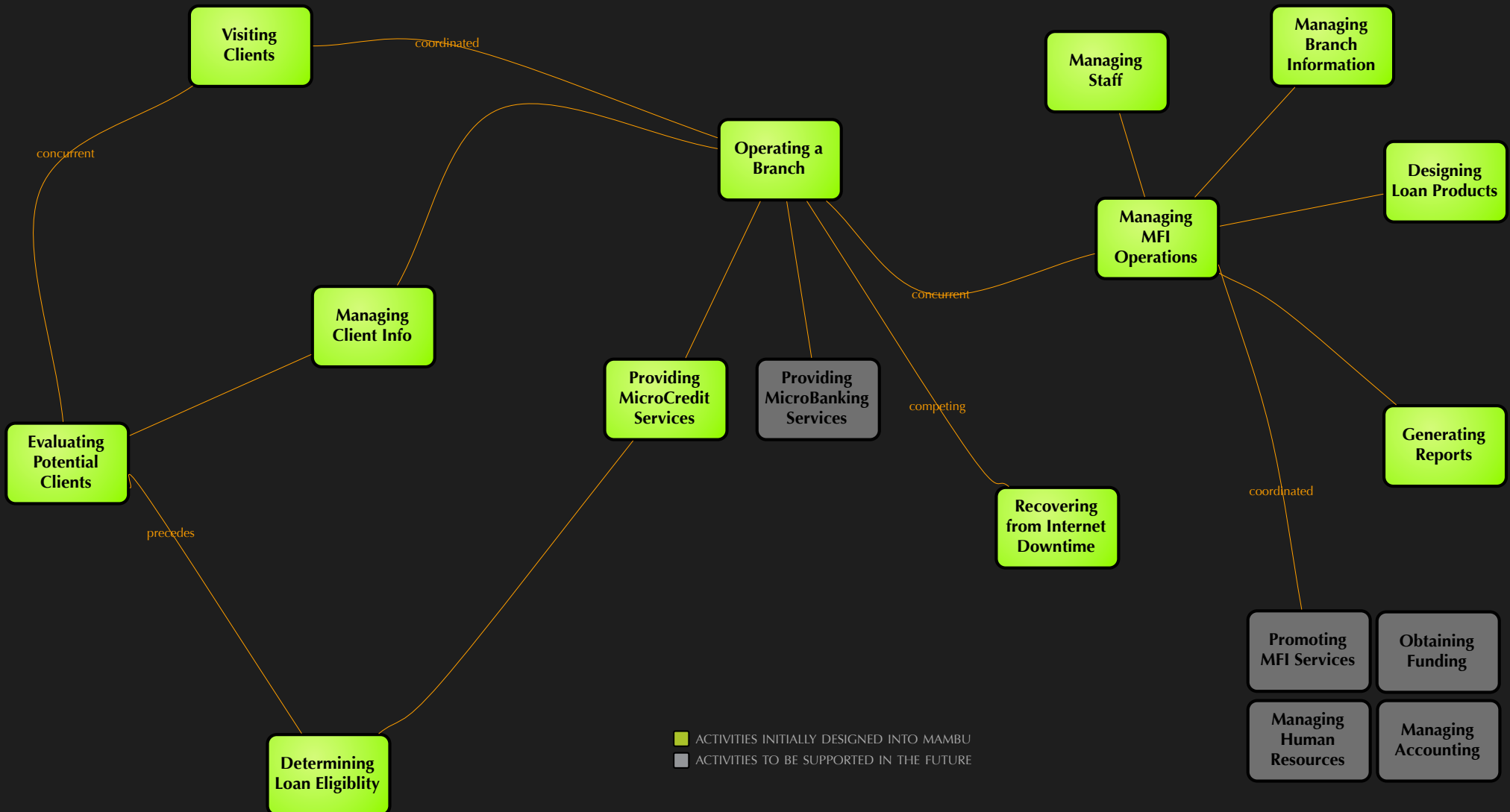
During 64 man-days in Mozambique, we conducted interviews and observations with MFIs and NGOs to understand how an MFI works. With the high-level view of the MFI operations, we observed MFI staff at their regular working environment and interviewed them to better understand what are the tasks within those high level activities. We collected artifacts they use during loan evaluation, account creation and repayment stages, which inspired us later in selecting appropriate patterns for processes and interfaces. From traveling in mobile branches, to interviewing in the markets or spending a night in the village of Chongoene, all fed into understanding the intricacies of running an MFI beyond data.

Design for Activities

The following model captures all the core activities essential to operating a microfinance institution. These activities must be designed for and supported in any software solution such as Mambu. The model was created through extensive primary and secondary research. The primary research included talking to microfinance experts, NGOs and also observing their day to day operations. Based on the initial service proposition to leverage the activities

performed by MFIs, numerous concepts were generated to create the whole service experience. This diagram shows the most important and core activities of an MFI which would be of highest priority to address in a detailed design and implementation of the solution. These are then further analyzed in detail, describing the tasks which they include. Each activity is related to other activities, and may itself be composed of sub-activities. It is

through the understanding of these relationships that a proper software system can be built. The model is not exhaustive and is meant to be a generalized and simplified view to allow an appropriate design to emerge. An activity itself is performed by one or more people who can take different roles while they are interacting with it.



The actors involved in these activities are the executives, branch managers, branch staff, credit officers and the customers and applicants. The following model shows the interaction between each of the roles and the Mambu service, their responsibilities within the MFI and how they influence each other. Some of these roles could be shared such as a credit officer may be a branch staff for a designated work hour when he does not need to work on the field and interact with the loan clients.

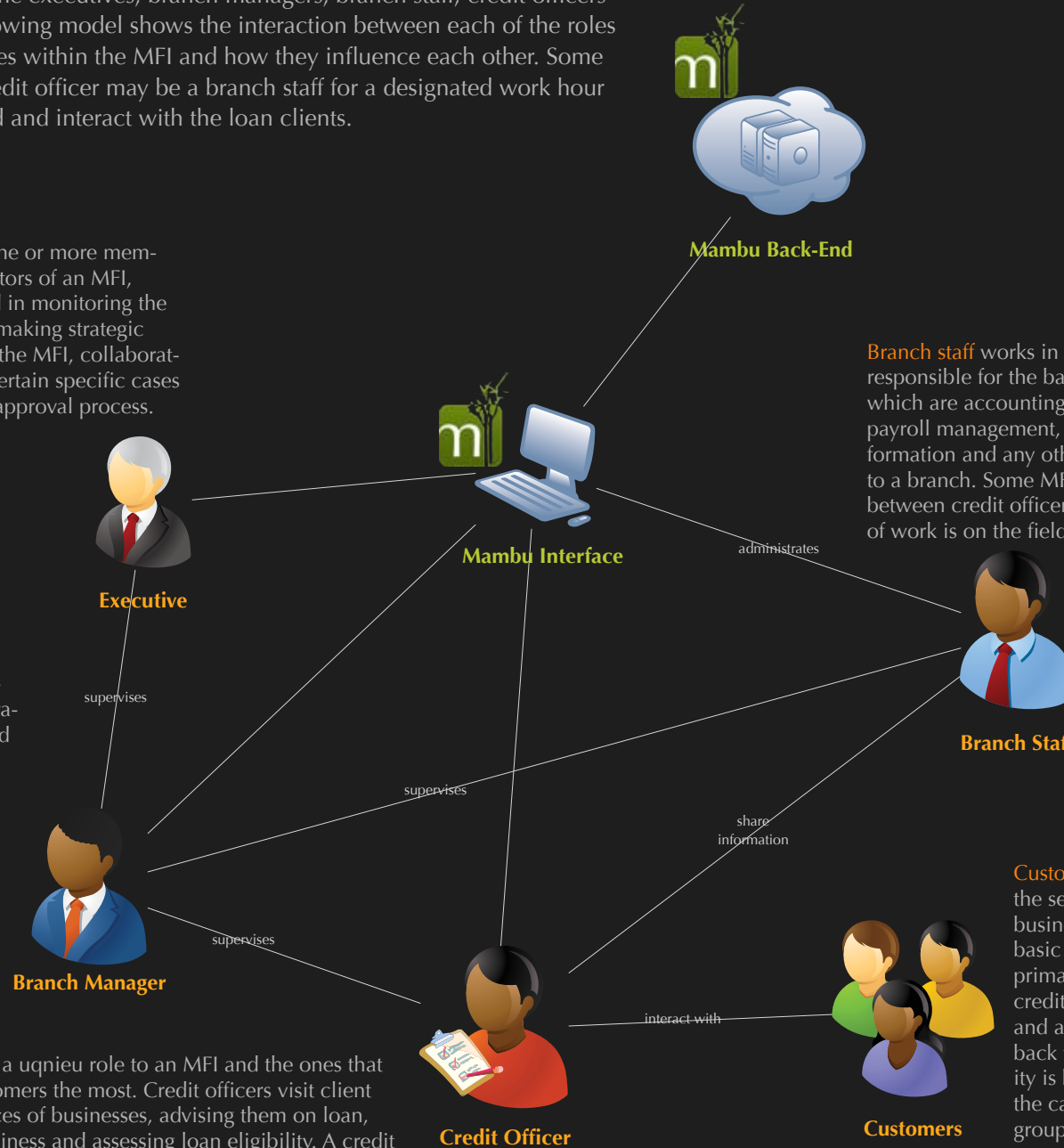
An **executive** is usually one or more members of the board of directors of an MFI, who is primarily involved in monitoring the overall business growth, making strategic plans about the future of the MFI, collaborating with funders and in certain specific cases participating in the loan approval process.

Branch managers are responsible for taking care of the branch operations and reporting back to the board members with the overview of branch operations and requirement of resources and tools to run a branch smoothly. They may also be responsible for intermediate or final level approval of loan applications.

Credit officers are a unique role to an MFI and the ones that interact with customers the most. Credit officers visit client at homes and places of businesses, advising them on loan, evaluating the business and assessing loan eligibility. A credit officer also works as a mentor to existing clients in how they use the loans and run their businesses. The role can also be called loan officer or promoter in some MFIs.

Branch staff works in the MFI branch and are mainly responsible for the back office operations, some of which are accounting, loan application creation, payroll management, entering loan repayment information and any other administrative tasks related to a branch. Some MFIs may have a shared role between credit officers and branch staff where part of work is on the field and partly in the branch.

Customers and applicants use the service of MFIs to grow businesses, or improve their basic living conditions. They primarily interact with the credit officers about their loans and are responsible for paying back the loan. This responsibility is both legal and social in the case of the very popular group loans. Applicants are customers in the waiting.





Providing Microcredit Services

Providing microcredit services is at the very heart of every microcredit-based organization’s mission. While NGOs usually pursue a more philanthropic strategy, focused on alleviating poverty, others may pursue a more competitive and profit-oriented path. Microcredit organizations can vary in terms of the specific services they provide: while the majority offer group loans, others focus on individual loans or so-called associations, which enclose multiple groups and loans. Still others might offer a combination of all these products or focus on a very specific client segment like rural agriculture.

This activity is performed at the branch level and usually relies heavily on data acquired by credit officers operating in the field. As providing microcredit services is the core activity of MFIs, it is performed anywhere the organization operates and has established a branch. Smaller MFIs however happen to operate out of single room offices and are not ready to serve clients at the branch. In these cases all client interaction is performed by credit officers in the field and no regular office hours can be presumed.

Roles involved in the tasks of this activity are often but not exclusively limited to branch staff, managers and executive level staff for more complex decisions. In the cases that credit officers will be involved in the tasks performed, they often switch roles to regular branch staff during specific days of the week and perform regular branch staff tasks within this activity.

While all MFIs are concerned about this activity being performed thoroughly, competitive MFIs will focus on efficiency and throughput that can be measured in active loan accounts per staff member.

Entering Repayment Information happens after credit officers collect the receipts clients receive and deliver them to the MFI where they will be confirmed and entered into the MIS by staff employees. This is because clients usually will make payments for their loan to a bank account owned by the MFI in a bank cooperating with the MFI.

Reviewing Loan Status is a frequent task that allows bank staff to get an overview of all information associated with a loan. For example staff will want to see whether payments for a loan have been made on time or give clients information about the remaining payments and schedule once the client visits a branch and asks for this information.

Issuing An Individual Loan is a task performed once a loan has been approved and based on the information that was gathered by the credit officer in the field. Branch staff will want to refine previous data, e.g., with detailed identification to formally issue the loan. This might involve scheduling repayments and communicating details of the loan to the client, and actually writing a check to the client which can be paid out at the MFI’s bank.

Issuing A Group Loan is similar to issuing an individual loan but involves setting up more than one new client with the system and associating multiple clients with a loan.

Reviewing Partially Filled Forms is a task necessary to accommodate interruptions of bank staff, who will want to come back to forms that are partially completed but could not be finished due to missing information, other issues or interruptions.



DESIGN CONSIDERATIONS

In small MFIs business processes can be more important than user rights. Organizations are very different especially when it comes to responsibilities of staff members. Mambu should support this diversity by having task-based permissions. One example for this could be that not all branch staff should be able to schedule all loans of all clients, however since managers are mostly familiar with their team they might decide to assign the scheduling of a group loan to a specific staff member who will then automatically get access rights to perform this specific task on this specific loan.

Communicating Loan Terms To Clients will be a task that can comprise printing and handing out information sheets about the respective loan product the client is interested in, or that has been recently issued to the client. In other cases it could just be a spoken explanation of the repayment schedule and amounts.

System Knowledge Knowledge of clients, groups, locations and payment history built into the system, personalized to fit the specific officer who is signed in.

Auto-Fill Helpful links and intelligent auto-filling fields to streamline data entry and information gathering.

Providing microcredit services is at the very heart of every microcredit-based organization's mission

(Re)Scheduling A Loan will be a necessary task, either when a loan is issued or has to be rescheduled once a payment is late or cannot be completed. It can include issuing a penalty on the loan.

Issuing A Penalty can occur in some MFIs once payments are delayed or cannot be done by the clients. It will depend on the respective loan product how the specifics of paying the penalty will be designed.

Writing Off A Loan will be an infrequent task for most MFIs and should usually be requested by a branch staff but be authorized by branch management or even executive level users.

Loan repayments

The screenshot shows a web interface for loan repayments. On the left is a vertical accordion menu with sections for 'Nhamatanda' and 'Manica'. Under 'Nhamatanda', there are four items: Paulo Rodrigues (Payment due today), Ricardo Mendes (Payment due today), Grupo Portanico (1 of 3 remain), and José Silva (Payment due today). The main content area is titled 'Loan repayment for Paulo Rodrigues in Nhamatanda' and contains several form fields: 'Who is making the payment?' (Paulo Rodrigues), 'Loan number' (0000001), 'Payment amount' (500.00), 'Mode of payment' (cash), and 'Date of payment' (15 / 11 / 2009). Each field has a green checkmark icon. There are also links for 'View Paulo's profile', 'View repayment history', and 'Select today'. At the bottom of the form are 'Clear' and 'Save and add another' buttons. To the right is a 'Saved receipts' section showing 'Grupo Portanico' with '2 of 3 complete' and a 'Clear list' button. A pink error message box is overlaid on the 'Payment amount' field, asking 'Is this the correct amount?' and stating 'Paulo usually pays in installments of 50.00.' with a warning icon and 'X'/'O' buttons.

Column Structure An easy-to-navigate accordion structure allows you to view multiple relevant pieces of information at once. View saved receipts to keep track of your work

Error Prevention Knowledge about clients is used extensively inside of the system to prevent errors.



Visiting Clients

This is the primary, most time-consuming and important activity that a credit officer has to perform. Visits to clients are used to evaluate the state of clients' businesses by analyzing their logbooks, to gather payments' proofs or simply to provide advice on how to manage their businesses. Each client usually has to be visited at least once a month, but this number can be higher, varying according to specific MFIs' guidelines. The visits have a strong social component and are characterized by a friendly interaction between credit officers and their clients.

In group loans the credit officer is seen as the godfather to their clients

A credit officer has clients in different locations, mostly remote areas, which makes this activity especially time consuming as it involves travelling for long distances usually by public transportations. In general this activity relies mostly on paper sheets to gather information and on the credit officer's ability to remember his clients specific business and social situations.

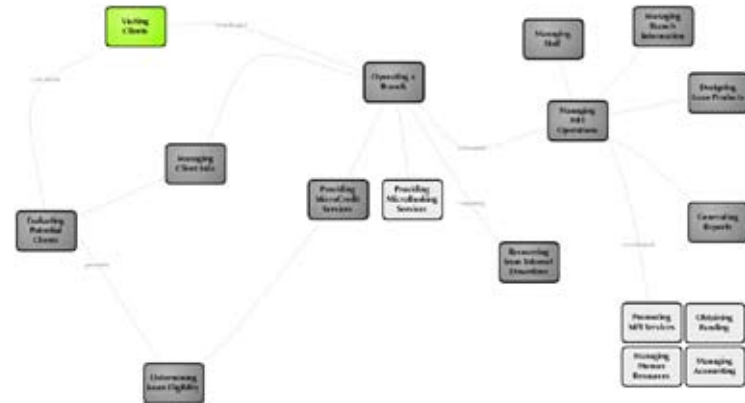
The initial Mambu system will not address this activity directly since it happens away from the branches, but through remote cell access to the service via a PDA or cell phone it will be of immense support to the tasks and actions of the credit officer and their interactions with the clients. This could include providing on-demand information, looking up business details of relevance to the client and reducing travel and delay times by having immediate access to client profiles.

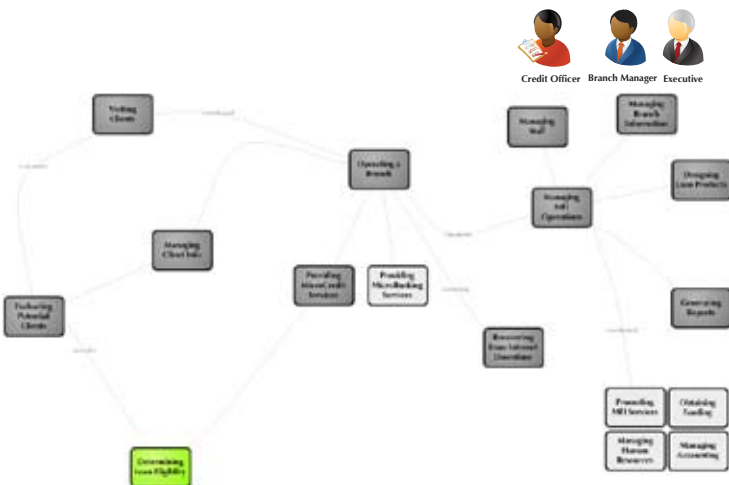
Checking Client Logbooks occurs every time the credit officer needs to analyze the state of clients' businesses. The client registers all the transactions in the logbook and the credit officer requests it to gather detailed information on the client's business. The Mambu system will not support this task initially, but the PDA concept will facilitate it by providing the possibility of entering the gathered information directly in the system and save it into the client's profile.

Validating Client Identity is a purely social and friendly interaction observed between credit officer and clients. The identification is completely informal and only based on recognizing them by face. Each credit officer has close ties to their clients and is responsible for knowing them well. A transition period occurs if clients are transferred between credit officers whereby they get to know each other face-to-face.

Advising Clients is an essential part of the credit officer's responsibilities. Credit officers provide advice on costs, best products to sell according to specific locations and general ways on how clients can improve their business. They even advise on very private and social matters, which may affect their client's lives. Although the initial system will not support this task, the smartphone concept would provide specific and updated information on these topics allowing the credit officer to better advise his clients.

Collecting Loan Repayments happens as part of the visits to clients where credit officers also gather the receipts that clients get from the bank as a proof of their repayments. These receipts are also taken to the MFI when the credit officers go back to the branch. MFIs specifically prefer their credit officers not to deal with money directly so as to maintain the social relationship with their clients.





Determining Loan Eligibility

The main purpose of this activity is to decide if a loan should be granted. This decision is based on the analysis of all the information collected during the evaluation process. The personal and business information from the evaluation forms is introduced into the Mambu system as well as eventual notes added by the credit officer and his own opinion on the eligibility. The information is later analyzed and discussed in a committee whose members may differ according to specific MFIs' guidelines, although the most regular committee has the executive director, branch manager and credit officer as members.



The loan eligibility meetings usually take place once a week at the branch and during business hours but may occur remotely between branches over phone. The frequency depends on members' availability as these are face-to-face meetings and some of the members like the credit officer might have to travel to the branch specifically for this purpose. An immediate consequence of this scenario is that loan requests will be pending until the meeting takes place adding extra time to the whole process.


This activity is always preceded by evaluation of the potential clients by the credit officers and, if approved, is followed by issuing a loan to the client.

Reviewing Client Evaluation Data occurs after all the information gathered during the evaluation process is available in the system and is presented to the members of the evaluation committee for detailed analysis. Mambu will provide a summary of clients' applications and detailed information about the specific application under evaluation at the moment. This data will include all the business and personal information as well as notes that credit officers might have added based on observations done in the field.

Granting A Loan is a possible outcome following the revision of clients' evaluation data if all the required information is available and according to the MFI's guidelines and conditions, the committee approves the requested loan. This decision will be reflected in Mambu, and relevant parties will then be notified via alerts in their respective views. The next eventual task would be issuing a loan to that client.

Rejecting A Loan occurs if the committee decides not to provide a loan to a specific client based on the available information. In this case, Mambu will provide an option for entering the reasons for the rejection to allow the loan officer to communicate it to the client and archive that loan application in case of further review.

Postponing A Loan happens when an application is considered to be incomplete or depends on some changes on the clients' business or personal conditions. In these cases, the committee decides to postpone it until there is an update in the information that allows them to re-evaluate the application. After this decision is made, Mambu would allow for entering the postponement details and provide an option to set up a notification upon the availability of the required information.



Loan Request
88881234

Status: New

Location	Manica	Group Name: Grupo Portanico
Officer	Eduardo Lopes	President: João Lima
Branch	Chimoio	Secretary: Maria Almeida
Requested Amount	€500,00	Treasurer: António Melo
Tenure	36 months	

Overview | Documents | Members

Document	View	Edit
Image of customer premise		
Image of group		
Evaluation sheet 1		
Evaluation sheet 2		
Other document		

Request additional information

deight June 18, 2009

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aliquam

Babafaba Sept 13, 2009

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aliquam

deight June 18, 2009

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aliquam

New Note

New Status: Granted

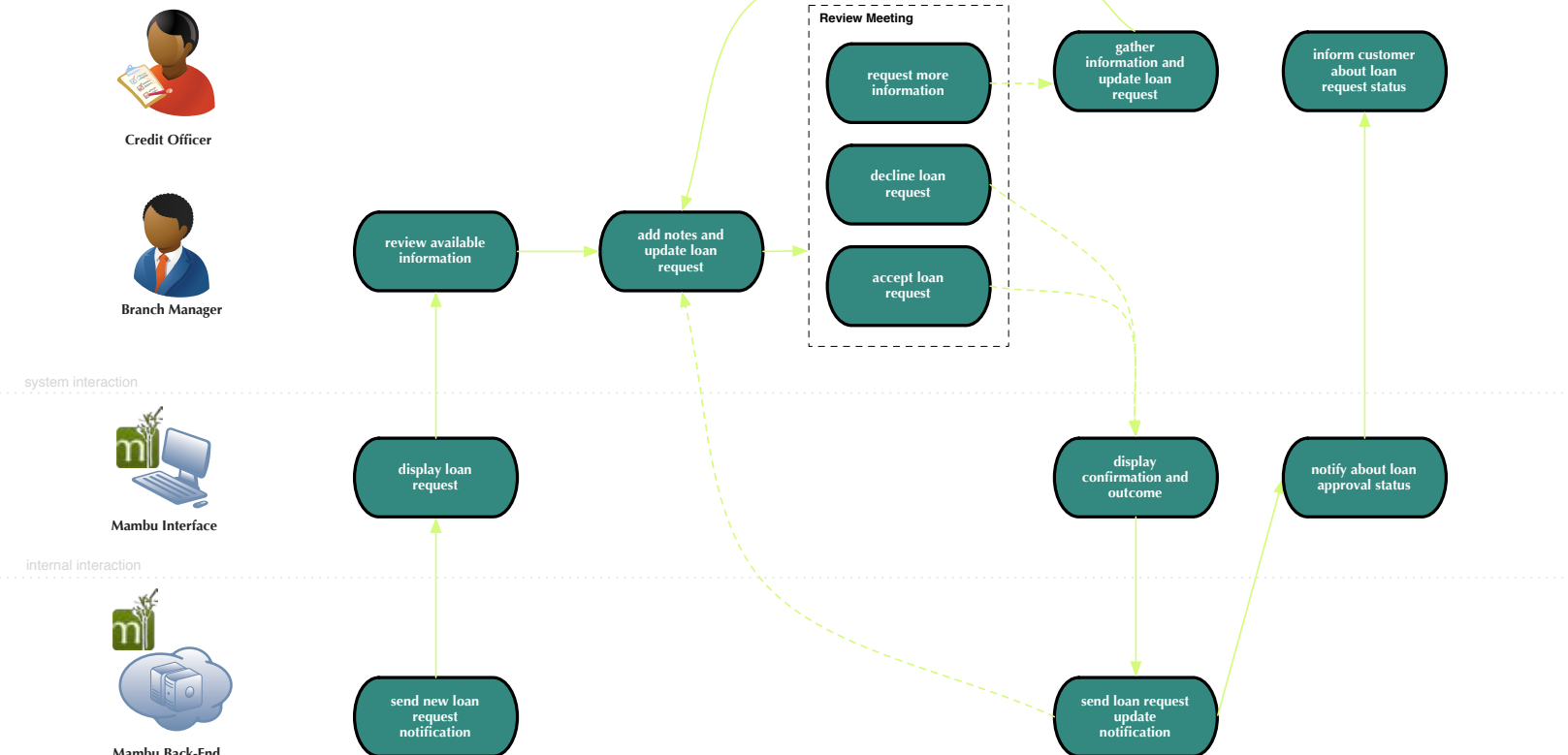
Maximum Eligibility: €450,00

Save
Cancel

Document Attachment Relevant documents for loan evaluation can be transmitted electronically to minimize processing time and reduce travel time and budget.

Predefined or Custom Document Type Add a pre-defined document type to support loan applications or include additional data in the form of new document type.


Communicate Over Distances Chat in realtime or post comments regarding a loan to facilitate review meetings.



The process by which most MFI organizations would go through to determine client loan eligibility

Client Information Management Member profiles, payment information and scheduled visit dates are organized together and easily accessible on demand. MFIs can maintain all relationships of their clients, loans, groups and events.

Contextual Notes Staff can share comments in the form of notes, which can be attached to any file or activity to discuss issues within the organization. This supports shared work and communications throughout the organization.



Grupo Portanico
88881234

Status: Ongoing

Location: Manica
 Officer: [Eduardo Lopes](#)
 Branch: Chimoio
 Started: 11/06/2008
 End date: 11/06/2011

Sig. Needed: President
 Secretary: [João Lima](#)
 Treasurer: [Maria Almeida](#)
[António Melo](#)

Overview

Accounts

Members

Visits

Group Loan - x14891141 Initial Amount: €450.00 Due €140.00 Date 11/10/10 View Details


Transaction	Date	Amount	Principle	Interest	
Payment	xx/xx/yy	€xx.yy	€xx.yy	€xx.yy	More...
Payment	xx/xx/yy	€xx.yy	€xx.yy	€xx.yy	More...
Interest Due	xx/xx/yy	€xx.yy	€xx.yy	€xx.yy	More...
Late Fee	xx/xx/yy	€xx.yy	€xx.yy	€xx.yy	More...
Increased Amount	xx/xx/yy	€xx.yy	€xx.yy	€xx.yy	More...

Add Transaction


Group Loan - x14891159 Status: Pending Date 11/10/10 View Details

Request New Account ▼


Notes



Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aliquam
dwright June 16, 2009



Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aliquam
jibabajba Sept 13, 2009 Reply



Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aliquam
dwright June 16, 2009 Close Save

New Note







Grupo Portanico
88881234

Location: Manica
 Officer: [Eduardo Lopes](#)
 Branch: Chimoio
 Started: 11/06/2008
 End date: 11/06/2011

Overview | Accounts | Members | Visits


Filtered by: Repayment, Loan Officer Visits, Meetings ▼

-  **Repayment of \$124 into Group Loan Account**
Nov 3, 2010, 3:41pm Processed by Eduardo Lopes
-  **Repayment of \$71 into Group Loan Account**
Oct 3, 2010, 10:21pm Processed by Eduardo Lopes
-  **Attended Meeting session in Chimoio**
Oct 1, 2010, 10:41am Processed by Eduardo Lopes
- Jack decided to purchase some land outside of ...**
Sept 11, 2010, 9:41am Processed by Eduardo Lopes
-  **Fee of \$3 for late payment in Account 14891141**
Sept 5, 2009, 5:35pm Processed by Eduardo Lopes


Filter by

- Meetings
- Repayments
- Loan Officer Visits
- Meetings


Notes



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dwright June 16, 2009



Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aliquam
jibabajba Sept 13, 2009 Reply



Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aliquam
dwright June 16, 2009 Close Save

New Note

Activity Feeds Mambu displays an up-to-date, chronological view of activities. Information is grouped within the currently viewed context and tied to those who performed the actions. For instance, if a loan officer makes a note about a group client, this information will be visible in the group profile view as well. The feeds are editable to filter the content or modify the level of detail visible to different roles.



Operating a Branch

Most microfinance organizations operate branches in order to serve clients in a bank-like manner. This usually involves front desks where clients can be served and offices for coordination and administration of the MFI operations. Branches always serve as a base for field operations such as visiting clients or evaluating clients in the field. Branches are also usually the base for providing microcredit services, but can have very different setups in different MFIs.

Branches mostly have regular working hours and copy banking practices. In smaller MFIs working hours are more flexible and vary as offices depend on information from loan officers which can come in at any time of the day.

Branch staff and management are the main roles participating in this activity, operating front desks and coordinating the other activities carried out by the MFI. However external entities can be heavily involved in operations. This can involve auditors at times of report generation, IT service providers in case of technical change or network consultants, who come in to inform the MFIs about new best practices in the domain or discuss how operations can be carried out more efficiently.

Requesting Technical Support is a task carried out once a problem with hardware or software arises. As soon as something with Mambu strikes a staff member as out of the ordinary, they will be able to connect to online knowledge bases, support forums or contact a mentor within their own organization. Only a very limited set of authorized users in an organization should have permission to directly contact Mambu's customer support team.

Validating Client Identity is a task that is being carried out frequently by branch staff if the MFI operates in a branch that can be visited by clients. This can involve formal identification by magnetic cards or just by personal knowledge of the person on the other side of the counter. It is a basis for carrying out tasks within activities such as managing client information and providing microcredit services.

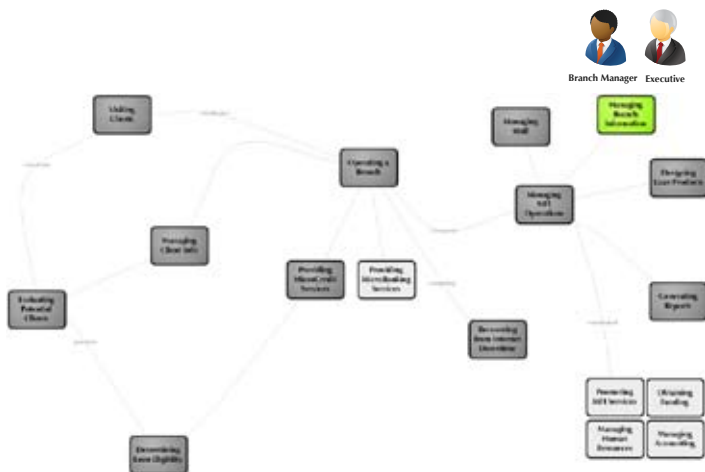
Branches always serve as a base for field operations such as visiting clients or evaluating clients in the field

Printing Paper Forms will be frequently carried out, either to request more information from a client in the branch or from credit officers in the field. Mambu should also encourage management level staff to frequently print out fallback paper forms in order to be able to serve clients in the branch in case of an Internet downtime in areas with poor access.



RESEARCH

When it becomes hotter in Mozambique summers, most people in rural regions start their days at three o'clock. As it becomes so hot during the day, every physical activity becomes painful and people choose to carry out all their activities at night. This involves branches of MFIs opening their doors at night times and clients being visited by loan officers at dawn.



Managing Branch Information

In Mambu, a branch is virtually any location where there is a computer with an Internet connection. It is an easy way to categorize the activities or type of service provided by different division or location of an organization. This would be important later for reporting and analysis of the MFI operations.

Creating a new branch in Mambu will enable the MFI to easily review performance information of this location, its clients and products. Deleting a branch that doesn't exist anymore or updating a branches' products will be key tasks that can be easily performed with Mambu. The activity is essential to organize and monitor branch distribution, performance and plan for future improvements.

The process involves higher level management members and may include branch managers as well. Though a change in branch information could be rare, monitoring and analyzing branch performance is usually a semi-frequent activity that takes place within the branch or head-office.

Creating, Deleting, And Updating branch profiles take place whenever there is a need to introduce a new branch, removing an existing branch from operation or if there is a change in an existing branch operation. These are usually not frequent tasks. Viewing a branch account on the other hand is a semi frequent task than can take place to monitor the performance of the branch.

Specifying Working Days of a branch is necessary especially if the branches are spread across a large geographic area. Based on work schedules, regional festivities and events, different branches may have different working times which should be taken into account when creating loan repayment schedules and ensuring it runs effectively.



DESIGN CONSIDERATIONS

An MFI branch may not be as static as a simple office location. For instance, Banco Oportunidade in Mozambique has mobile bank branches operating in a few locations. These branches-on-wheels are fully equipped with computers, three staff members, a loan officer, a safe and all the other necessities for a full banking operations and it visits rural areas and markets where it is not feasible or economical to set up a regular branch to serve the customers.

Stateless Form Everything is always autosaved in Mambu to prevent important data being lost in case of Internet downtime. Mambu still allows staff to keep working even when the system is not online, and all the data will be synced once the connection is restored.

Internet Connection Lost

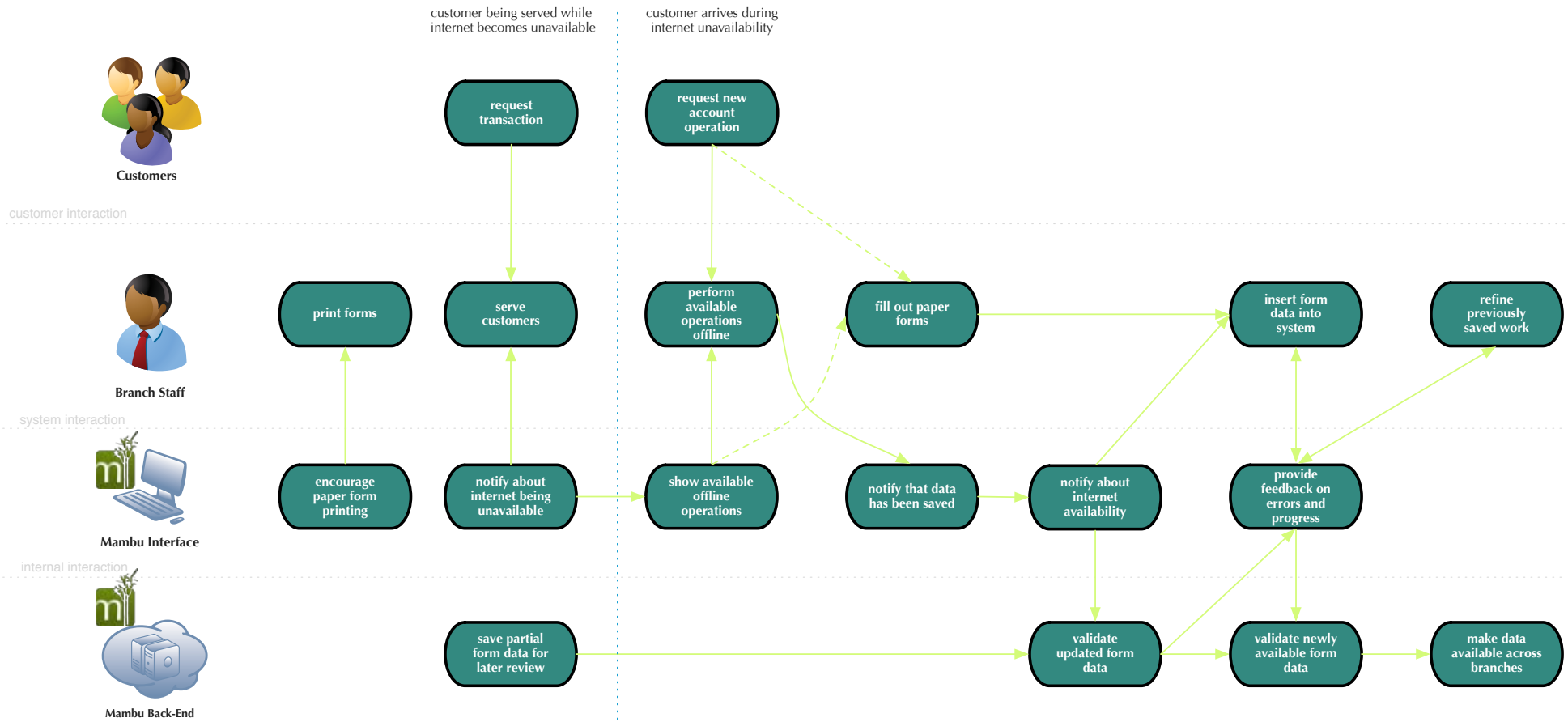
All your current work has been saved and is available for review as soon as the connection is re-established.

You can still use the system to create new files. However, operations marked with the following icon can not be performed until your internet connection is back online.

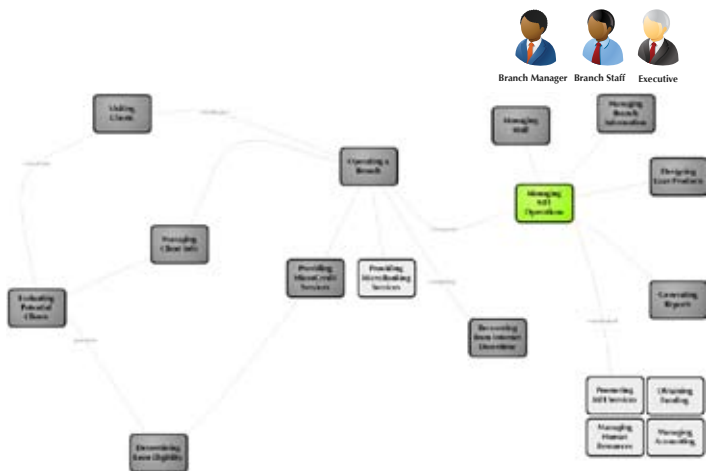
Internet Connection Available

The following documents have been saved for review and require your attention:

Title	Last Modified	Status
Loan Request - Albert J.L.	today - 24 min ago	incomplete
Repayment Information	today - 10 am	incomplete
Loan Request - Joao R.	yesterday - 6 pm	info needed
New Group - Chimoio	yesterday - 5 pm	info needed
Loan Request - Rober...	Nov 15th - 3 pm	granted



How a typical recovery from Internet downtime would occur while using Mambu



Managing MFI Operations

This activity is performed in order to ensure that the institution is running efficiently, performing well, dealing with problems and planning for the future. In principle, it is mostly carried out by higher-level management in the organization although for smaller organizations it is more realistic that many people will be involved with a few being able to make the final say.

It can also be influenced by external third parties such as other NGOs, donors, IT providers and government organizations which may be interested in not only monitoring how the organization is doing but assisting it and working together to provide a better service. This activity includes other important activities such as managing the staff of the organization, managing the branches, designing the services offered and creating numerous reports.

Unlike many more rigid organizations, the management of these organizations can be much more open. Information flows more freely with many more parties having a voice in the activities. That being said, the organizations are still hierarchical and one or few people have the final say.

This is usually an on-going activity, performed within a branch but certain internal and external deadlines may be imposed on it. To the organization, this activity and those included within it are critical to long-term success.

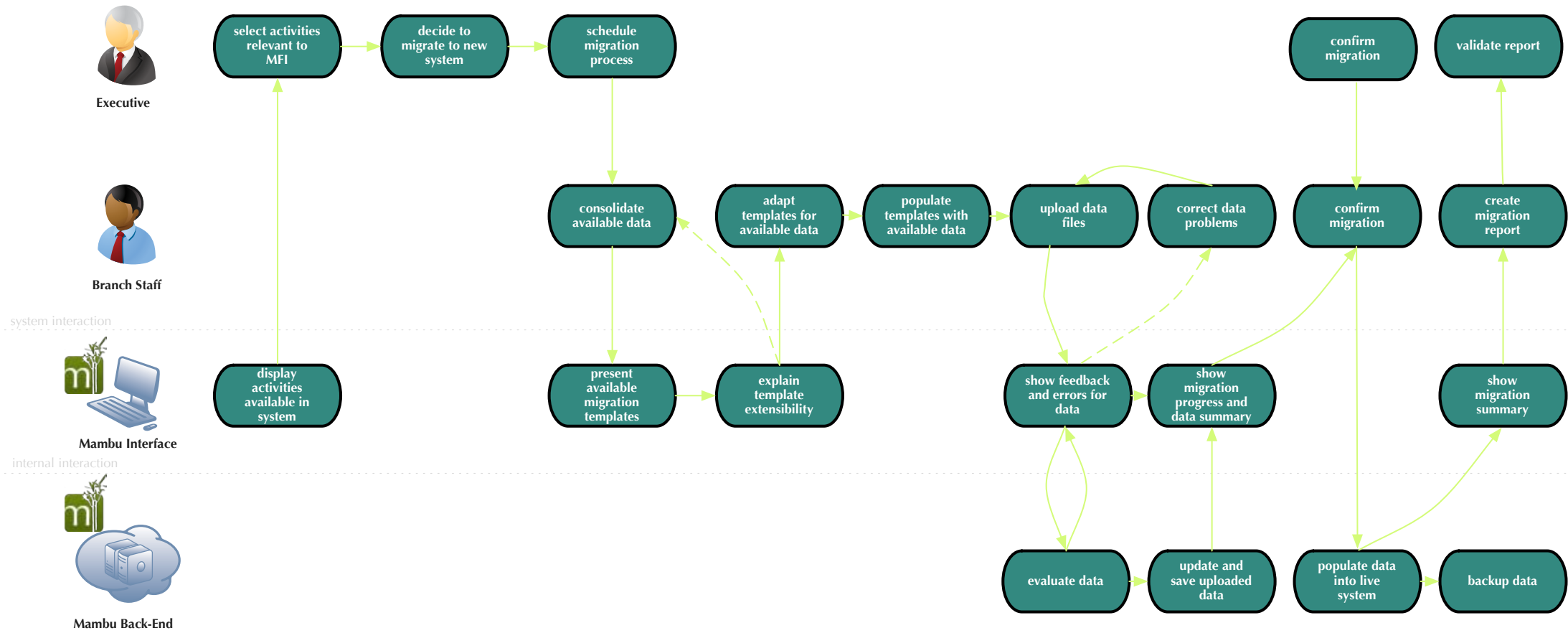
Migrating Data Into The System takes place while switching portfolio management providers. The organization needs to be able to migrate their existing information into the system. This is a critical task which may take place over many months but begins after evaluating the new system for functionality, usability and affordability and start with planning the migration process. Mambu should support the users in matching their existing data to new data, evaluating data and showing potential outcomes and allowing manual correction of the errors.

Backing Up Data From The System may be necessary as, while Mambu takes care of all data management for the users, they will often want to be able to keep their own local copies. This will be especially true of new users who may not fully trust the system initially. Making the export easy and accessible will be essential to building trust. Users should always feel in complete control of all information within the system - even if that is technically a redundant task for them to carry out.



The following are all important to consider in the detailed interface design to support this activity:

- Openness of Mambu features and capabilities
- Availability of easy communication for all processes
- Availability to communicate information from within Mambu to external stakeholders
- Support the planning and long-term execution of the data migration process
- Make exporting all from Mambu easy and accessible



How a typical migration process would be performed with the Mambu system.

Extensive Report Database & Flexibility Choose from a list of common reports, create a custom report from scratch, or download report templates from the web.

Interactive Report Select elements of a dataset to visualize in interactive charts and graphs, share and discuss with colleagues before finalizing.

Reports

Outstanding balance report ▼

Save

Discuss

Email

Print

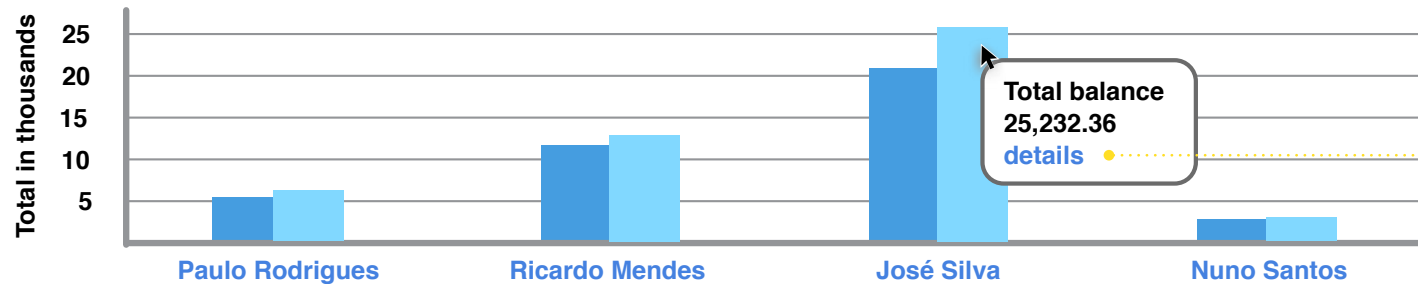
Edit

Outstanding balance report

< Jan Feb Mar Apr May Jun Jul Aug Sep Oct Dec 2010

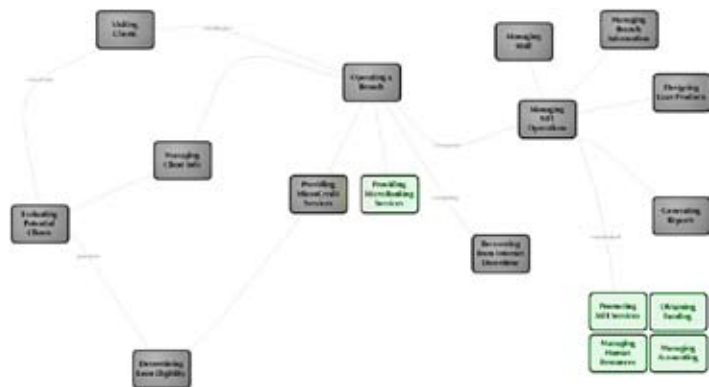
Select sections to visualize:

Loan amount Interest expiry amount **Balance principal** Balance interest Penalty balance **Total balance**



Loan #	Name	Loan amount	Interest expiry amount	Date	Balance principal	Balance interest	Penalty balance	Total balance	Last repayment date
0000001	P. Rodrigues	6,000.00	7,745.75	02/02/10	5,000.00	552.00	2.70	5,554.70	04/02/09
0000002	Ricardo Mendes	12,000.00	12,000.00	04/04/13	12,000.00	1,200.00	0.00	13,200.00	—
0000003	Jose Silva	25,000.00	2,039.85	12/02/09	22,691.14	2,541.22	0.00	25,232.36	03/02/09
0000004	Nuno Santos	4,000.00	44.80	12/02/09	3,257.00	30.04	4.86	3,605.94	04/02/09

Print Exactly What is Needed Staff can assemble only the relevant information that they need to print.



Future Supported Activities

Certain activities which are part of the operations of a microfinance will eventually be supported in Mambu, but are not part of the initial development plan. These are activities often are auxiliary to the core of portfolio management, business administration and field operations but are nonetheless important to the organization. They also increase in importance as the organization grows and is especially pertinent to larger MFIs who are not the initial target of a service like Mambu. These activities are described here.

Providing Microbanking Services

Microbanking is considered a subset of microfinance but may be separate from microcredit. With microbanking services the organization begins to more closely mirror a bank with tellers, cashiers and other similar roles. These new roles and their associated activities would need to be supported. New services could include saving deposits, cheque handling, money transfer, currency exchange, insurance and other similar activities. These organizations may also function under a different legal framework than other microcredit organizations.

Obtaining Funding

Most MFIs are still not self-sufficient so obtaining funding from donors or commercial entities is an essential activity to their organization. As described earlier, one way Mambu could support this would be by increasing transparency into the operations. This can be achieved by allowing any external entities to have an up-to-date view of the MFI through Mambu which hides confidential details but reveals operational and organizational information.

Promoting MFI Services

It is important for MFIs to make their services known to the general public. For many of the poorer clients the benefits of banking are not well known or the services are feared. It is important to educate the clients - sometimes illiterate - explain the advantages and disadvantages of credit and banking. Another function is to gain a competitive advantage over other MFI organizations. Being a business, building awareness and differentiation of the products and services is important to broaden market share, expand the services and grow itself.

Managing Accounting

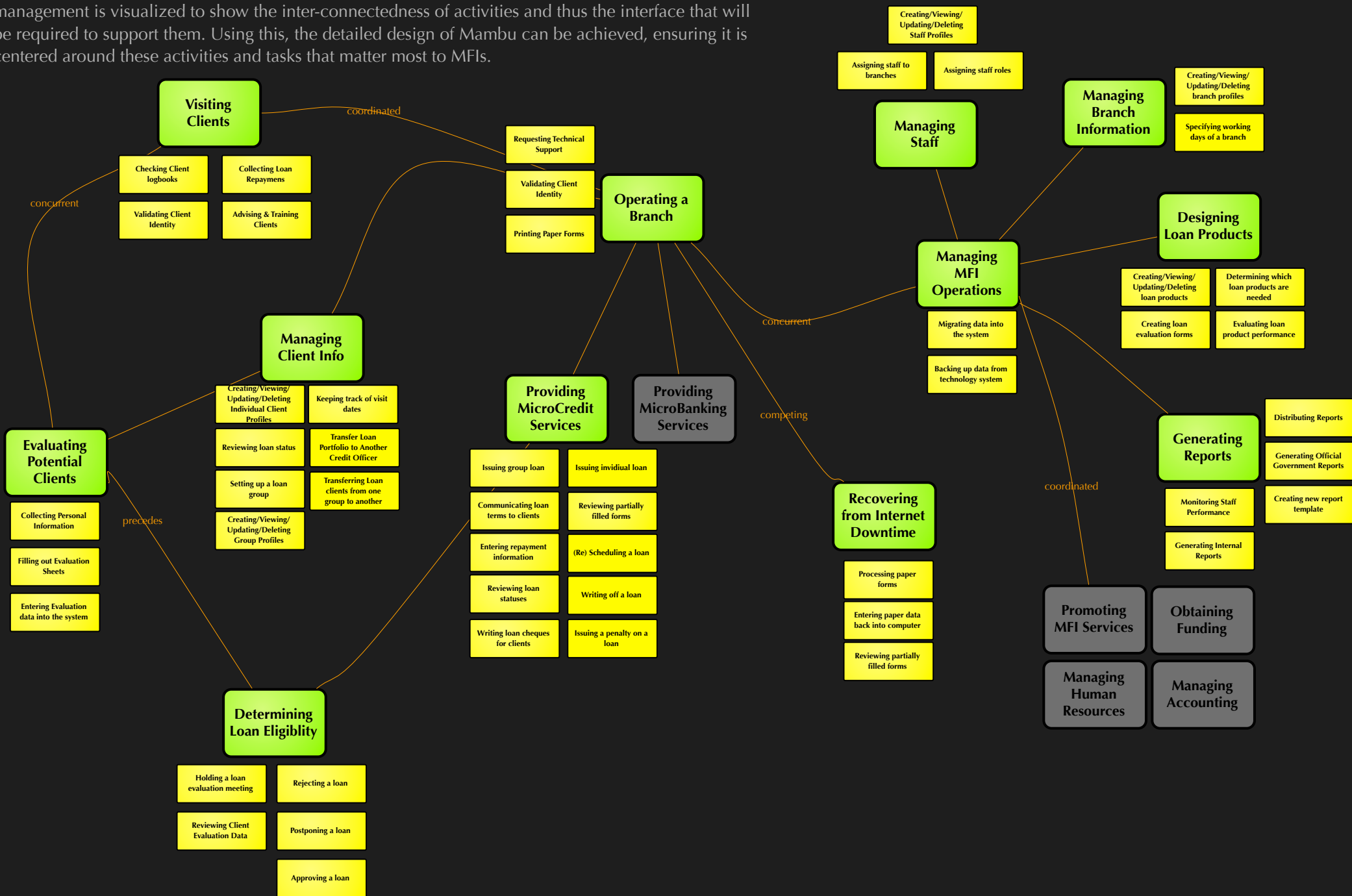
For almost all MFIs, accounting is a very important management activity. Key concept like bookkeeping, managing income, cash flow, auditing the services are still important to small organizations who want to maintain good business practices to stay self-sufficient and serve their customers over a longer period of time. Accounting itself is a complex operation which Mambu is not naturally designed for, but being able to provide basic accounting would be beneficial to very small organization. Alternatively Mambu could partner with other organizations that do focus on accounting to help better integrate the two services.

Managing Human Resources

MFI human resource management needs are similar to that of other organizations and include managing the organizations structure, recruitment, training, career development and other related functions. The need to support this activity scales in proportion to organization size as larger ones will have many more staff members and branches to manage and are unlikely to have a solution to support them in this.



Presented in the complete activity model are all the tasks associated to the activities that Mambu is going to initially support. The full performance of an MFI organization from field operations to business management is visualized to show the inter-connectedness of activities and thus the interface that will be required to support them. Using this, the detailed design of Mambu can be achieved, ensuring it is centered around these activities and tasks that matter most to MFIs.





A GROUP LOAN CLIENT IN FRONT OF HIS BUSINESS AT A MARKET

Deployment

Timing & Fit

The time could not be better to build a system like Mambu. The MFI sector has reached an optimal level of maturity and standardization in its business processes. A lot of smaller MFIs could use Mambu for a fraction of the cost of a traditional on-premise MIS and get access to a scalable and reliable information system, with only little adaptation of their business processes required. Potential clients in Mozambique were inquiring when the service would be available and how much it would cost based simply on explanations and hand-drawn sketches. Internet penetration rates are on the rise and soon most markets will be easily able to access such a service. Based on the fieldwork, research and design done over the last year, which is reflected in this report, the Mambu vision is one with not only market potential but also a strong market need.

Getting the Right People

The challenges involved in building Mambu are numerous, and the right mix of personalities involved in this process will be critical to its success. Promosoft, as a well-established software provider in the field of traditional banking, provides reliable and scalable backend solutions, which are widely known in the Portuguese markets. This domain and technical knowledge, but even more their already well-established network in the microfinance domain, will be much required when building the Mambu service. Further synergies between the traditional banking sector and the MFI sector may also be achieved as the borders between those become blurred with microbanks providing traditional banking products and vice versa.

Once it comes to actually assembling a team for building Mambu, one will have to mainly consider cultural factors: With the software as a service model that is built to achieve considerable profits only from a certain scale, team members will have to be ready and able to move in start-up pace and be willing to invest considerably more time and effort than one can demand from employees of a well established company. It is questionable whether this can be achieved within the established culture of a product-based company. Also a deep knowledge of the processes involved in MFI operations and willingness to explore new best practices in the domain worldwide will be much required.

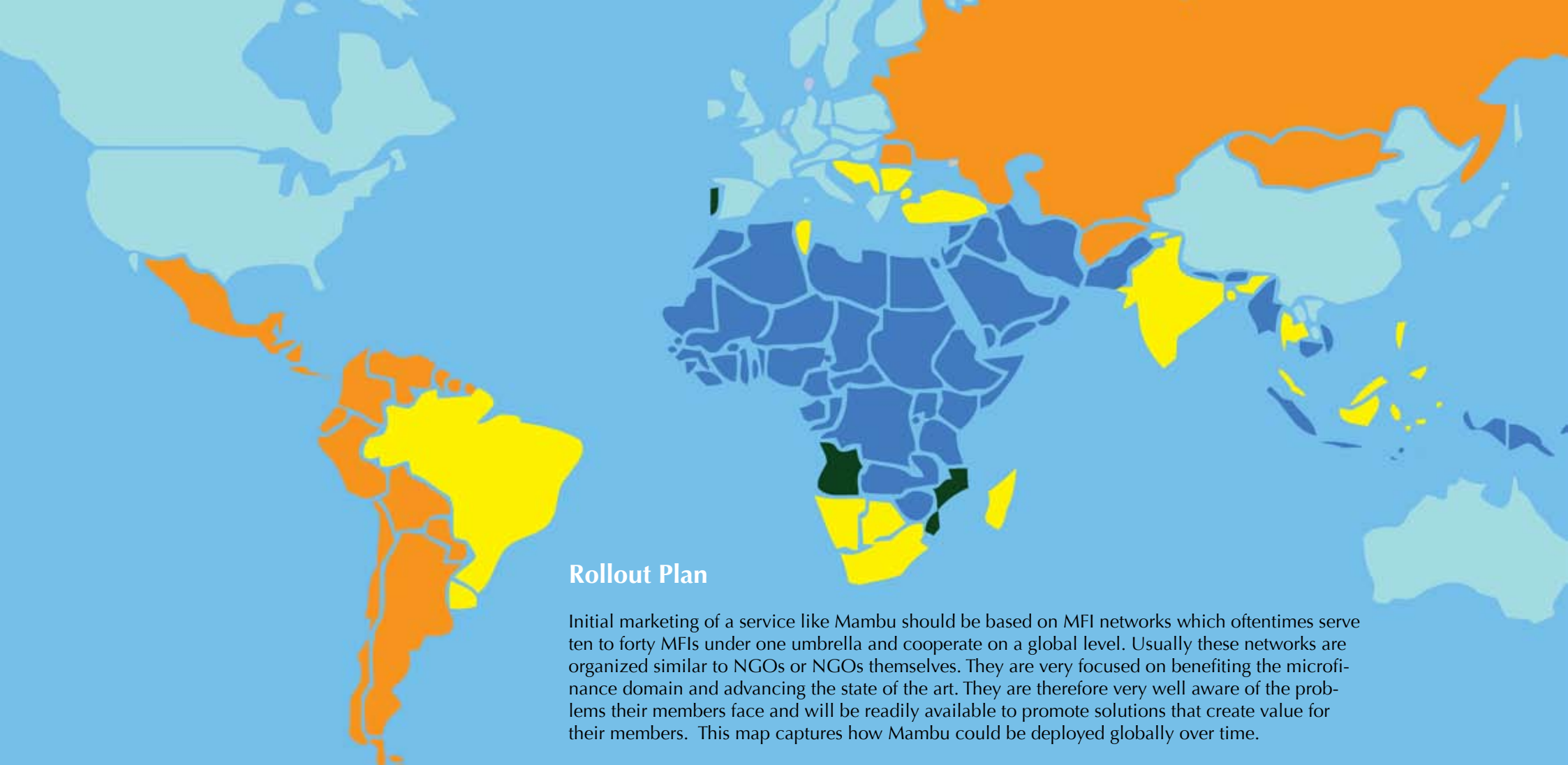
A New Venture

It seems ideal to start Mambu as a new venture that aims for global operations. From its very beginning an international team of enthusiastic experts, both in the domain and the technologies involved, should be acquired for the creation of this service. After an initial prototype has been built based on the research reflected in this report, additional user research while running pilot deployments in Mozambique will be required. Language support for Portuguese, English, Spanish and Russian should be rapidly acquired within a two-year period in order to scale to all major markets involved in the microfinance sector. While is no doubt other players will see - or have seen already - the value in this very same opportunity in the long-term, the commitment to user experience, close client relationship and constant feedback via user research will ultimately make the difference in success or failure.



“SaaS: the next wave in microfinance technology”

microfinancefocus.com



Rollout Plan

Initial marketing of a service like Mambu should be based on MFI networks which oftentimes serve ten to forty MFIs under one umbrella and cooperate on a global level. Usually these networks are organized similar to NGOs or NGOs themselves. They are very focused on benefiting the microfinance domain and advancing the state of the art. They are therefore very well aware of the problems their members face and will be readily available to promote solutions that create value for their members. This map captures how Mambu could be deployed globally over time.

Pilot Study ■

Business networks in Portugal, Angola and Mozambique are well established and organizations agreed to take part in pilot studies of Mambu. Only the Portuguese language has to be supported by the initial prototype.

Stage One ■

Includes all Portuguese speaking countries and countries where using a software solution supported in English does not impose constraints to MFI operations. Most notably, India is also included.

Stage Two ■

Include Spanish language support for Latin America and Russian language support for the greater Russian area including Central Asia and Mongolia.

Final Stage ■

Population in these markets would benefit from growing microfinance, but rollout of Mambu will be difficult due to low Internet penetration, difficult political situations, needs of Islamic banking or right to left typing languages.

Not Considered ■

MFI distribution in these markets is low and the Stage One English solution could be used if required.

Biggest Risks to Mambu

As in any other new service the success of Mambu heavily depends on dealing with the threats that could cause it to fail, finding workarounds for pitfalls and solutions for challenges is crucial. Some of the risks to the success of Mambu are unique to its nature being an online service; others could be faced by other on-premise solutions as well.



Microfinance Organizations May Not Trust Their Portfolios To Mambu

Portfolio management is at the heart of the microcredit organizations - especially the smaller and medium-sized ones and they may fear becoming dependent on an Internet service provider. It is therefore necessary to make sure client data is secure, always accessible and most importantly exportable at any time. It is also important to build a brand for Mambu as a reliable long-term solution that will not disappear after a short period of time.

Lock-In With On-Premise Software Products May Prevent MfIs From Migrating To Mambu

In case on-premise software solutions do not adequately consider migrating to another solution or implement means for performing exit migrations, the costs for switching to any alternative solution rise drastically. As paid migration services cannot be provided pervasively, partnering with local IT companies will become more important over time. Ultimately “Mambu Certified” IT companies will be able to perform paid migrations for larger MFIs on a per-contract basis.

Low Internet Connectivity Rates Prevent Organizations From Using Mambu

As an online software service the low Internet penetration rates in countries where MFIs operate are a challenge. Although the rate of growth is very rapid an organization with a branch in rural zones that cannot access the service might decide not to use it. It will be necessary to target countries with strong Internet backbones first and make minimal use of bandwidth in the solution so it can be used with slower connections – such as GPRS – as well.

Mambu Does Not Serve Specific Client Needs Without Compromising Simplicity

Microcredit organizations offer different loan products and at times have very unique business and social processes to support them. Many microcredit organizations claim to operate differently from others and could be uncertain if one solution designed for numerous organizations worldwide would be applicable to them. Mambu must by its design be customizable to address the needs of numerous clients and ways of business operations and similarities between MFIs have proven to outweigh the difference by far.



RESEARCH

In interviews a few MFIs had mixed feelings towards trusting their core data to an online provider. Having a sense of ownership on their data was a big concern MFIs raised. They mentioned this problem would not arise if they buy off-the-shelf solutions which is installed on their premises and data stored on their own servers. Ensuring understanding that, with Mambu, MFIs still have their own secure data which they can retrieve at any time will be important for its success.

How Mambu Can Be Priced

To make Mambu an attractive service option to MFIs, its price has to be closely tied to the subscribing MFI's loan account base. As presented earlier, the requirements in technical expertise and the high licensing costs for robust solutions prevent smaller MFIs from acquiring long-term and scalable IT solutions.

“The smaller MFIs are still having a hard time finding a quality solution at a price they can afford.”

Lauren Braniff, CGAP Information Systems Expert

While other pricing options have been explored, an account-based pricing model for Mambu turns out to be very attractive for potential clients and the service provider, both short and long term. In this pricing model, the MFI opens accounts in the solution for any staff member who has to deal with client and microcredit information. The MFI is charged a comparatively small monthly fee for every staff member using Mambu, so there is no need for large initial investments in using the service. It is also advisable making the service free for very small institutions – for instance up to three seats or one hundred clients. MFIs could then sign up for the service and try it out for an unlimited duration while already dealing with their real customers in the solution.

An account-based pricing model is ideal for MFIs, as they often have a predictable ratio of clients to staff in the organization. It is more predictable than a client-based price, as MFIs cannot foresee how many new loans will be issued in any given month, but hiring new staff can be directly associated with a new billable account in the service.

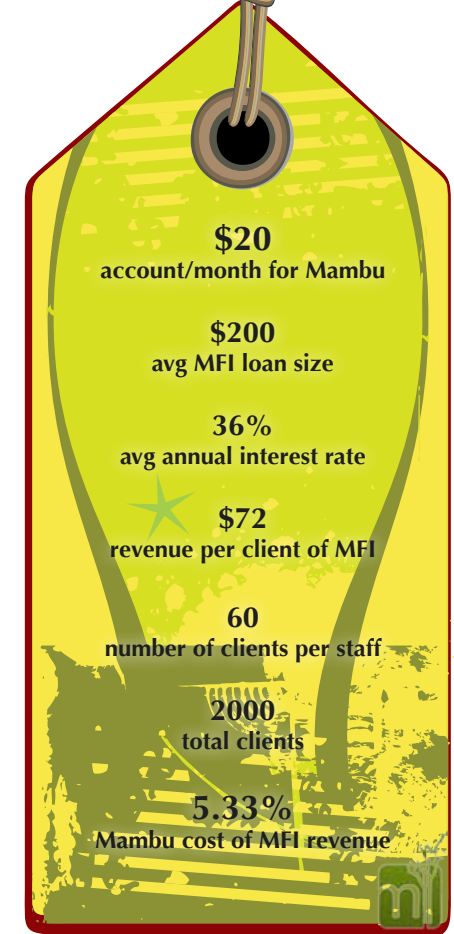
The account-based model is a very simple pricing model that is predictable, easy to communicate and consistent with how these organizations evaluate their own size, growth and success.

One big advantage of this model is also that it encourages efficient operations and self-sustainability in the MFI: As it reflects a low management cost associated with every dollar loaned, aiming for high client per staff ratios is an elementary part of driving down Annual Interest Rates for loans and creating a sustainable or even profitable MFI.



RESEARCH

Transaction-based pricing was suggested in discussions with the MFI association AMOMIF as an alternative to a client or account-based, but rejected by MFIs themselves. Transaction-based pricing is unpredictable for the organizations, and a transaction itself is difficult to define. Other organizations told us they would mistrust this model and expect the service provider to cheat in order to maximize its profits.



This example shows how the pricing model will work for a small MFI. It is important to note, that interest rates on loans rise exponentially the smaller loans get, as the labor costs to manage loans and acquire new loan clients are relatively constant no matter how large the loan is.



SHARED TRANSPORTATION TO BRINGING GOODS TO A BEACH RESORT



A HOLIDAY GATHERING IN CENTRAL MOZAMBIQUE

The Mambu Vision

With the range of rich possibilities for enhancing and streamlining the workflow of growing microfinance institutions, it is the right time and fit to create an online software-as-a-service solution for such organizations.

The risks have been assessed, pricing structure has been analyzed, and a plan has been outlined that can be enacted based on the extensive research and validation methods that we have completed over the course of the year.

Mambu's processes and interfaces have been refined from direct observations of MFIs, with a focus on being a lightweight online solution that helps MFIs grow.

Mambu would increase the interconnectedness of branches and staff, cut operational costs by offloading the burdens of a technology infrastructure and let MFIs focus on services and customers.

Mambu would help with the core operations that an MFI needs to support, from client relations to branch operations, giving access to real-time data from any location with an Internet connection.

With a modern online system, MFIs would stay on the cutting edge of microfinance trends and reach more people who need their services.

Mambu is a chance to redefine what it means to have an MFI branch.



APPENDIX

Eugene Danilkis *Project Manager*

Coming from a computer science background, Eugene calls Vancouver home but is often traveling about. If he's not creating something, you can usually find him on the ski slopes, the volleyball courts or taking photographs.
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Josh Coe *Design Lead*

With a background in visual and interaction design, Josh likes to create software systems that connect people together. Along with Mambu, he is currently designing a SaaS solution for nutritionists.
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Joydeep Sengupta *User Study Lead*

Having worked on telecom software development and getting completely bored with it, Joy has moved to the field of design and enjoys making usable software product. He dedicates his free time to discover new places, meet new people and taking photographs.
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Frederik Pfisterer *Technical Lead*

With plenty of industry experience in this field, Frederik was the expert for Web-Based Systems. He studied both business and computer science in Germany and spends most of his free-time doing sports the mountains or on the water.
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Sofia Nunes *User Research Lead*

With a background in Psychology, Sofia sees people as a source of inspiration and knowledge. She finds her own balance and energy in sports, experience from past trips and plans for future ones or sometimes playing as an actress in random amateur theaters.
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Our Research Approach



The Mambu project spanned the course of three quarters of 2009 with intensive research and design iterations. We began the first quarter by focus setting and competitive analysis to determine where there was the greatest need for a financial software solution, and we sent out questionnaires to domain experts when we did not find the answers we needed within our research.

Exploration phase Jan 2009 - Apr 12

We ended up focusing on emerging markets such as Mozambique, as the microfinance industry was growing rapidly but was still in need of a software solution to meet their specific needs. We conducted a model-driven inquiry to solidify our perception of the banking process and determine what questions still needed to be answered, then formed a user research plan based on what we needed to know.

Evaluate & design Apr 12 - Jun 25

January
2009

February

March

April

May

June

We took an initial trip to Mozambique, performing contextual inquiries and interviewing domain experts such as bank managers, staff, field officers, point-of-service agents and potential clients in markets.

Initial trip Apr 3-12

From our on-location research, we isolated the key opportunity to pursue, a lightweight but scalable solution for microfinance institutions.



We maintained a service design approach and solidified both the interfaces and the processes based on user needs, making the service streamlined to support microfinance institutions with a more efficient workflow.

Prototyping & testing
Sept 15 - Dec 15

July	August	September	October	November	December
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Summer break
Jun 25 - Sept 15

We returned to Mozambique to validate our concepts with MFI domain experts, then refined based on that feedback to present the current iteration of Mambu.

Trip #2
Nov 14-21



YOUNGSTERS LOOK ON AS WE INTERVIEW A LOAN OFFICER

Also Available

UPON REQUEST



Business Viability Whitepaper

Explores the business model of the Mambu service in further detail by looking at the state of the microfinance industry, a marketing strategy, Internet penetration growth, pricing models, and expense projections. The risks and mitigation strategies are also analyzed in further details.




Technical Development Whitepaper

Explores the technical attributes of the Mambu service including a system architecture, evaluates the MIFOS adaptability option, data migration challenges, front-end interface toolkits and a cloud service comparisons to create a framework for development efforts.



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*A Promosoft Initiative
with Carnegie-Mellon University
and University of Madeira*

 Promosoft

 Carnegie Mellon

December 2009

