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Summary

Orange Money and MTN, the mobile money operators in Guinea, as well as the two largest mobile networks both utilize the same strategy as M-Pesa, i.e. using local merchants. Orange Money is the bigger one and when checking on their map, only dense areas are widely supported. Additionally they have some strict requirements. The drawback of this method is that it's very immobile and initial capital can be problematic, either by it being too little, or the company requiring too much (like M-Pesa)

I reason that there is a potential for a mobile bank product with free-roaming agents with an upgrade path, meaning that a product in today's age in Guinea should support SMS/USSD which is the technology already available, as well as internet / smartphone technology which is the future. Some pros and cons to this:

- Does not require physical shops and all the requirements that comes with owning one.
- Does not require a large working capital.
- High mobility.
- Opens up for more jobs by allowing agents to take a fee cut, also giving an incentive to join early on.
- Potential to bank the unbanked, particularly those who aren't banked due to distance to banks and potentially those who aren't banked due to lack of identification if we assume they can provide other means of identification, such as address, user picture, phone number and more.

- Getting users initially will be difficult, Orange and MTN can provide other services like airtime and they already have established agents.

Questions for this meeting

- Is there a better solution?
- We've discussed bluetooth in the past, is there still a need for it with USSD and Smartphone applications covered?
- How should depositing and withdrawing play out? Who approaches who? Who enters their password/pin and who gets the fee? It is possible to reason that both could get a fee and that none of them do.
- What can be done to facilitate asynchronous transactions (I transfer now, I receive items later)? Review system? Proof of delivery etc. from local post offices?
- Technical stuff
 - Client stack - I propose Java/Kotlin
 - Server stack - I propose C# and a simple sqlite database

Competitor analysis

Orange Money

<https://agence.orange-guinee.com/>

Limited amount of agents, 12 in Conakry, the capital. At most one in many other big cities

Requirements to become an orange money agent in Botswana (only source I could find):

Administrative conditions:

- Be a corporate body headquartered in Botswana.
- Have the evidence of the company registration in the Botswana trade registry
- Have a valid taxpayer account in Botswana
- Have a bank or MFI account
- Have a certificate of incorporation

Security recommendations

- Have an enclosed outlet
- Have a secure public access: Grid security or permanent guard
- Have a secure point of sale
- Have a valid insurance related to the practiced business, in particular against theft and fire

A lot of governmental requirements and safety recommendations, there doesn't seem to be a minimum capital requirement however.

Orange has 5.24M subscribers to their mobile network of a population of 10.8M (2015) [source](#)

<https://www.orange.co.bw/en/orange-money-faq.html>

MTN Mobile Money Guinea

Requirements to become an MTN agent in Nigeria (Only source i could find):

- Have an existing business or willing to invest in agency business.
- Have a Brick & Mortar/Immovable retail shop e.g. Pharmacy Pop & Mom Shop located in high foot traffic.
- Viable means of identification (National ID, Driver's License, International passport or Voters card).
- Readiness to provide 1 passport photograph.
- Capability to provide a Working Capital of N20,000 and above.

Which are reasonable requirements and only requires N20,000 which is approximately \$53 USD. Here the limiting factor would be owning a shop in high foot traffic meaning that less

dense areas won't be covered, or at least not covered easily, as well as \$53 capital might be too little.

<https://momoagent.com.ng/become-an-agent/>

MTN has 3.21M subscribers to their mobile network of a population of 10.8M (2015) [source](#)

Product description

Guinea specific requirements

Need to have

- Illiterate and uneducated so having a nice UI/UX is required, maybe with support in forms of tutorial videos
- Cheap
- Ensure distance isn't an issue, i.e. distance to the nearest agent
- French is the main language, 34.6% of the country speaks Fula, mainly in Middle Guinea. 24.9% speak Malinké, mainly in upper Guinea. 17.7% Speak Susu, mainly around the capital and some smaller languages below 5% are scattered around the country. Ideally the product would support all these languages. Since this is a simple prototype, support for multiple languages might not be a requirement.

Nice to have

- Access without means of identification
 - One time signup from the internet or through an agent with a smartphone and internet. Address, picture of themselves, phone number.
- High inflation from 2004-2018 so having a second currency to peg against might be good
 - Pegged to West African CFA franc? Stablecoins?
 - Up to the agent if he has them and if he wants to trade them
 - Otherwise a different solution is needed, like a partnership with CFA franc

Basic requirements

- Upgrade path
 - Support USSD for cell phones
 - Support smartphones through an application over wifi / no wifi.
 - With this we support the future and the already available infrastructure of mobile phones and operators. What about bluetooth? It's a cool idea and potentially removes the need for sim cards. Is it worth including? Open discussion :)
- Single player mode (An incentive to join even if you're alone on the network)
 - Agents could join to earn additional cash, taking a fee of the transaction
 - Users could join to enter a different currency to solve inflation issues
 - Users could join for ease of use (store money)
 - Future applications

- Pay for goods and services
 - Add airtime
 - Loans
- Basic banking
 - Withdraw
 - Deposit
 - Transfer
 - Also to unregistered users, such that they can receive upon registration.
 - Request money
 - Transaction history
 - Balance lookup

Product details

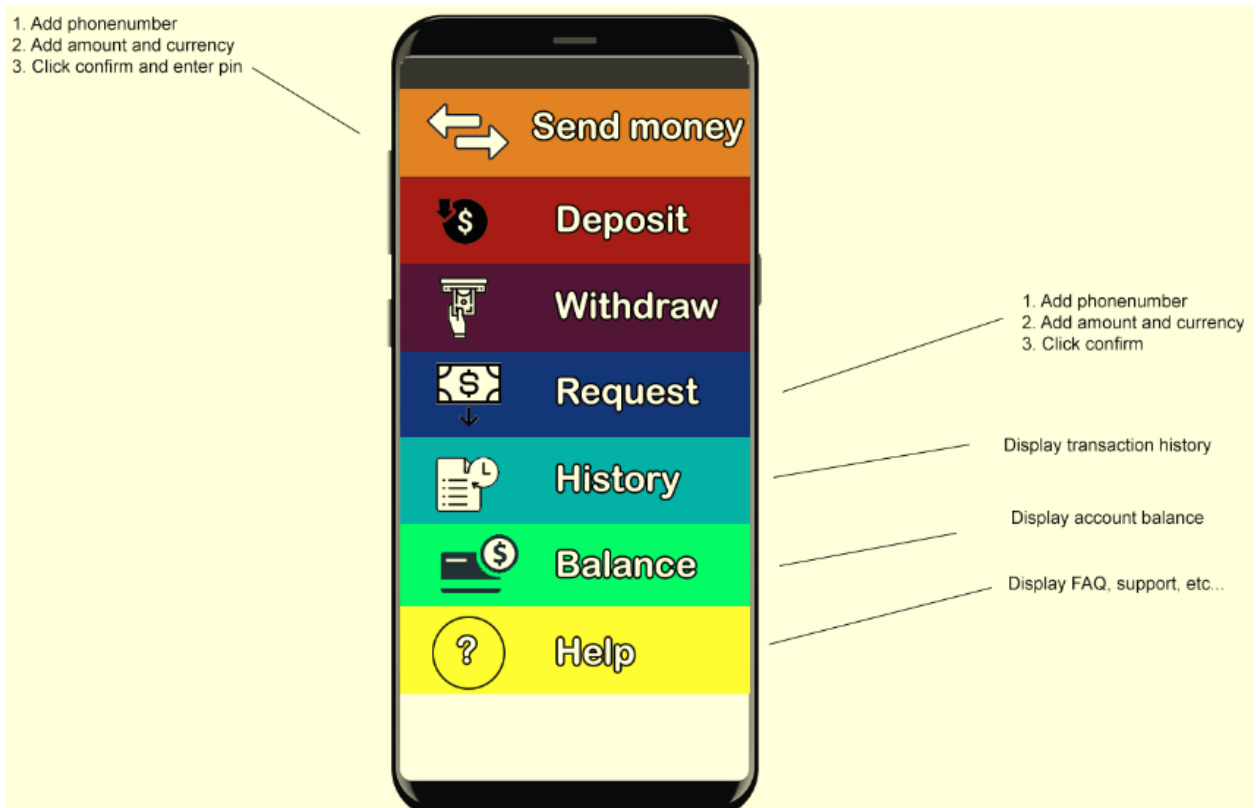
Currently the solution seems to be agent-based with free-roaming agents instead of utilizing local merchants.

Technical details

- Server
 - Support both USSD and Smartphone
 - C# seems like a reasonable choice
 - Sqlite for a simple database
 - Account: ID, Firstname, Lastname, Balance, Birthdate, Language, Profile_picture, Passport, Nationality, Country_code, Phone_number, Address, SSN, Password
 - TRANSACTIONS: ID, From(User ID), To(User ID), From_Amount, From_Currency, To_Amount, To_Currency, Type (Date)
 - Routes
 - POST /createaccount
Create a user and an account if possible. Return whether it was a success or not.
 - *Maybe* POST /login
Attempt to login. Might not be needed since the user can instead simply enter their PIN when performing an action.
 - POST /transfer
Attempt to transfer money from one account to another. Return whether it was a success or not. This will also be used when making a deposit or a withdrawal. There's three types of transfers: A user hands cash to an agent who makes a transfer to the users account or vice versa, and a direct transfer, expecting nothing in return.

- POST /request
Request money from another user. Return whether it was a success or not.
- GET /balance
Return the balance of a users account.
- GET /help
Return the available options for USSD.
- POST /agent/active
A user is ready to deliver N amount of cash.
- POST /agent/inactive
A user who was an agent no longer wishes to deliver cash.
- GET /agent/list
Return the list of agents in a given area, maybe with contact information. Might be malicious since it can be used to look up agents. What info can be given such that the user can contact the agent without it being malicious? Future problem.
- Client
 - USSD
 - Smartphone application
 - Made in ... Java or Kotlin?

Mockup of smartphone application



Inspired by Red Rose mobile application who's partnered with the Norwegian Refugee Council. A simple UI to make it usable for all literacy levels.

Some things that need good reasoning though: Who approaches who when converting cash to e-money and vice versa? I.e. how should deposit and withdrawals work?