Agenda
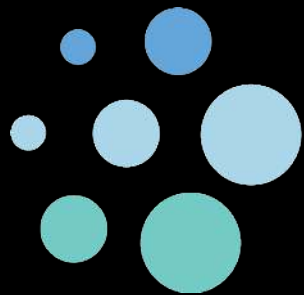
- Introduction to the DFS Lab
- Why run a hackathon?
- The Process
- The Results
- Conclusions

DFS LAB

Introduction

DFS Lab in <280 Characters

The DFS Lab mission is to work with the best FinTech companies in Africa and South Asia and play a meaningful role in their success.

We invest in early-stage companies and work on ecosystem initiatives that put us at the center of innovation in FinTech.

DFS
LAB

Thesis in Action

Thesis: Successful FinTech startups digitize informal sectors, have great founders, and add value beyond transactions

nala®

Nala is creating a streamlined, interoperable mobile money experience that speaks to the youth of Tanzania.

Analogues: Venmo (US), Alipay (China)

Follow-on: $2m from Nyca, YCombinator

HOVER

Hover is bringing USSD-based mobile money experience into the API era.

Analogues: Plaid (US)

Follow-on: $1.6MM seed including Anthemis Partners

TaniHub

TaniHub is creating a platform to access healthy, high-quality produce through digitized agri-finance and supply chain management.

Analogues: Meicai (China)

Follow-on: $10MM Series A led by OpenSpace Ventures

PULA

Pula is reinventing agri-insurance in Africa and South Asia through satellite data and lowering the cost of customer acquisition and risk management.

Analogues: Syngenta (Africa)

Follow-on: $2MM seed led by Omidyar Network

pezesha

Pezesha is reinventing how credit for unsecuritized consumer loans is determined in Africa by deploying a "credit score as a service platform" that aggregates consumer data while providing financial education.

Analogues: WeBank (China)

Follow-on: 1MM seed raised

DFS Lab team

Jake Kendall
Director

Stephen Deng
Investments

Dan Kleinbaum
Accelerator

Alina Kaiser
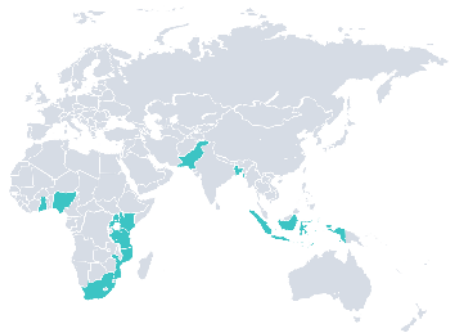Comms & Web

Jamie Radice
PR

BILL & MELINDA
GATES *foundation*

Funder

Host

DFS
L A B

Some of Our Assets

"Local Liaisons"

Highly connected scout network in 10 cities

Accra, Ghana — Paul Damalie, CEO Inclusive, Ghana FinTech Association

Kampala, Uganda — Luke Kyohere, CEO Beyonic, Inc.

Nairobi, Kenya — Hilda Moraa, CEO Pezesha

Dar es Salaam, TZ — Benji Fernandez, CEO Inafi

Nairobi, Kenya — Prince Boampong, CMO Digital Media

Johannesburg, SA — Anda Ngcaba, Ngcaba Family Office

Maputo, Moz — Joss Osborn, Senior Manager Caribou Digital

Islamabad, Pak — Owais Zaidi, CEO CreditFix & Fintech Factory

Jakarta, Indonesia — Eka Pamitra, CLO TaniFund

Mentor Network

300+ experts and former founders

Nick Hughes — Founder, M-PESA & M-KOPA

Matt Flannery — CEO Branch & Kiva

Bertram Desouza — Head of Digital, Kotak Bank

Jacki 'O Neill — Scientist, Microsoft Research

Erwan Gelebart — Head of Digital, Orange Madagascar

Ginger Baker — Mobile Finance Lead, Facebook

Bob Aman — Head of Security, Remitly

David Sica — Partner, NYCA

Kamal Quadir — CEO, BKash

Pelumi Aboluwarin — Founder Kudi.ai (YC W17)

Kabir Kumar — Head of Ecosystem Omidyar Network

Dennis Ondeng — CTO, Kopo Kopo

Strong Brand

Respected by entrepreneurs. Media presence.

Melinda Gates @melindagates · Follow

Fantastic opportunity for female founders—use the power of technology to help millions break the cycle of poverty m-gat.es/2i8buTM

10:10 AM - 21 Dec 2016

211 Retweets 372 Likes

21   211   372

MEASURING INVESTMENT IN AFRICAN TECH

DFS LAB

Our Investments are typically launch through seed round

Bootstrapped	Seed	Series A
• Self-funded • Friends & Family	• Impact Investors • Angel Networks	• Institutional Investors

DFS Lab Startups

DFS LAB
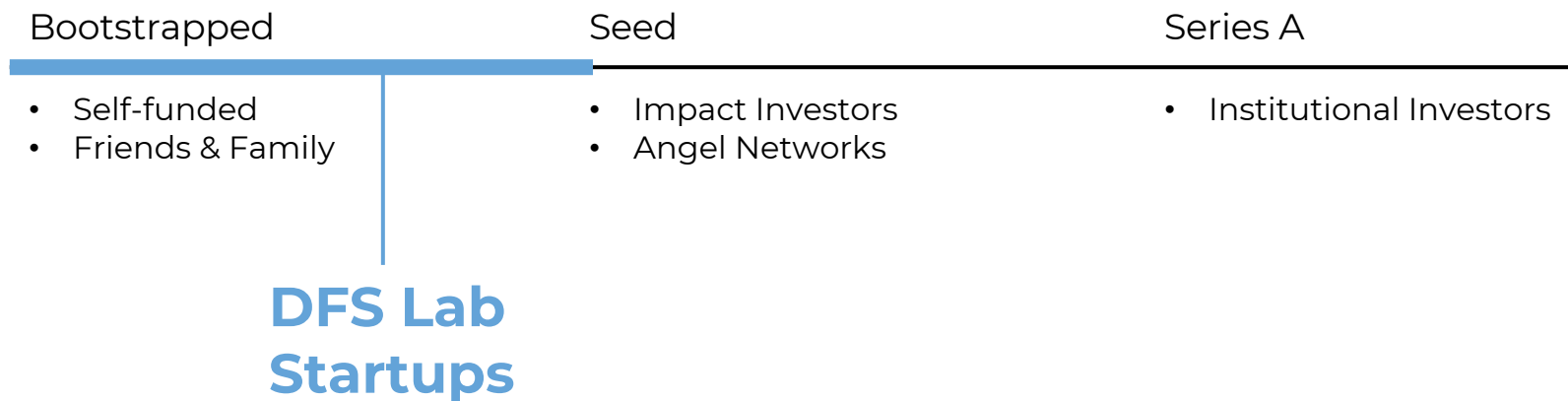
Our Ecosystem Initiatives

Mojaloop. Working with the Gates Foundation and Mojaloop to understand the implications of Mojaloop on the FinTech community

Well-tested playbook and tools for doing bootcamps. We run bootcamps to help others gather early-stage product feedback

Authentic, thoughtful research.
Examples: Go-Jek post, NLP Paper, Early Expansion post.
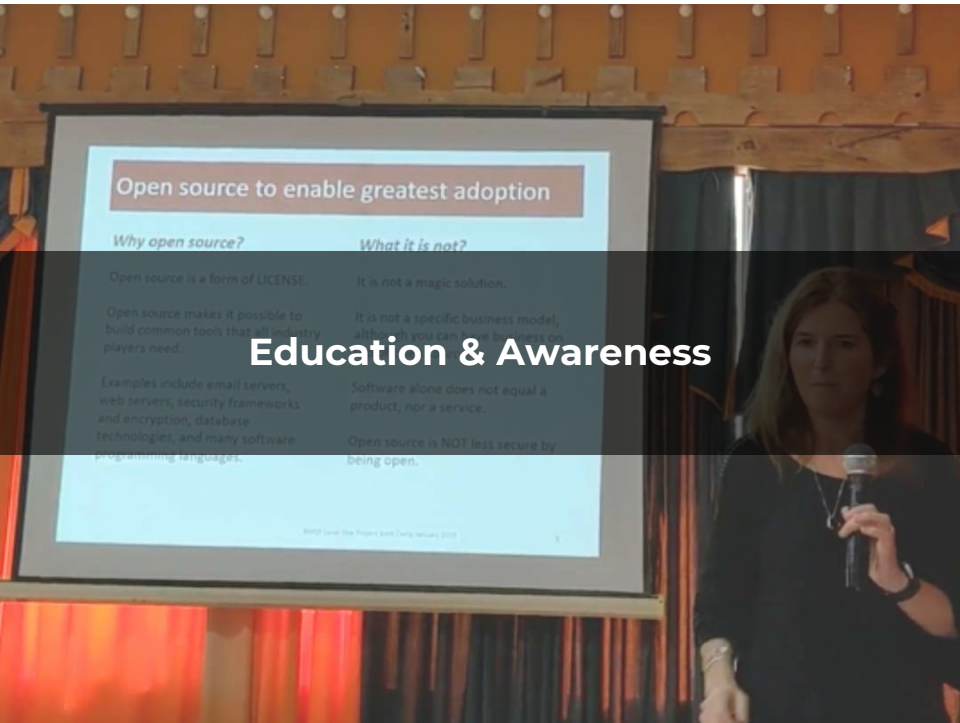
Why run a hackathon?

Education & Awareness

Test and Validate Commercial Use Cases

DFS LAB

How did we run the hackathon

- **Recruitment**

- **Develop Sandbox Test Environment – Mifos/DPC**

- **Communications**

- **Participant Selection**

- **4-day Hackathon & Design Sprint**

Participants

Mentor Representatives

The Format (Days 1 & 2)
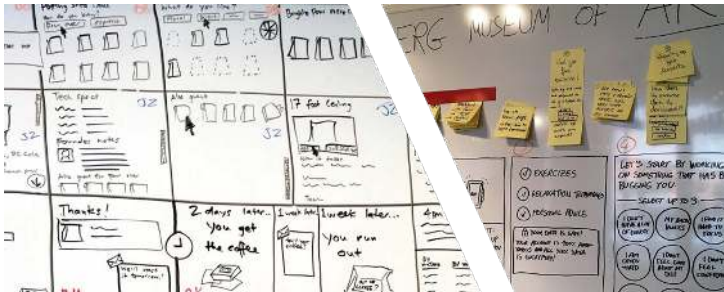
Introduction to Mojaloop

- Technical Intro
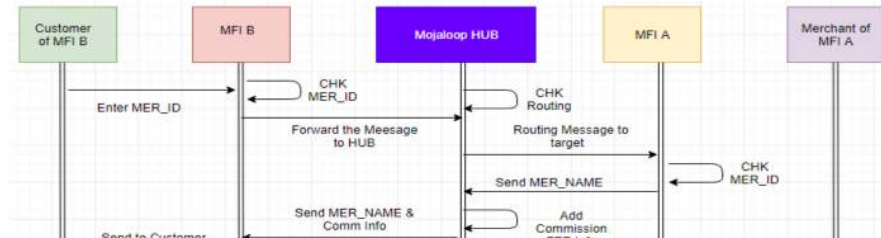
Design Sprint

- Bring participants "to the users"

Outputs:

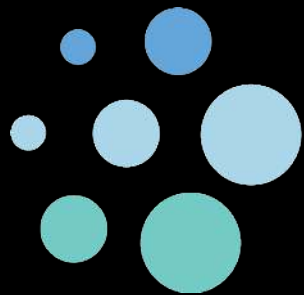- Storyboard (UI/UX)

- Process Maps

Process Flow

The Format (Days 3&4)

Build

... and then demo!

DFS
LAB

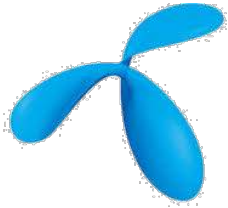# DFS LAB | The Results (Demos)

Core Goal: Connect the gap between 50mn bank accounts, 67m MFS wallets and 1m agents all in disparate systems. Currently, 6 large banks are on board, but the 53 remaining banks present a large logistical and technical hurdle to on-board.

Mojaloop Goal: Demonstrate how an interoperable agent network would enable agents to perform agent banking transactions
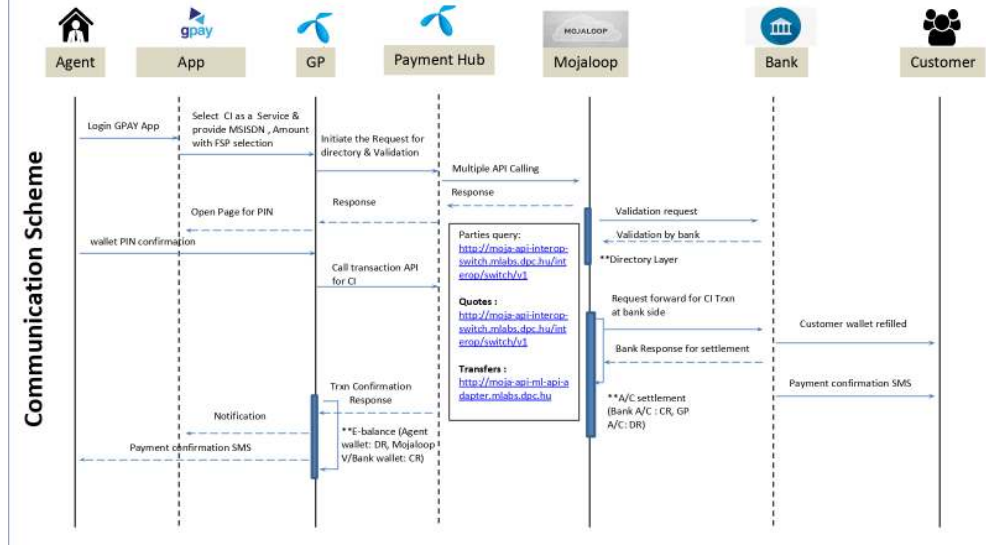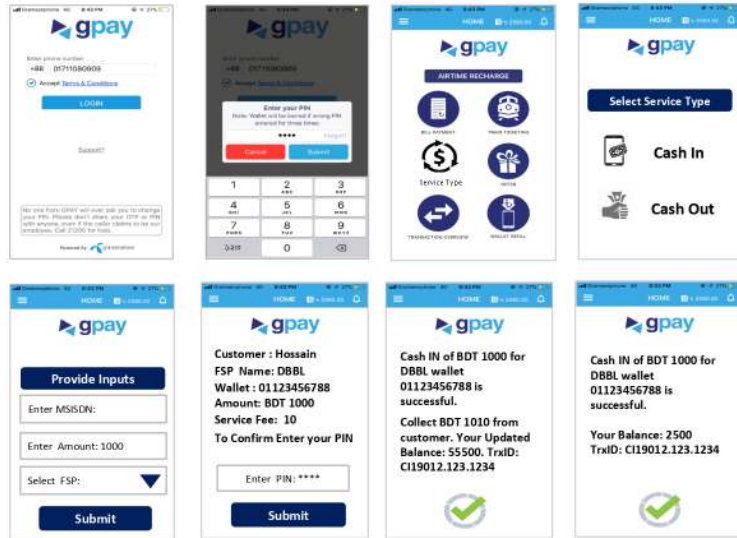
Core Goal: To provide DFS to the under-banked by expanding beyond digital loans.

Mojaloop Goal: Demonstrate how a customer can redeem a voucher from any agent on their network through a Mojaloop deployment

Customer dials USSD code with amount and account number → Customer gets summary of transaction and fees → Customer authenticates transaction with secret PIN → Funds are withheld and Customer gets WITHDRAWAL CODE

Customer goes to any agent location with withdrawal code → Agent dials USSD code with customers withdrawal code → Agent gets confirmation of received funds and gives customer cash

USSD Cashout Service Request Money

www.websequencediagrams.com
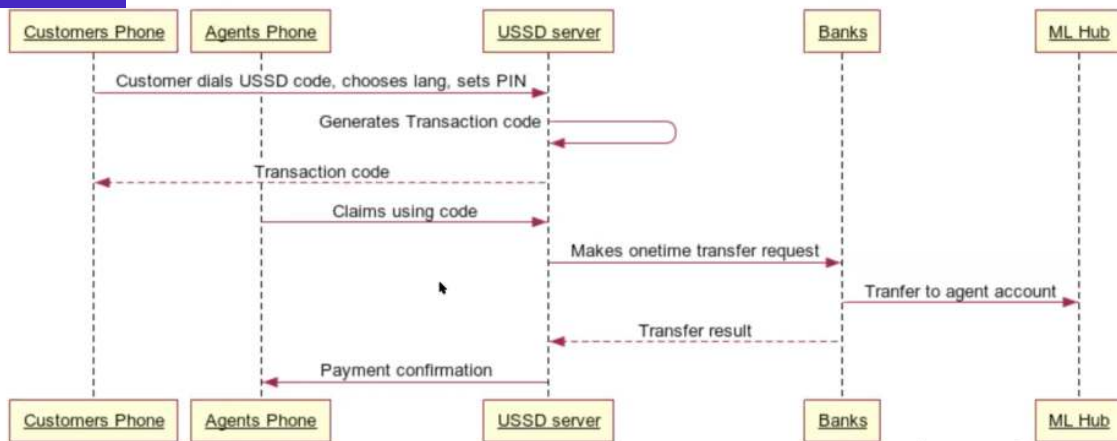
Core Goal: Be able to easily integrate banks to access their 30,000+ agents for CICO

Mojaloop Goal: Demonstrate a workflow where an individual from any bank can redeem a voucher and the banks

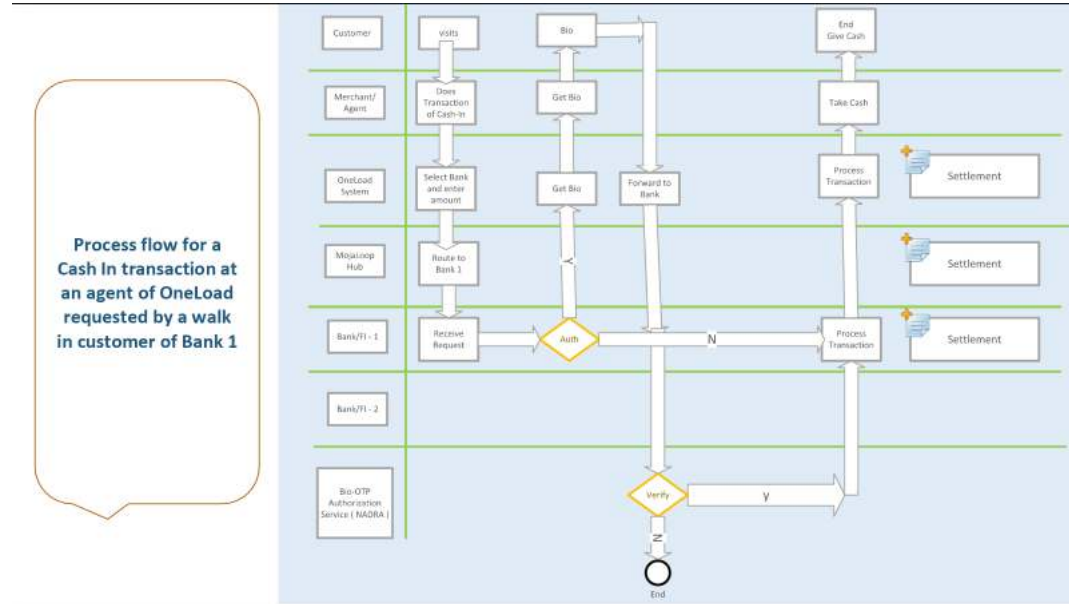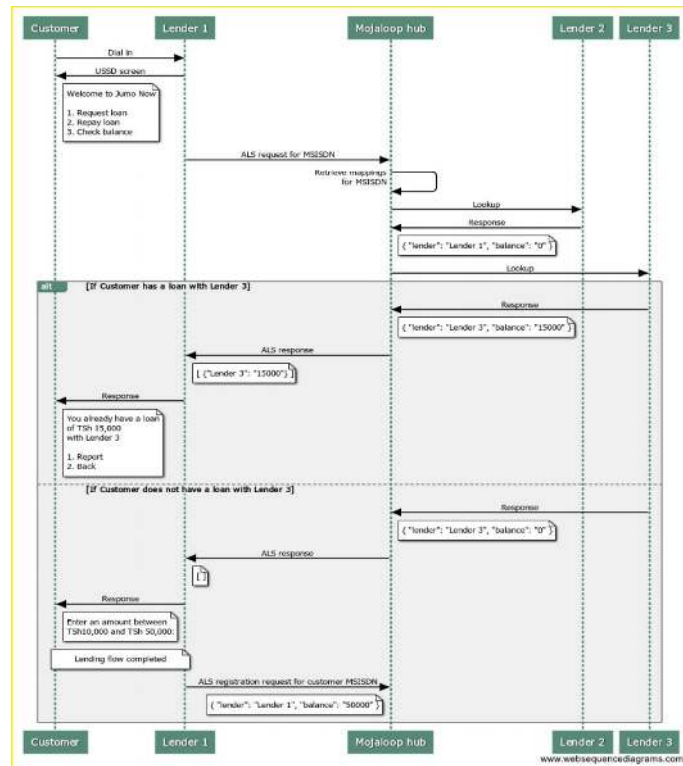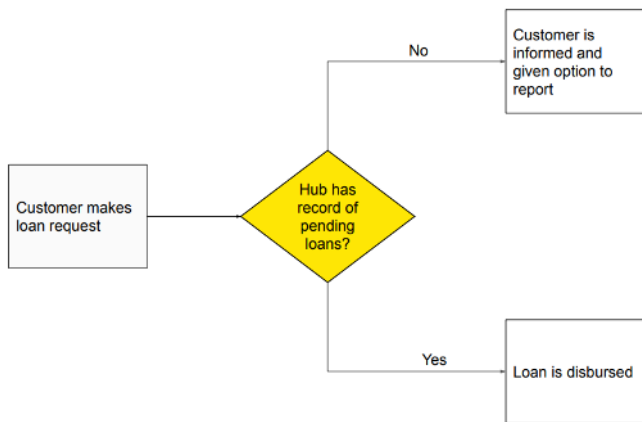Process flow for a Cash In transaction at an agent of OneLoad requested by a walk in customer of Bank 1

Core Goal: Give millions of people access to high-value savings and lending products

Mojaloop Goal: Establish a lender-based Mojaloop hub with specific scheme rules to provide deeper insight into customer's financial standing

Customer makes loan request → Hub has record of pending loans?

No → Customer is informed and given option to report

Yes → Loan is disbursed

Customer | Lender 1 | Mojaloop hub | Lender 2 | Lender 3

Dial in
USSD screen
Welcome to Jumo Now!
1. Request loan
2. Repay loan
3. Check balance

ALS request for MSISDN
Retrieve mappings for MSISDN
Lookup
Response
{ "lender": "Lender 1", "balance": "0" }
Lookup

alt [If Customer has a loan with Lender 3]
Response
{ "lender": "Lender 3", "balance": "15000" }
ALS response
[{"Lender 3": "15000"}]
Response
You already have a loan of TSh 15,000 with Lender 3
1. Report
2. Back

[If Customer does not have a loan with Lender 3]
Response
{ "lender": "Lender 3", "balance": "0" }
ALS response
Response
Enter an amount between TSh10,000 and TSh 50,000:
Lending flow completed
ALS registration request for customer MSISDN
{ "lender": "Lender 1", "balance": "50000" }

www.websequencediagrams.com

Juvo

Core Goal: Offer equitable finance services to mobile-only customers

Mojaloop Goal: Build out a credit marketplace on top of a Mojaloop deployment

01: Loan Request | Credit-Check Policy

```
1   POST /v1/iq/policies HTTP/1.1
2   Host: iq.juvo.com
3   ApplicationId: mojaloop.tigo.policy.tz
4   Content-Type: application/json
5   Authorization: {reducted}
6   Cache-Control: no-cache
7
8   {
9     "name": "policy_mojaloop_credit",
10    "properties":
11    {
12       "score_min": 0,
13       "score_max": 100,
14       "decision_tiers": {
15          "approve": [41,100],
16          "deny": [0,20],
17          "manual_review": [21,40]
18       }
```

```
1   {
2     "custom_variables": {},
3     "decision_properties": {
4        "number_of_rules_evaluated": 3,
5        "policy_execution_terminated": "NO",
6        "policy_name": "policy_decision_example_1",
7        "reason_codes": [
8           [
9              "max_monthly_payment_150
10             30
11          ]
12       ],
13       "rules_not_evaluated": [
14          "max_monthly_payment_750"
15       ]
16    },
17    "decision_result": {
18       "decision": "review",
19       "score": 30
20    },
21    "request_timestamp": "2019-04-10 12:
```

RULE EDITOR

Select Rule Type — Select Attributes

RULE TYPE: Multiple Numeric Attribute   RULE CONDITION
OR
AND

ATTRIBUTE 1: Device Information | Model | Equal To | SAMSUNG

AND

Recharges (Top Up) | Update Date | Equal to
Loan Repayments | Last Top-Up Amount | Less Than
Device Information | Earliest Top-up Amount | Greater Than
Metadata | Ioan Top-up Total | Less Than or Equal to
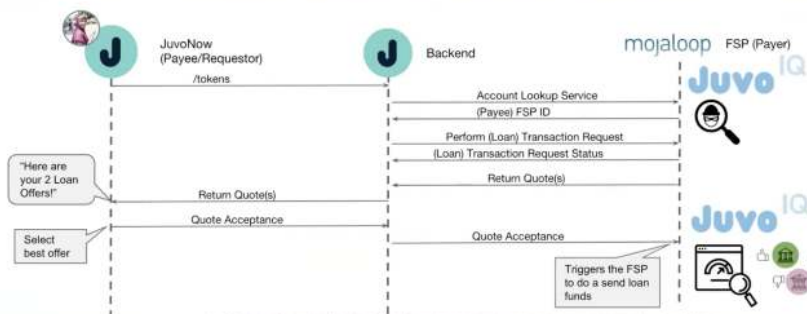Airtime Usage Profile | Top up amt Past Month | Greater Than or Equal to

RULE PROPERTIES

03a: Loan request initiated | enhanced

Using Juvo's data-driven **policy engine to address fraud** & **enable better FSP decisioning** for offers & assess risk

JuvoNow (Payee/Requestor) — Backend — mojaloop FSP (Payer)

/tokens

Account Lookup Service
(Payee) FSP ID

Perform (Loan) Transaction Request
(Loan) Transaction Request Status

Return Quote(s)

"Here are your 2 Loan Offers!"

Return Quote(s)

Quote Acceptance

Quote Acceptance

Select best offer

Triggers the FSP to do a send loan funds

Core Goal: Enable users to get money from point A to point B as efficiently as possible

Mojaloop Goal: Demo how an SME would use multiple quotes to route a payment to Alibaba in China. Lay groundwork for an 'account-lookup' API and define the best solution for querying a quotes API
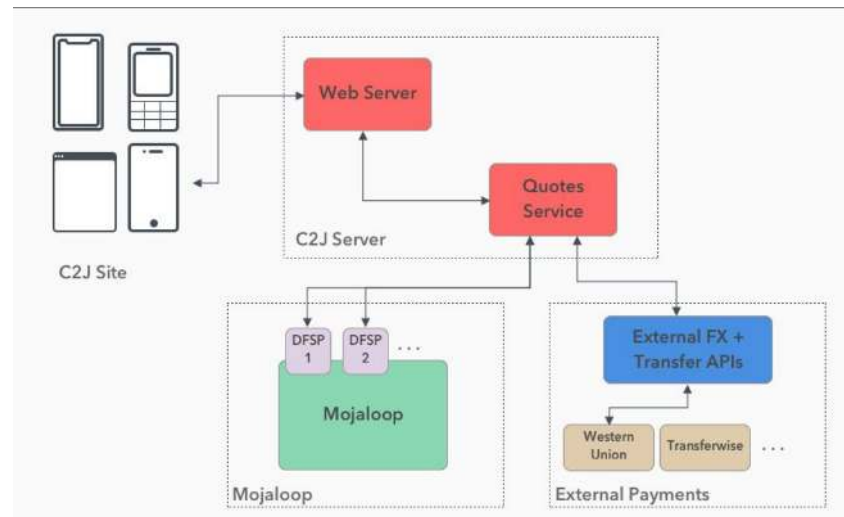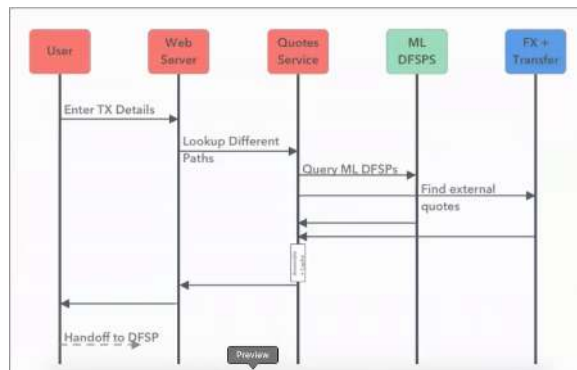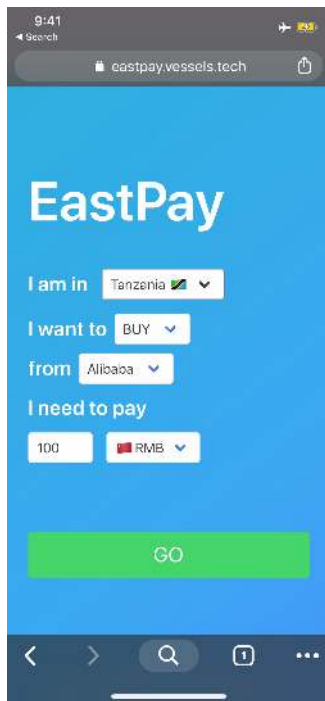
Core Goal: Enable merchants to accept payments anywhere

Mojaloop Goal: Demonstrate how an merchant-initiated push payment can be routed through Mojaloop when it's cross-border.

Paystack Majaloop Demo
BY FEMI & CO

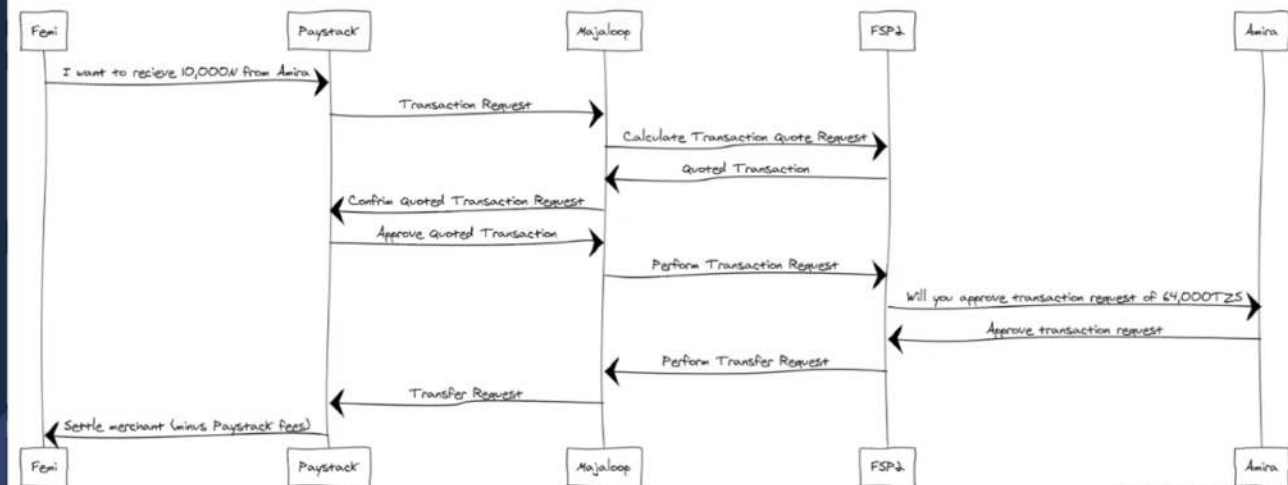Majaloop Crossborder Transactions

PAY WITH

Card

Mobile Money

Pay 648 TZS

Pay 101 NGN
*Foreign exchanges rates will be set by your financial institution. Additional fees may apply.
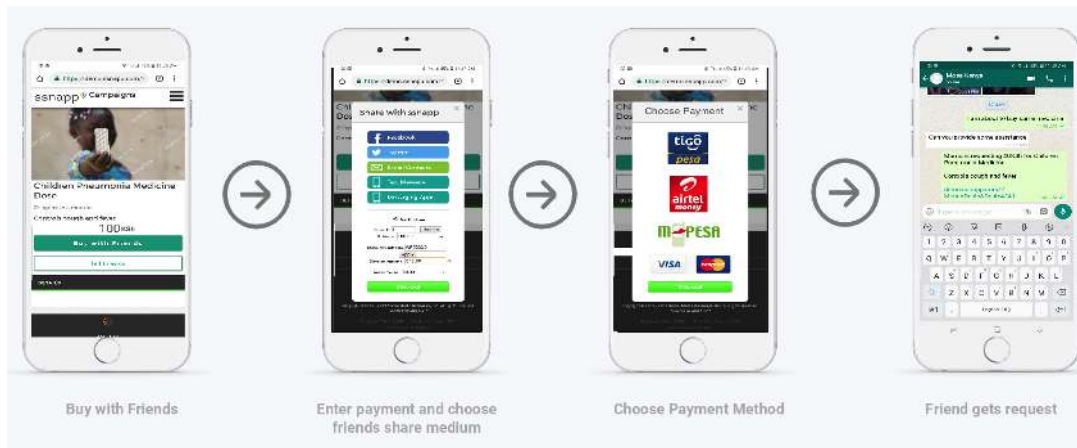
Paystack <> Mojaloop

Amira in TZ buying services from Femi in NG

| Femi | Paystack | Majaloop | FSP1 | Amira |

I want to recieve 10,000N from Amira

Transaction Request

Calculate Transaction Quote Request

Quoted Transaction

Confirm Quoted Transaction Request

Approve Quoted Transaction

Perform Transaction Request

Will you approve transaction request of 64,000TZS

Approve transaction request

Perform Transfer Request

Transfer Request

Settle merchant (minus Paystack fees)

www.websequencediagrams.com

Core Goal: Enable merchants to buy and sell things online

Mojaloop Goal: Merge multiple payments from payees on multiple DFSPs to a single merchant request.

Buy with Friends

Enter payment and choose friends share medium

Choose Payment Method

Friend gets request

How does L1P reconcile with a use case where multiple payees respond to a merchant-initiated push?

Potential for real-time analysis of merchant-payee pairings to offer coupons, etc...

**Core Goal:** Enable enterprises to verify digital transactions

Mojaloop Goal: Demo how WFP to provide real-time settlements and payments for voucher programs in 42 countries
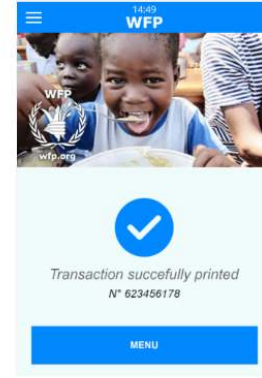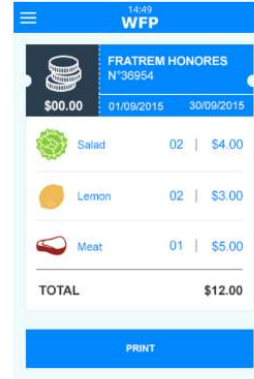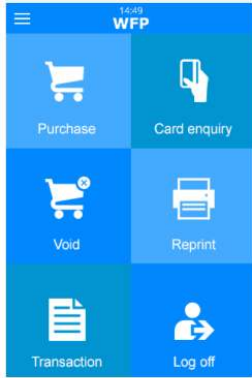
Core Goal: Expand the use cases for EthSwitch beyond the initial ATM switching platform that has already been build

Mojaloop Goal: Build out a use case which provides a universal merchant-acceptance platform
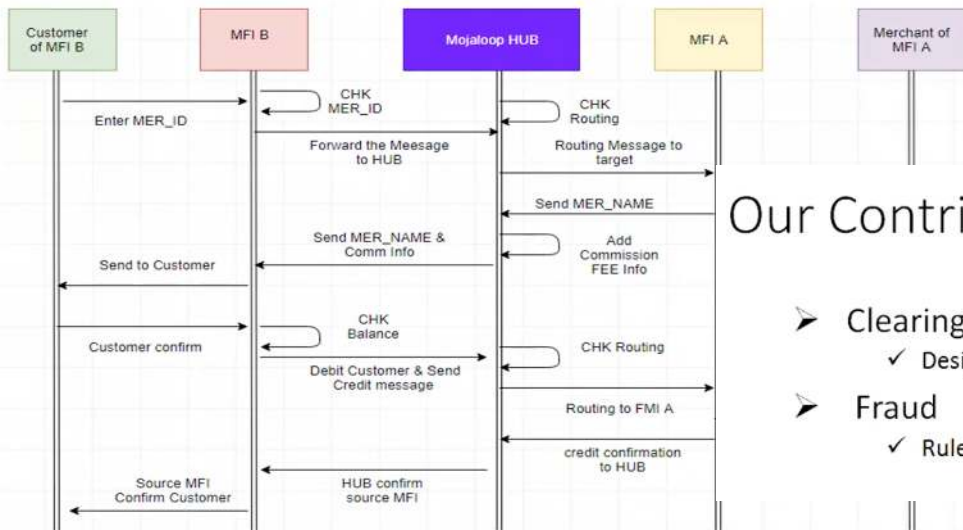
Conclusions

-

- **Format Works: Zero → "Speaking Mojaloop"**

- **Commercial Use Cases are necessary**

- **The Use Cases → Adoption**
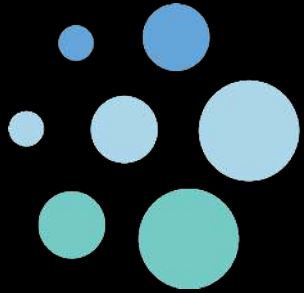
Thanks!
dan@cariboudigital.net