Digital Advocates: Conversational Interfaces for low income finance
The **DFS Lab** is an early stage accelerator supporting the next generation of breakthrough fintech products in emerging markets.
v1.0 Complex interfaces to formal systems (e.g. bureaucracies) disadvantage the poor
v2.0 Digital bureaucracies also disadvantage the poor
Can AI agents act as digital guides and advocates for the poor?
And there is a burgeoning ecosystem of new conversational tools

**Terminology extraction**
Identifying specific relevant terms
- Facebook fastText
- Google Dialogflow
- Microsoft BotFramework
- Facebook Wit.ai

**Sentiment analysis**
Identifying whether a statement is positive or negative
- Facebook fastText

**Natural language generation**
Turning data into human, readable language
- Google Dialogflow
- Microsoft BotFramework
- Facebook Wit.ai

**Natural language understanding**
Identifying the intent or meaning of a statement
- Google Dialogflow
- Microsoft BotFramework
- Facebook Wit.ai

**Machine translation**
Automatic translation of text from one language to another
- Google Translate
Finance and government safety net programs are a prime case

Lots is at stake, service is very bad, but intentions are often good!
Digital Advocates
Small grants program to support NLP chatbots that help the poor navigate formal systems

- TELLER: Financial customer service and education globally
- Credit Coach KE: Help navigating the Kenyan credit reference bureau
- NUMI: Loan officer – client engagement bot
- Cherehani: Financial education and planning for women
- 4P Bot
- Aliados: Immigration processes in the Dominican Republic
- Low income support program in the Philippines
- Kissan Bot: Farmer advice chatbot in India
- PesaKit: Mobile money agent management and data
Immigration help in the Dominican Republic
4PBot
A virtual assistant for Filipinos on social welfare.

- News
- Anonymous reporting
- Payment data predictions
- Crowdsourcer information
- Verify payout amounts
Finance One-Fifty Project

150 Financial Definitions
8 Global Languages
1 Big Idea
Lessons to date

- **Big need** even with limited functionality – e.g. when is payday!

- **Need for IVR** or text to speech for semi-literate

- **Code mixing, slang, smaller languages** a major gap

- **Very quick to stand up** something using existing platforms

- **Excitement from programs** admins (don’t see this as hacking!)

- **Changes power dynamic** – group discussion or anonymous
Google’s Dialogflow enables developers to integrate sophisticated NLP technology into their chatbots. However, the software currently only supports a limited number of languages. Countries highlighted in red are those where less than 10% of the population have their language supported by Google Dialogflow. These countries are primarily located in Africa and Asia.

There is a fundamental tension between the commercial and social value of languages

- 96% of global GDP goes to people who speak first 100 languages
- Diminishing returns after this point
- Top 100 languages leave out 40% of people <$1.90/day

Sea change in how people access and view the internet

Percent internet users by country who agree with statement: “Facebook is the internet”

- Nigeria: 65%
- Indonesia: 61%
- India: 58%
- Brazil: 55%
- USA: 5%