



50
YEARS

■ Publications Office
of the European Union

THEMATIC SESSION



EU DATA VIZ

Luxembourg
12 November 2019

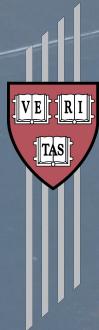
Annie White and
Nil Tuzcu

*Software product manager
and designer,
The Atlas of Economic
Complexity at Harvard's
Growth Lab
(United States)*

Communicating
complex economic
topics for policymakers



Communicating Complex Economic Topics for Policymakers

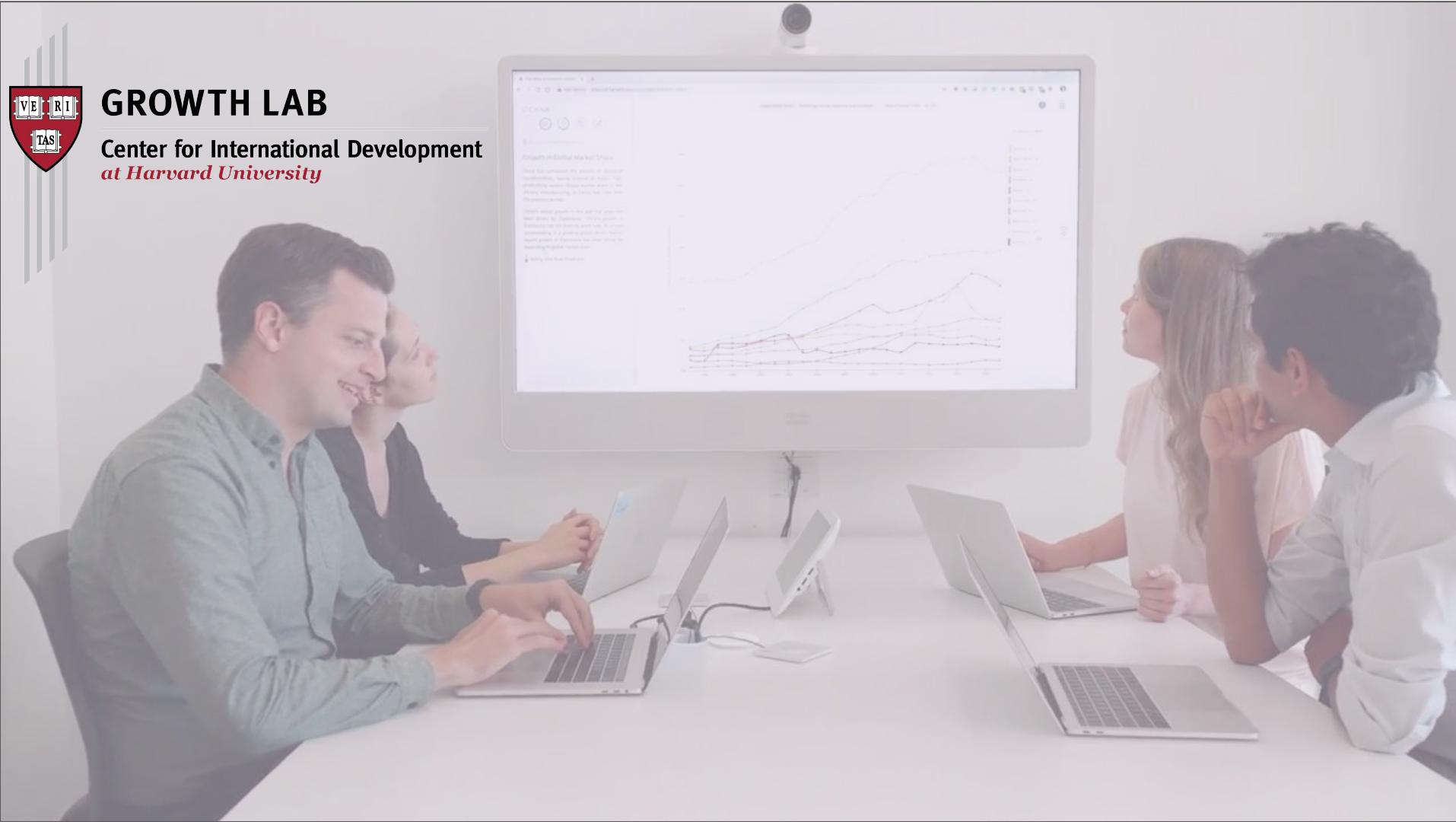


ATLAS
OF ECONOMIC COMPLEXITY
by the Growth Lab at Harvard University



TODAY

- ✓ The Growth Lab at Harvard University
- ✓ The Atlas of Economic Complexity
- ✓ Our design process



GROWTH LAB

Center for International Development
at Harvard University



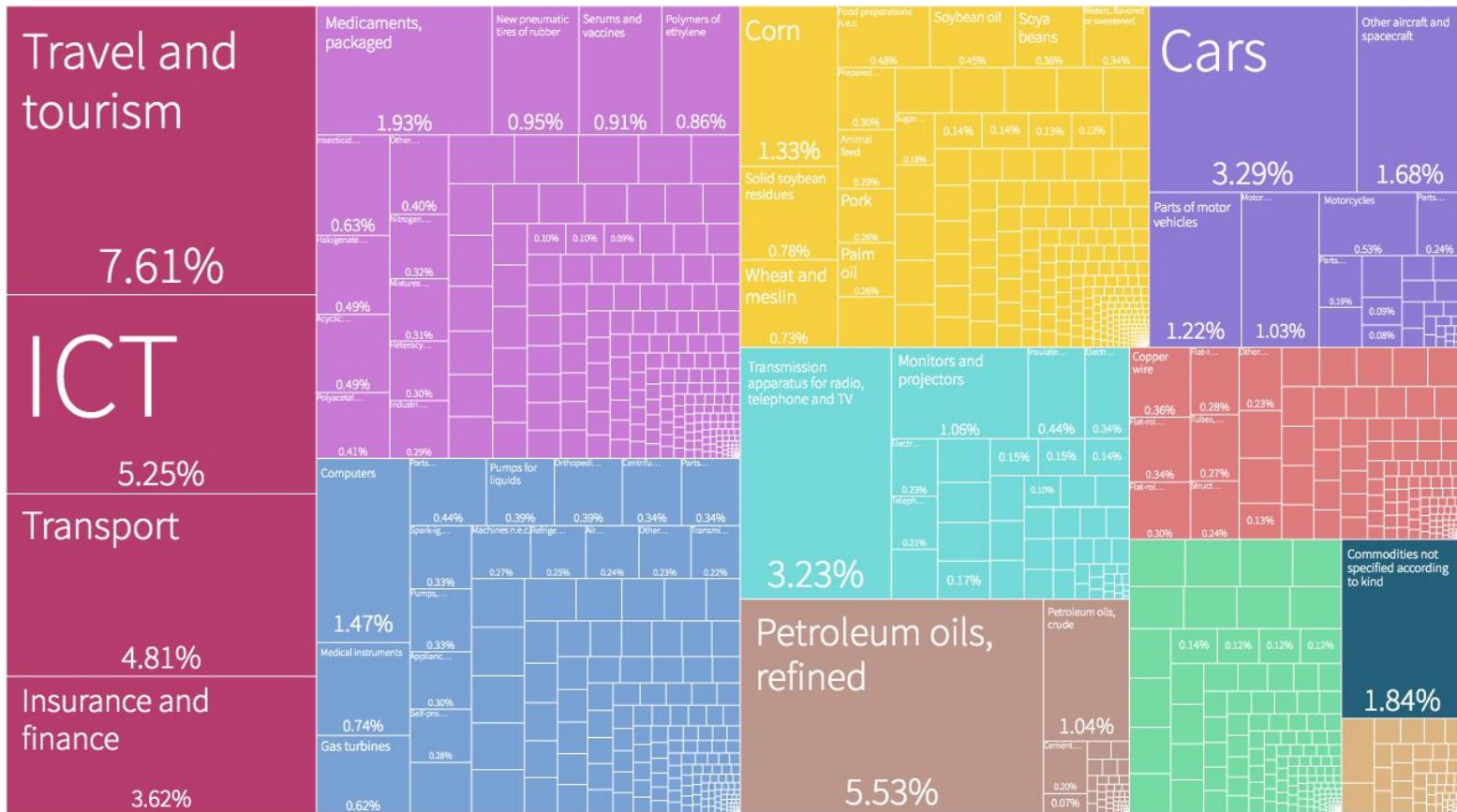
The Growth Lab at Harvard



*“Why do some
regions grow while
others do not?”*



The Atlas of Economic Complexity

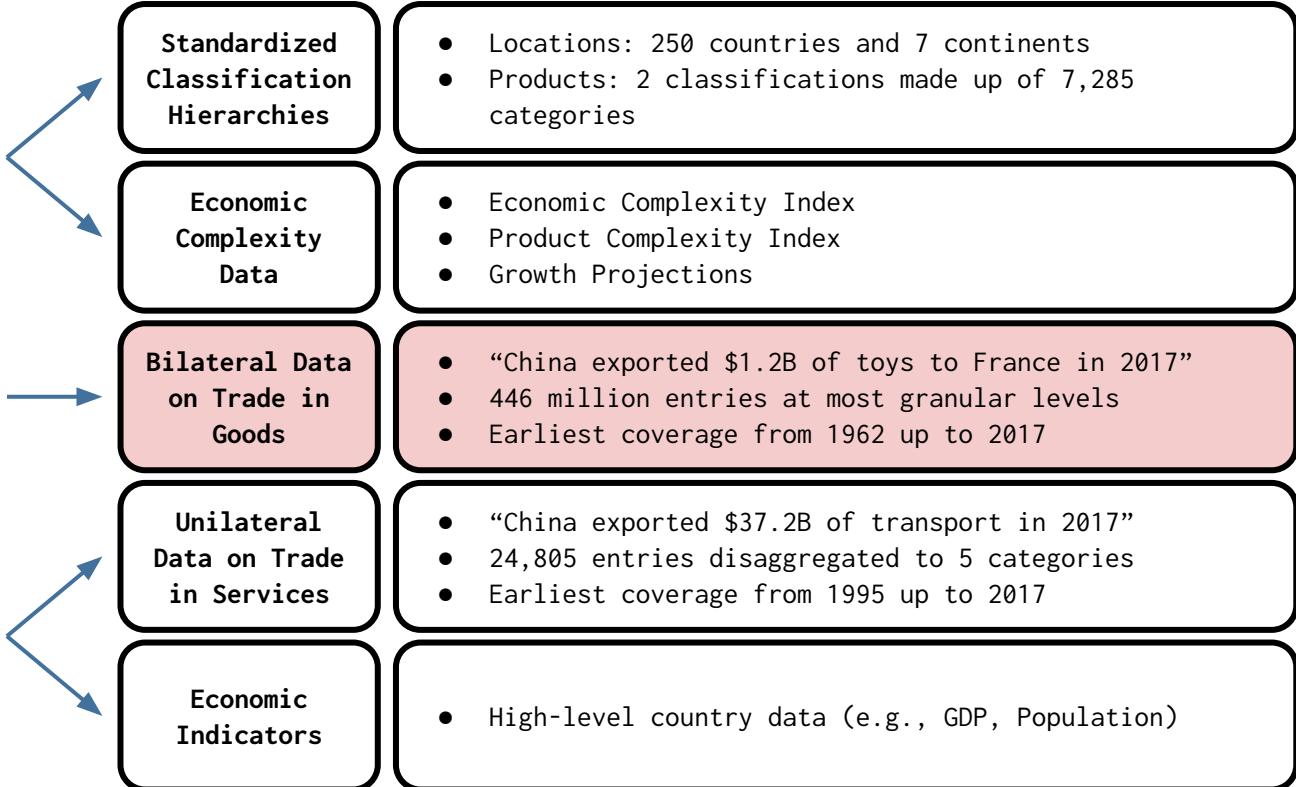


Data Sources



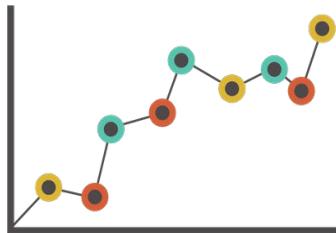
GROWTH LAB

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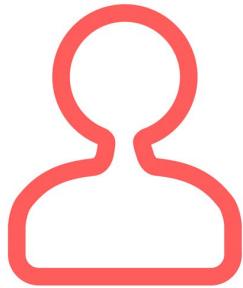


THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP

Atlas by the Numbers



Capable of generating millions of data visualizations



Our 1 millionth user in 2019!



3.3 million page views in 2019



Active users in 211 countries



The Atlas: Engaging the World

- ✓ Harvard research & teaching
- ✓ Students & academics worldwide
- ✓ Policy makers & civil servants
- ✓ Journalists
- ✓ Entrepreneurs & Investors

Bloomberg

PolicyCast
Harvard Kennedy School

FINANCIAL TIMES

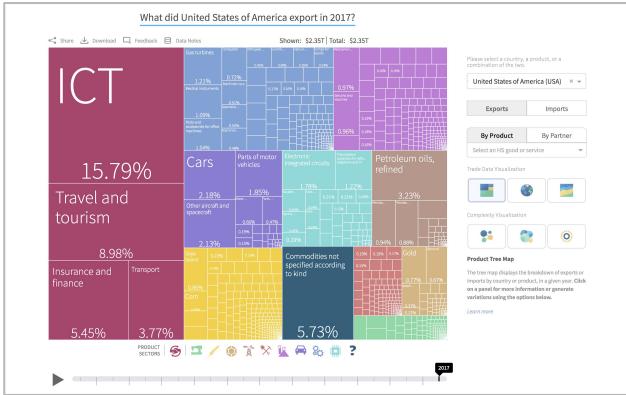
npr

Designing the Atlas



*“What is unique
about designing a
tool for policy?”*

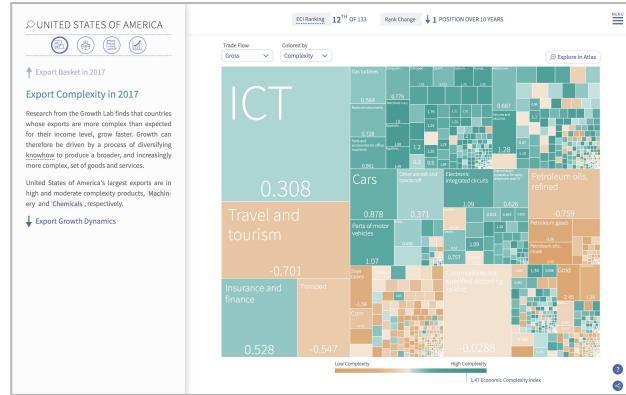
User-driven



Atlas Explore

- Exploratory
- Freeform (user directed / non-linear)
- Free interactivity
- Light messaging
- Concern of user retention & Usability problems

Author-driven



Atlas Country Profiles

- Communicative
- Linear (option of user-direction)
- Limited interactivity
- Heavy messaging
- Concern of bias



Country Profiles [Author-driven]

UNITED STATES OF AMERICA



↑ Export Basket in 2017

Export Complexity in 2017

Research from the Growth Lab finds that countries whose exports are more complex than expected for their income level, grow faster. Growth can therefore be driven by a process of diversifying knowhow to produce a broader, and increasingly more complex, set of goods and services.

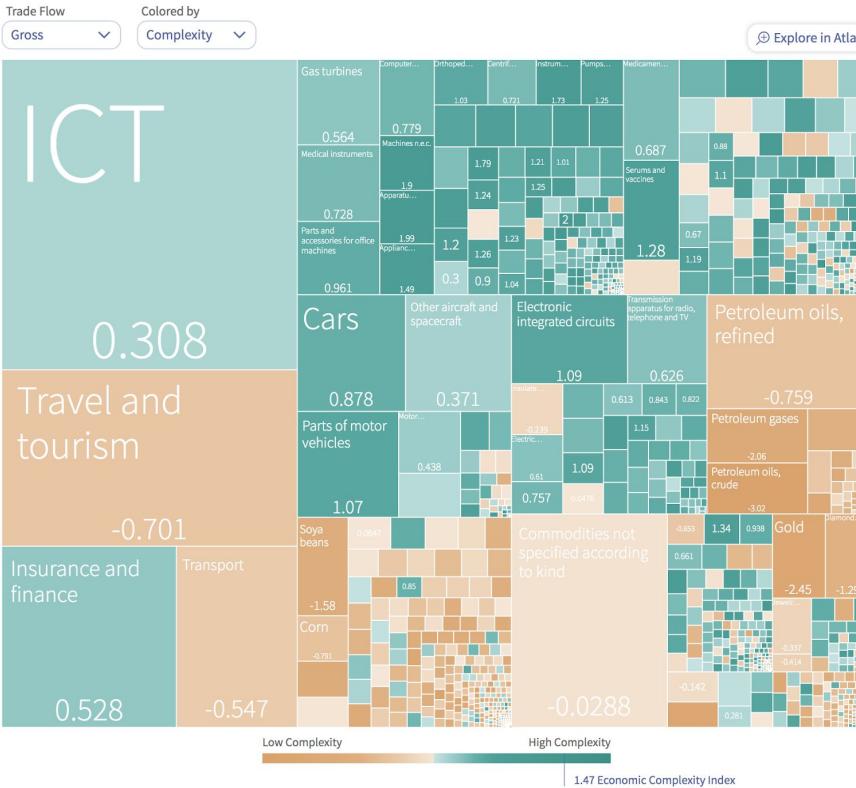
United States of America's largest exports are in high and moderate complexity products, Machinery and Chemicals, respectively.

↓ Export Growth Dynamics

ECI Ranking 12TH OF 133

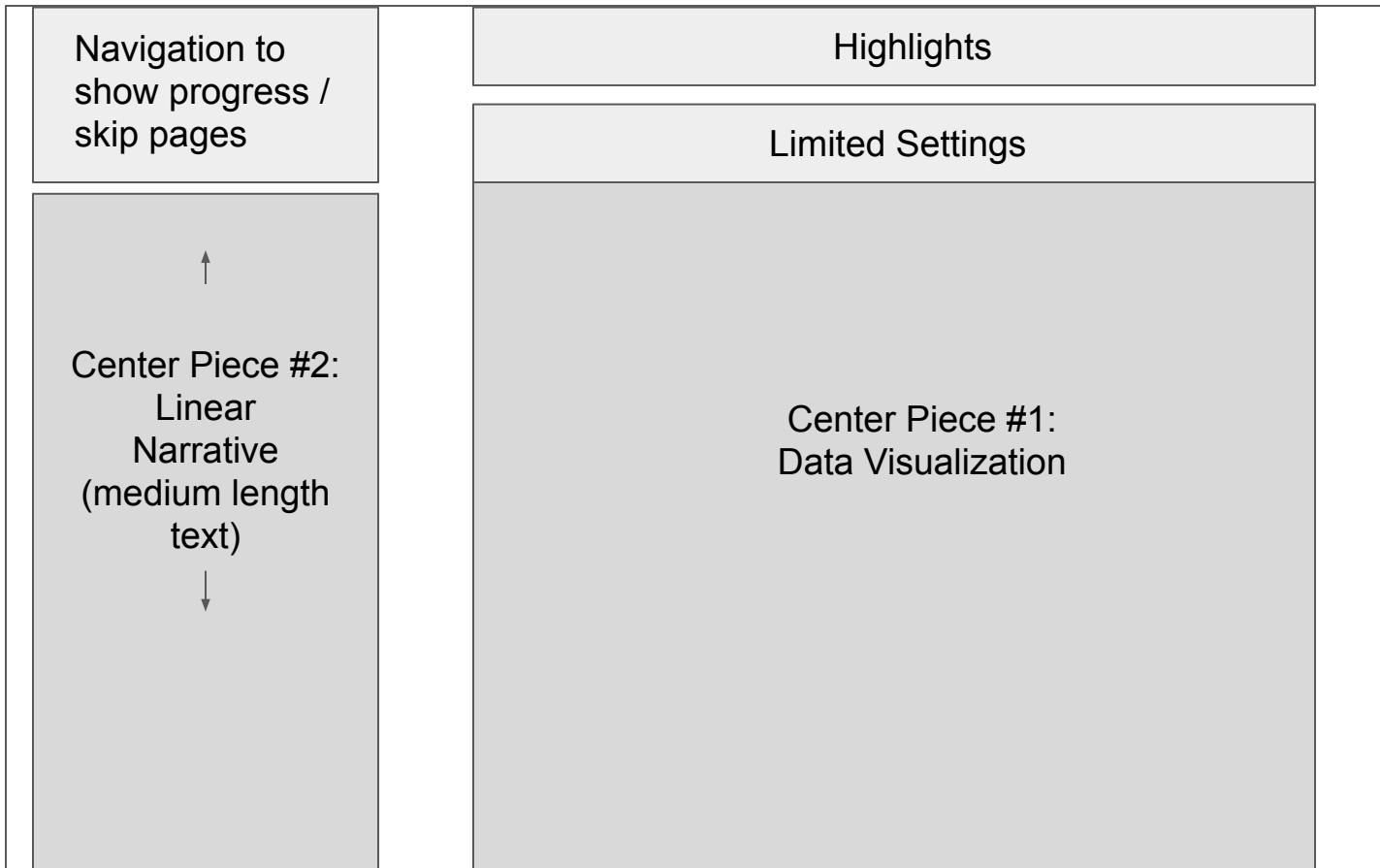
Rank Change ↓ 1 POSITION OVER 10 YEARS

MENU



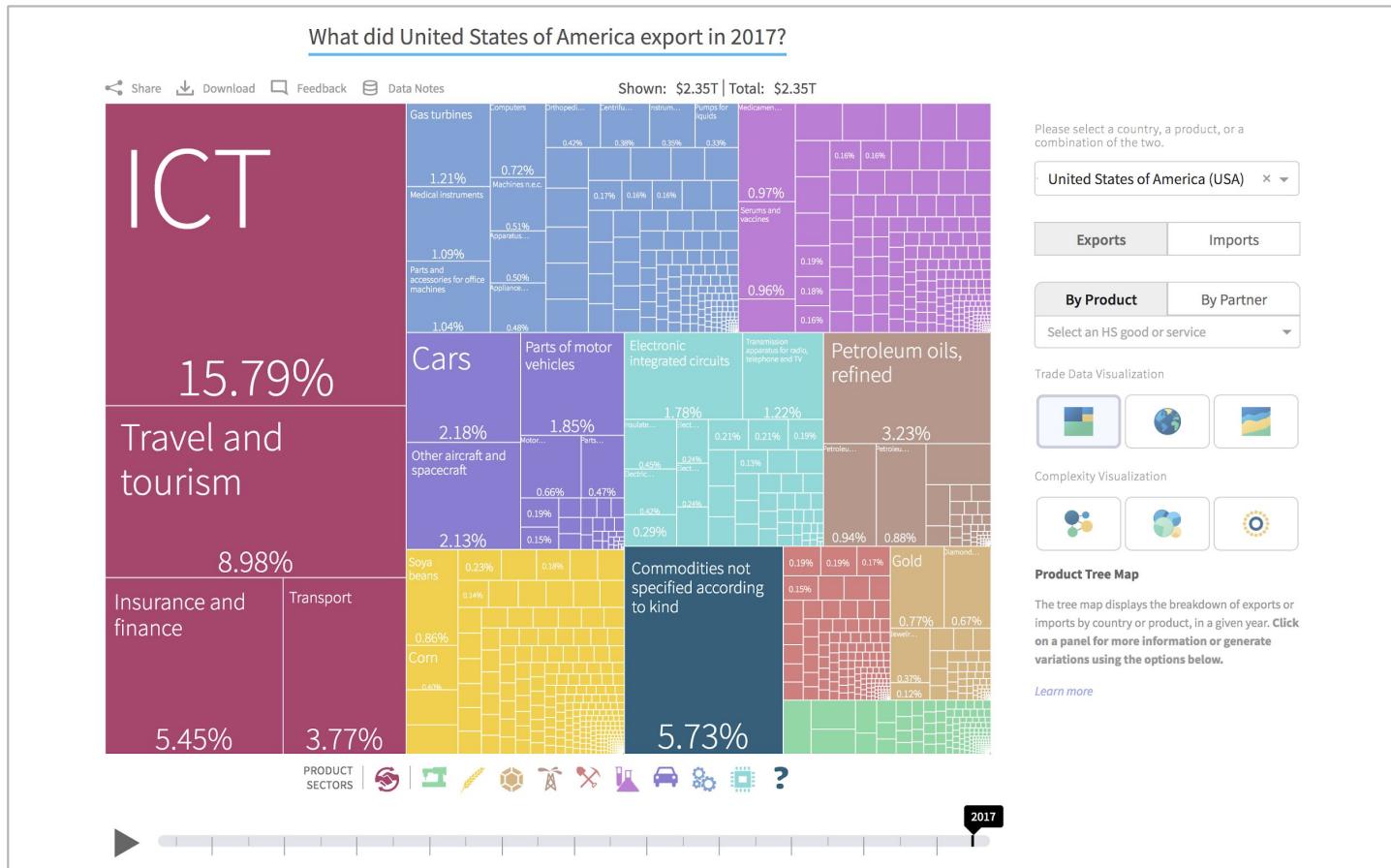


Country Profiles [Author-driven] Design Elements





Atlas Explore [User-driven]





Atlas Explore [User-driven] Design Elements

Center Piece:
Data Visualization

Visualization
Builder

Timeline

Visualization Settings



Design Work for the Atlas

INFORMATION DESIGN
(VISUALIZATION, DATA STORYTELLING)



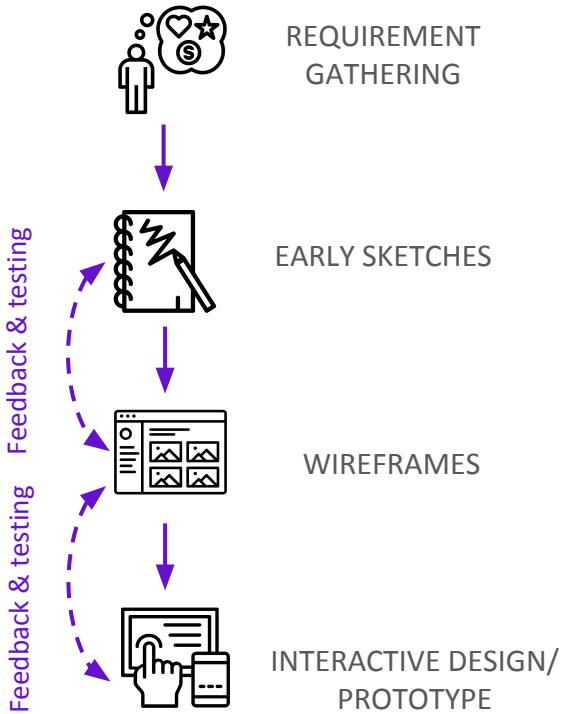
USER EXPERIENCE & USER INTERFACE DESIGN



USER TESTING
(TESTING DESIGN USABILITY)

Design Process

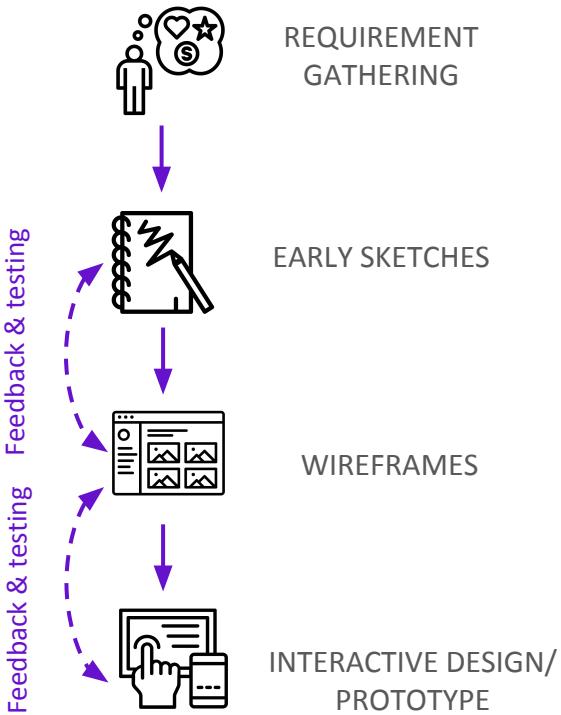
REGULAR DESIGN PROCESS



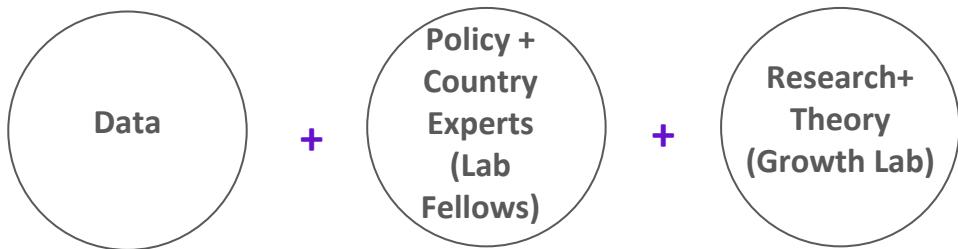


Design Process

REGULAR DESIGN PROCESS

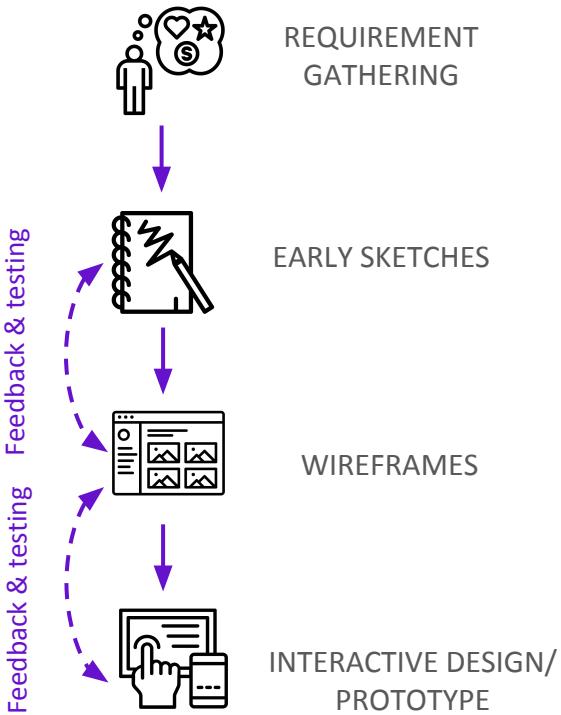


OUR DESIGN PROCESS: DATA and RESEARCH DRIVEN

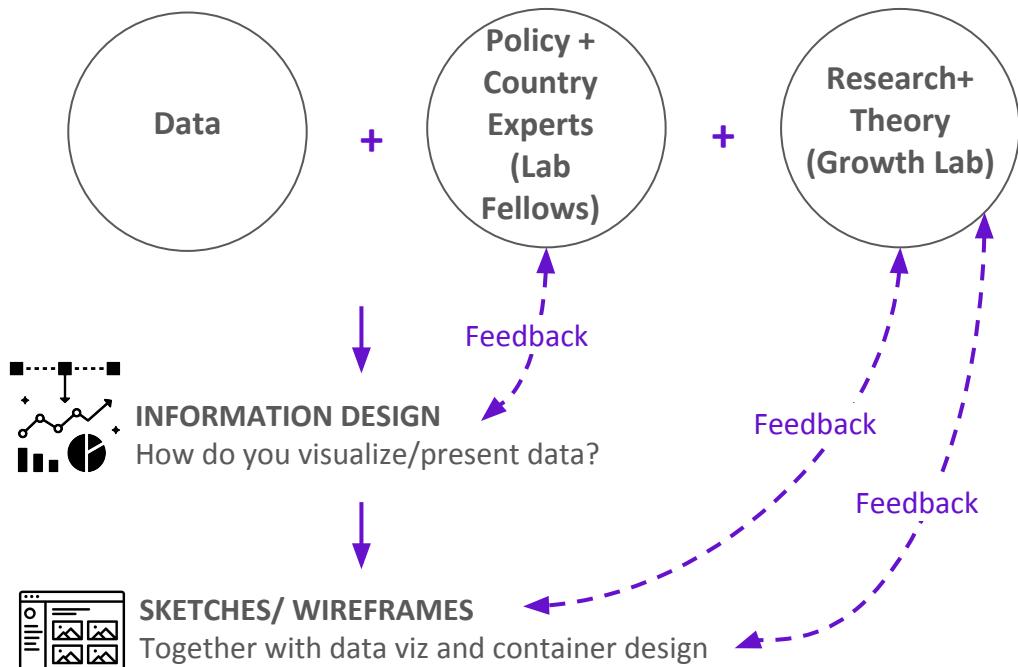


Design Process

REGULAR DESIGN PROCESS

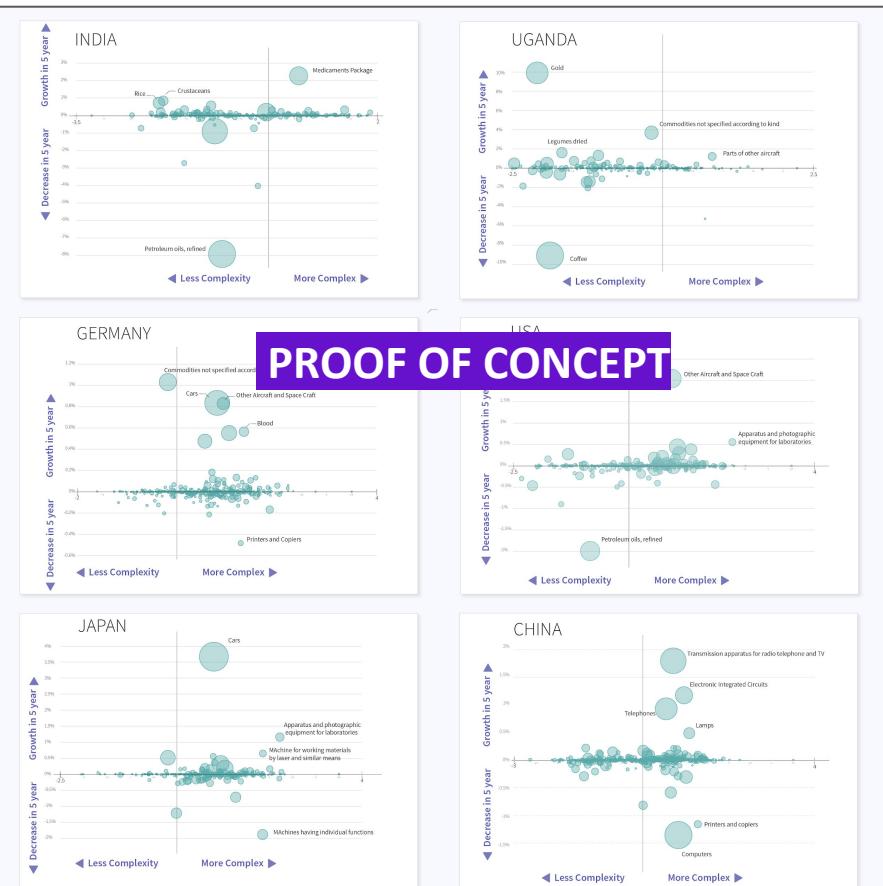
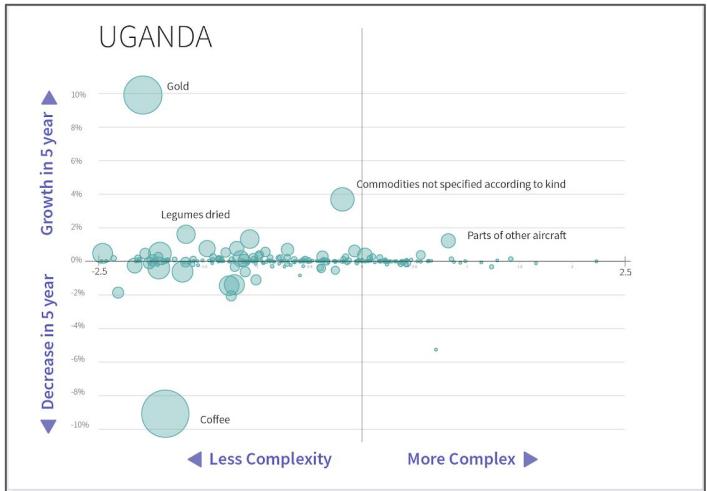


OUR DESIGN PROCESS: DATA and RESEARCH DRIVEN



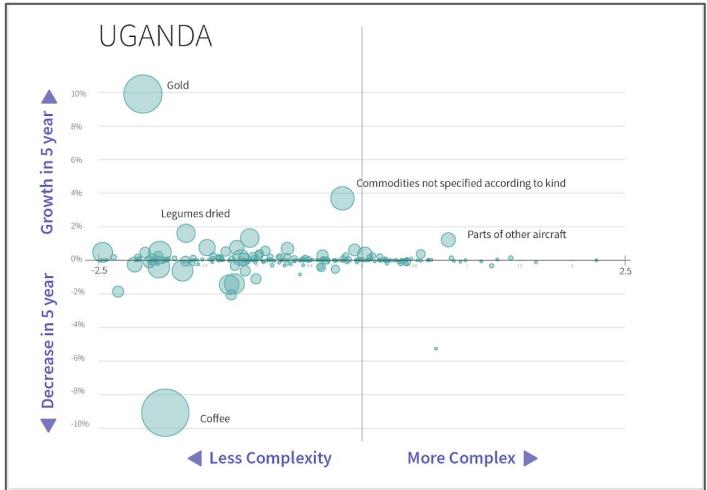
Design Validation

VALIDATING OUR DATA REPRESENTATION CHOICE



Design Validation

VALIDATING OUR DATA REPRESENTATION CHOICE





Design Approvals

DIFFERENT STAKEHOLDERS TO VALIDATE DATA DESIGN DECISION?

Design Approvals

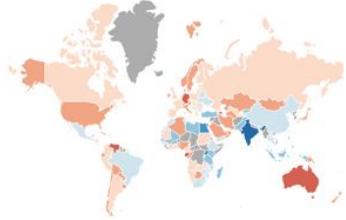
DIFFERENT STAKEHOLDERS TO VALIDATE DATA DESIGN DECISION?

WORKING WITH DESIGN OPTIONS

1



2



3



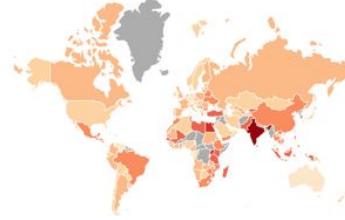
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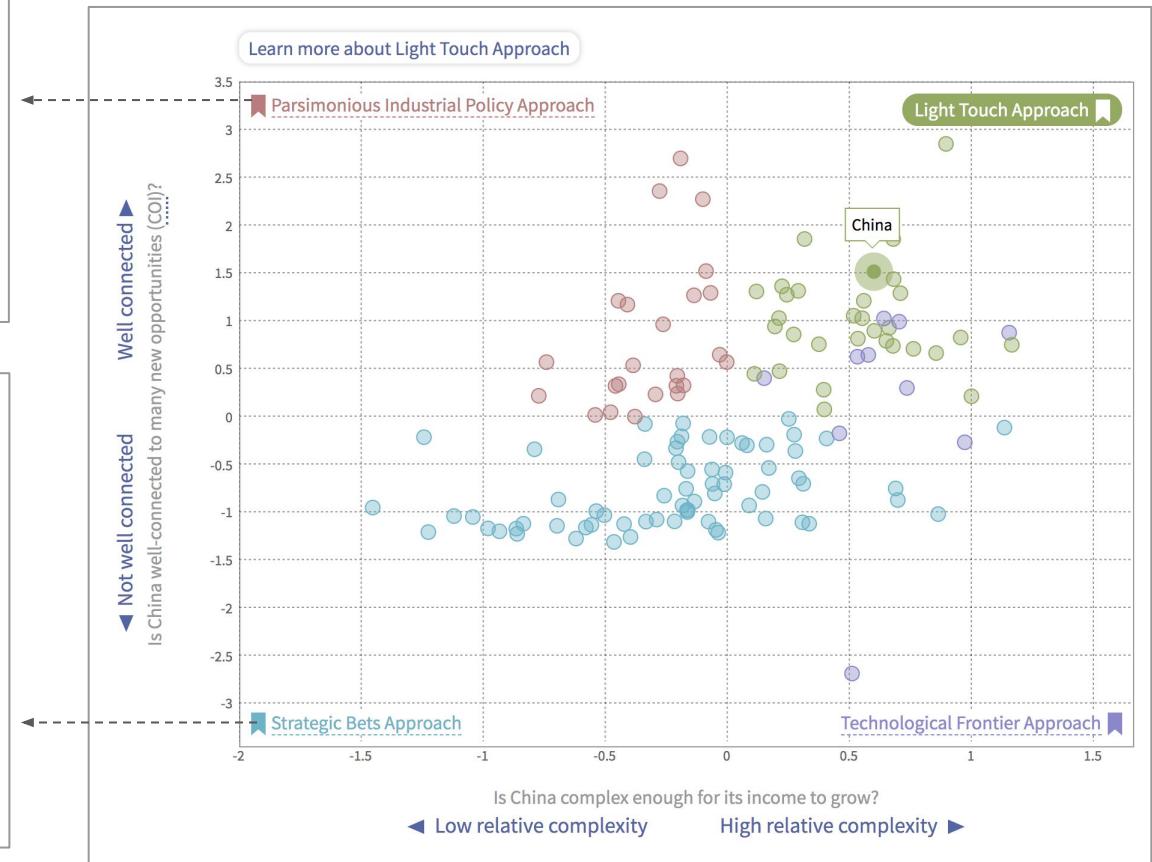
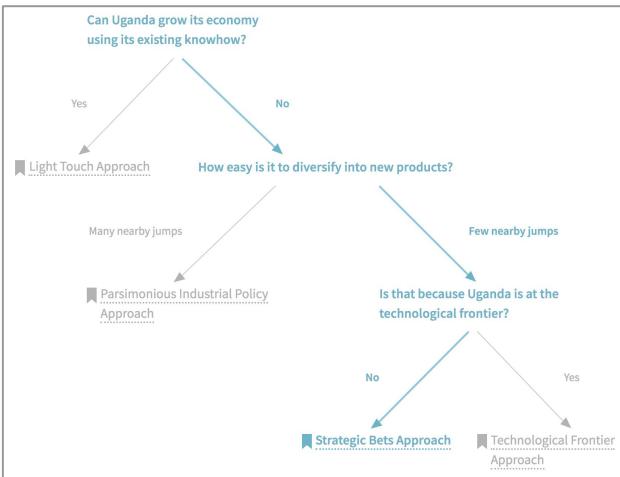
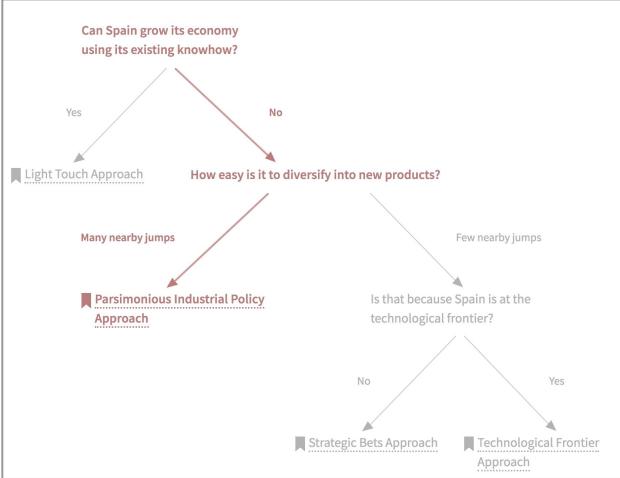
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6

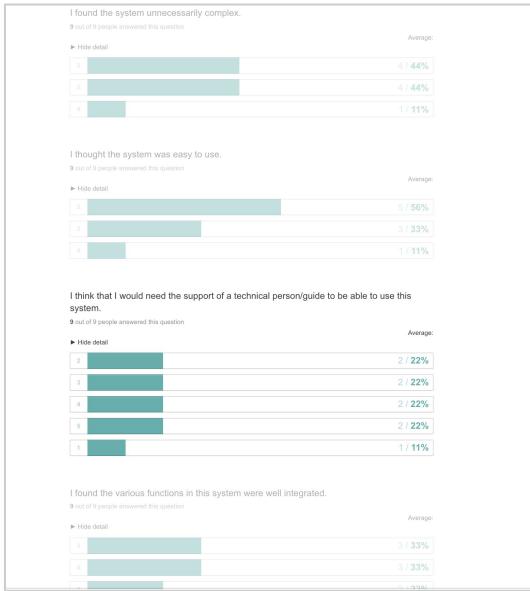


Policy-related visualization





User Testing



THE ATLAS USABILITY TEST POST-QUESTIONNAIRE

1. I found the system unnecessarily complex.

STRONGLY DISAGREE STRONGLY AGREE

1 2 3 4 5

2. I thought the system was easy to use.

STRONGLY DISAGREE STRONGLY AGREE

1 2 3 4 5

3. I think that I would need the support of a technical person/guide to be able to use this system.

STRONGLY DISAGREE STRONGLY AGREE

1 2 3 4 5

4. I found the various functions in this system were well integrated.

STRONGLY DISAGREE STRONGLY AGREE

1 2 3 4 5

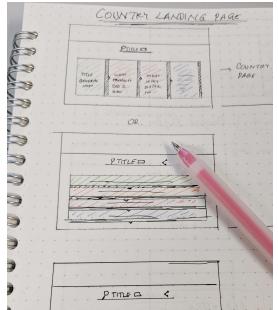
5. I thought there was too much inconsistency in this system.

STRONGLY DISAGREE STRONGLY AGREE

1 2 3 4 5

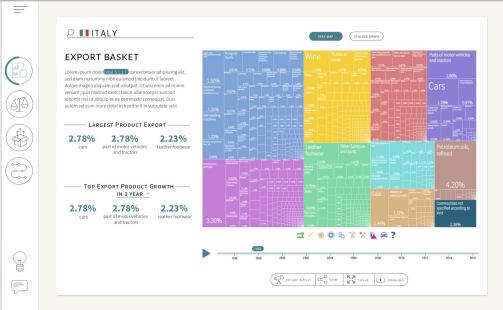


Design is an iterative process

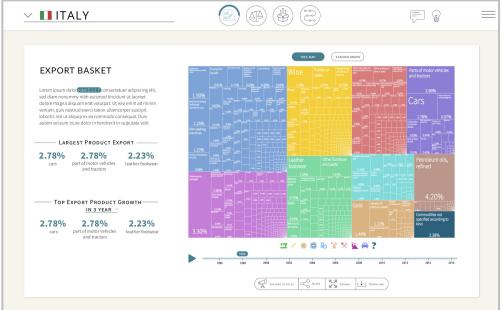


Iteration #1

Iteration #2

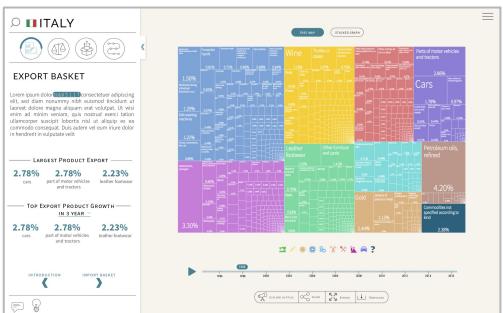


Iteration #3



Iteration #4

Iteration #5

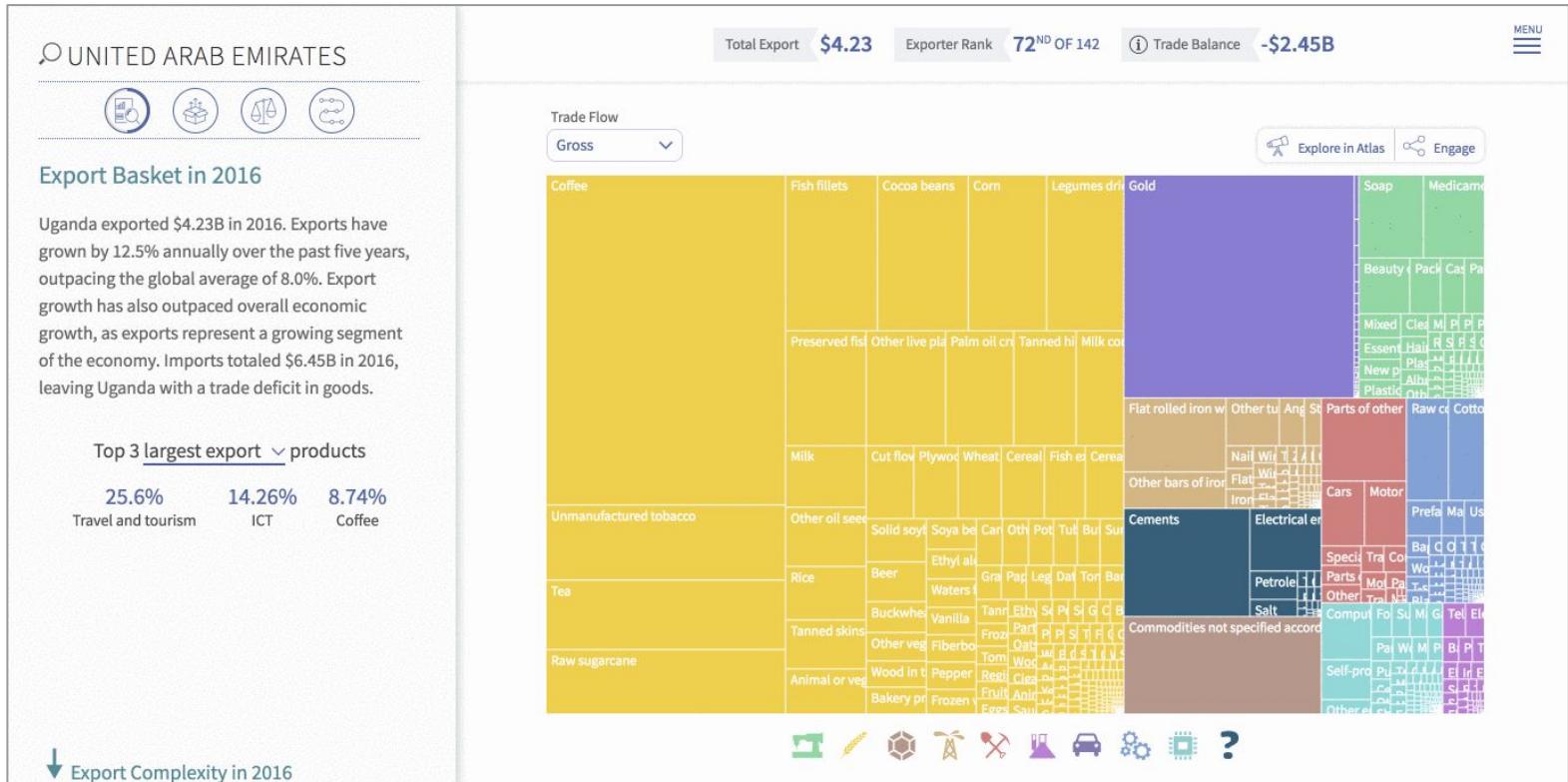


Iteration #6

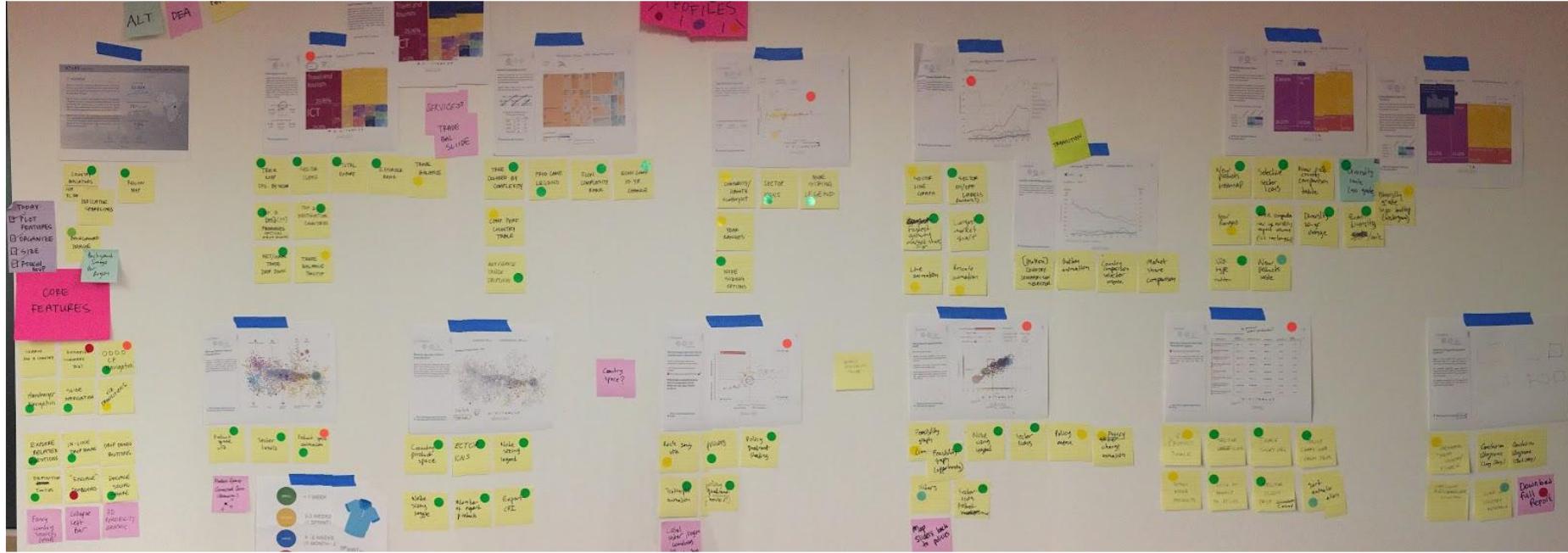


Iteration #7

A Working Prototype

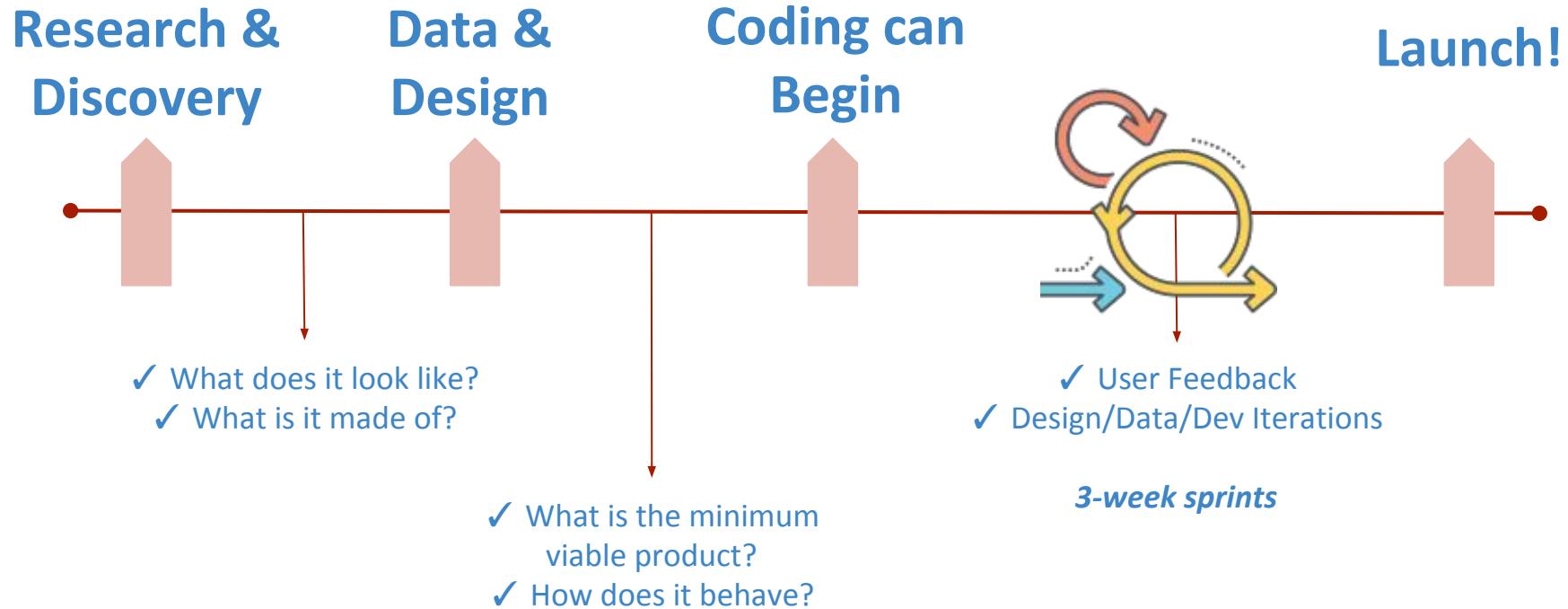


Wireframe into Production





Agile Development Cycle





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ATLAS

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