



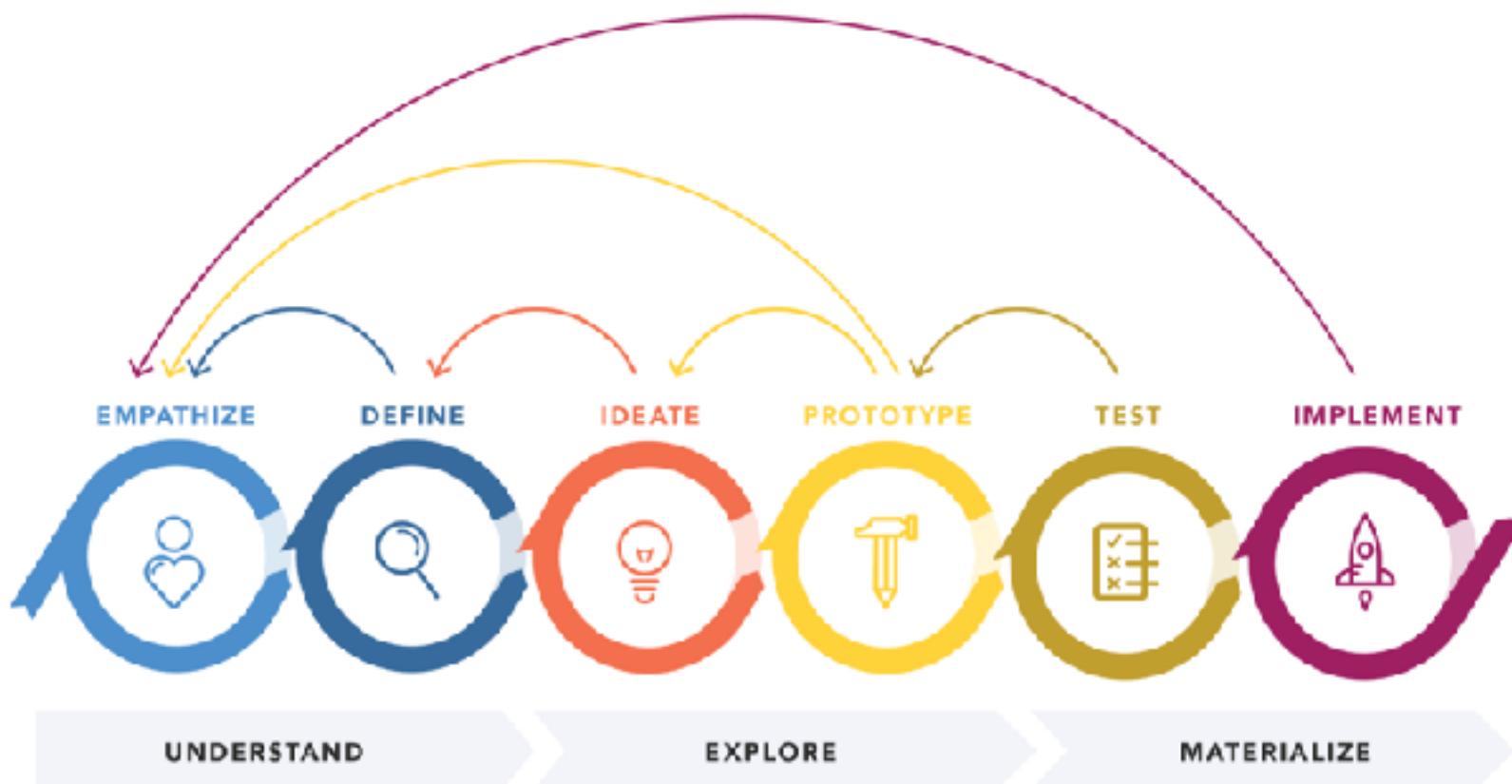
DESIGN THINKING AND PRACTICE: INTRODUCTION TO LEAN STARTUP

Bernard Suen
Center for Entrepreneurship
Chinese University of Hong Kong

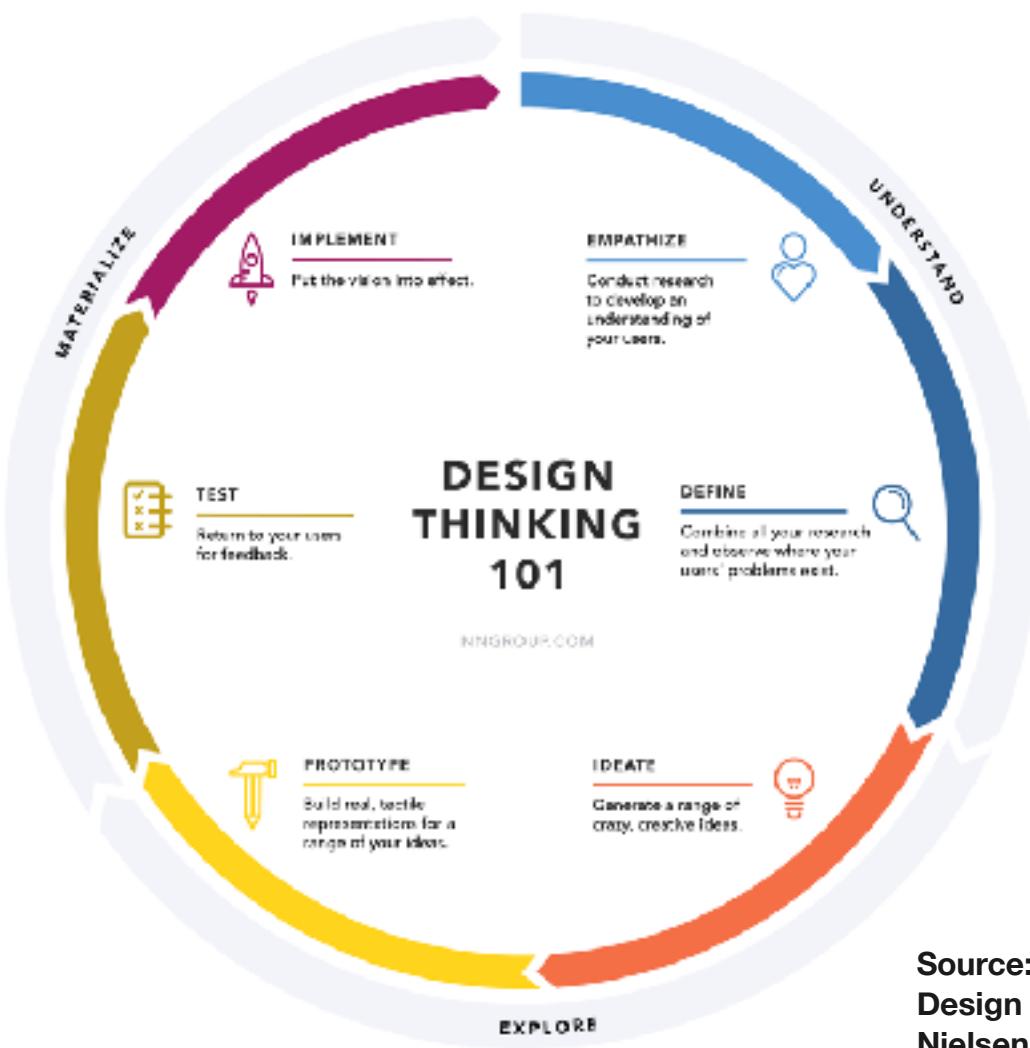


Center for
Entrepreneurship

A QUICK RECAP ON DESIGN THINKING

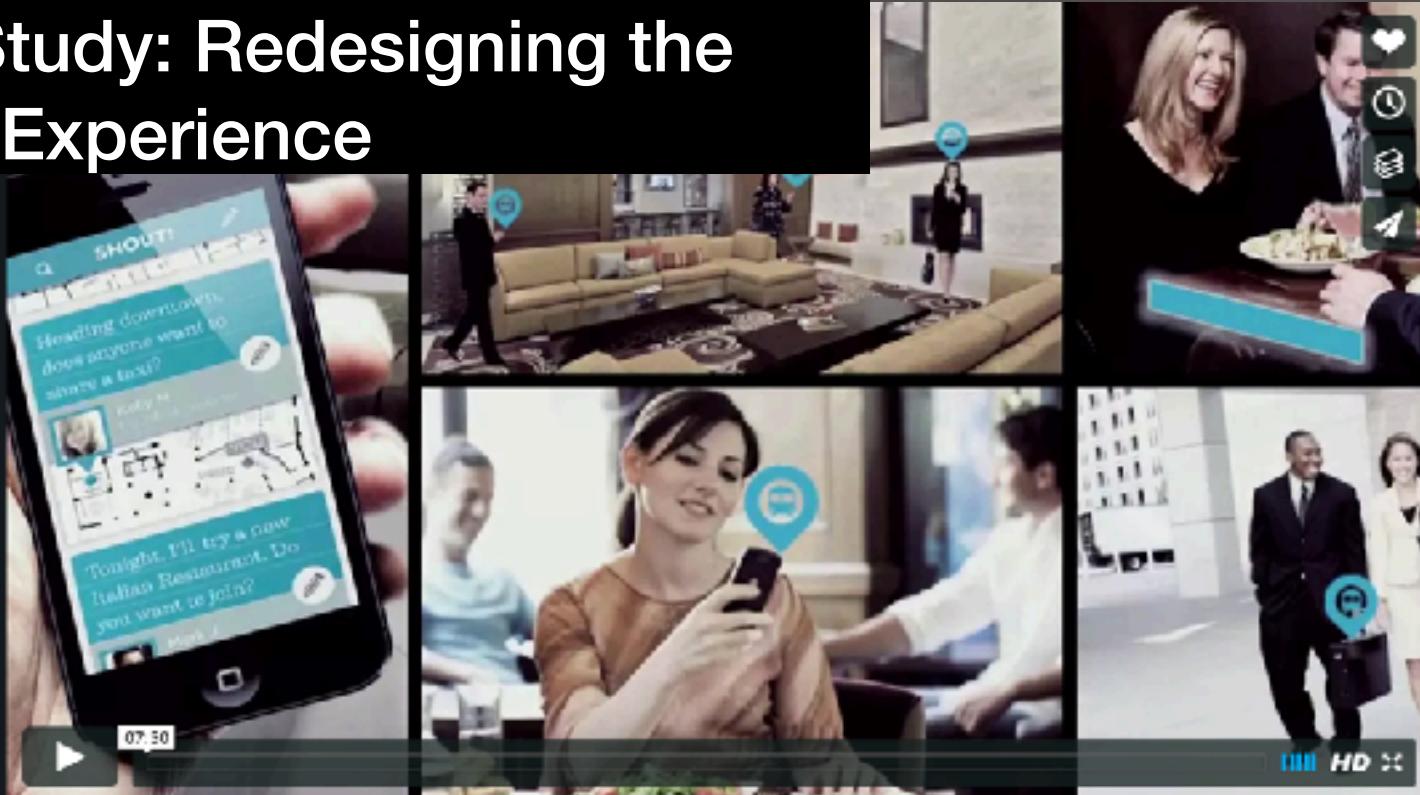


SOURCE: DESIGN THINKING 101 NNGROUP.COM



Source: Sarah Gibbons,
Design Thinking 101
Nielsen Norman Group

Case Study: Redesigning the Lobby Experience



Exploring the Hotel Experience of the Future with Marriott Hotels

Source: MIT Mobile Experience Lab

**USE DESIGN THINKING AS A PROBLEM
DISCOVERY TOOL**



FIELD STUDY OBSERVATION AT THE HOTEL

We noticed a desire for customer autonomy, contextualized experiences, and public privacy.

Source: MIT Mobile Experience Lab

PROBLEM STATEMENT:

How might we make marriott guests (“**who**”) interact in the lobby space (“**what**”) feeling like nodes within a network (“**why**”)?

**Source: MIT Mobile
Experience Lab**



CONTEXTS



Source: MIT Mobile Experience Lab

avid social explorer

Gen Y travelers seeking personalized yet serendipitous experiences, good company to share them with, and the ability to capture and celebrate them.

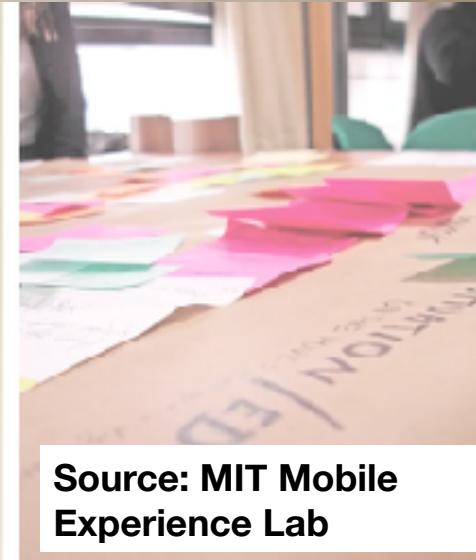


bored lobbygoer in transition

Anyone using the lobby as a meeting place or gathering point, looking to pass the time and avoid awkwardness.



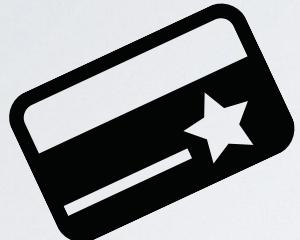
PERSONA



Source: MIT Mobile Experience Lab

ARTEFACTS

THE CARD



THE TABLE



THE APP



room key
point counter
status symbol

the social hub

shared memory
social networks
recommendations

LOYALTY

INTERACTION

DATA

Source: MIT Mobile
Experience Lab

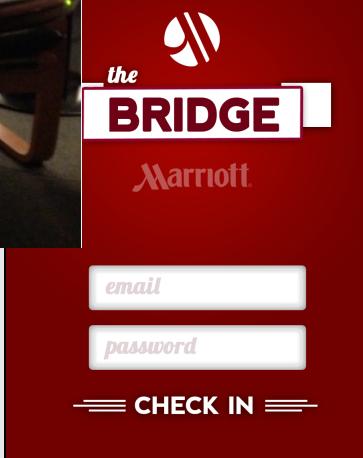
TABLE



ARTEFACTS



APP



CARD

Source: MIT Mobile Experience Lab



ROLE PLAY PHYSICAL EXPERIENCE

SCENARIOS

Source: MIT Mobile Experience Lab

HOME

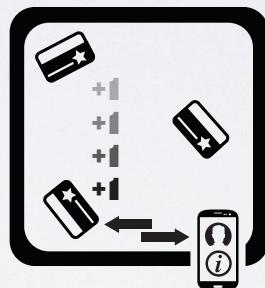


Joins loyalty program, creates a profile & installs phone app.

LOBBY



Given physical loyalty card on check-in — stores profile info, points & doubles as room key.



(Can be done in lobby or room)
Set availability via orientation of card. (Lobby only) Loyalty points awarded to cards at the same table. Table lights up to show activity, interests shown on table & lobby display map. Profiles added to app network.

ROOM

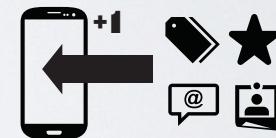
BOOKING

CHECK-IN

MEETUP

RETURN

INTERACTIONS OUTSIDE HOTEL



Prompted by app to tag places visited, ratings & social media for points — added to in-app database of recommendations.

Source: MIT Mobile Experience Lab

HOME

LOBBY

ROOM

BOOKING

CHECK-IN

MEETUP

Source: MIT Mobile
Experience Lab

USER JOURNEY MAP

profile, activity, points

Booking
Data

Check-in
Data

Interact-
ion Data

Review
Data

Give
check
in point

profile, activity, points

profile, activity, points

Profile
of other
people at
the same
table. Table
lights up
to show
activity,
interests
shown on
table &
lobby display
map.
Profiles
added to
app network.

Data-
base

profile, activity,
points



INTE
RAC
TIONS

OUTSI
DE

INTE
RAC
TIONS

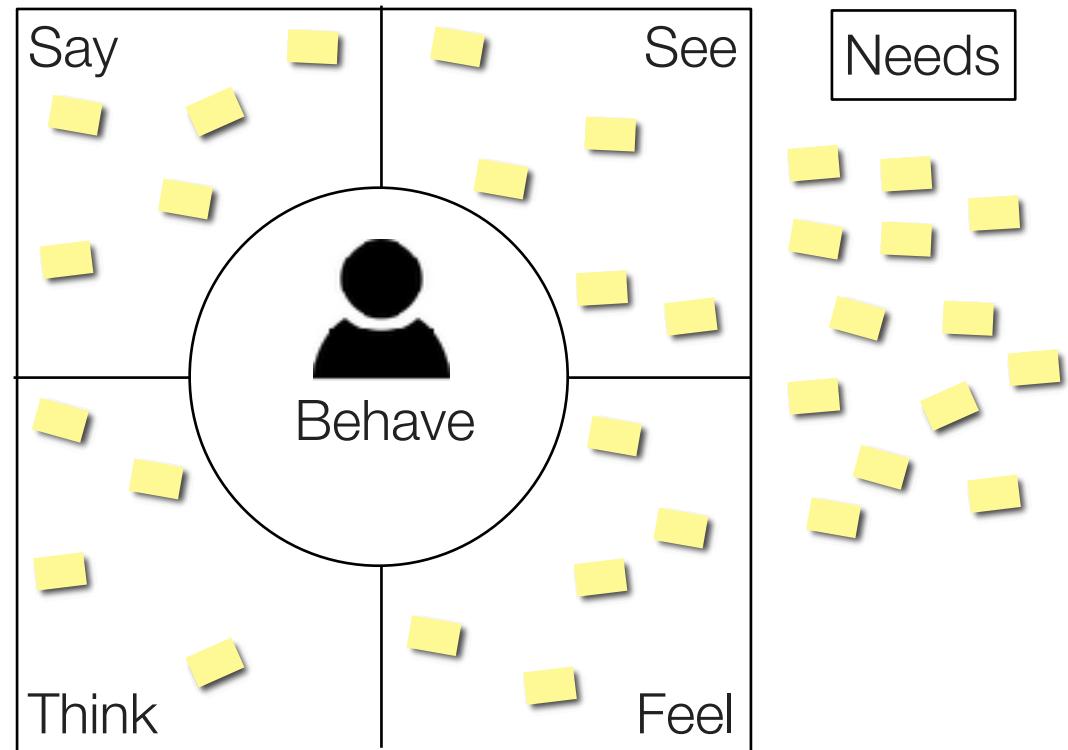
OUTSI
DE

TOOLS USED IN JOURNEY MAPPING

Empathy Map

Please note: You cannot directly observe thoughts and feelings. It must be inferred by paying careful attention to body language, tone, and choice of words.

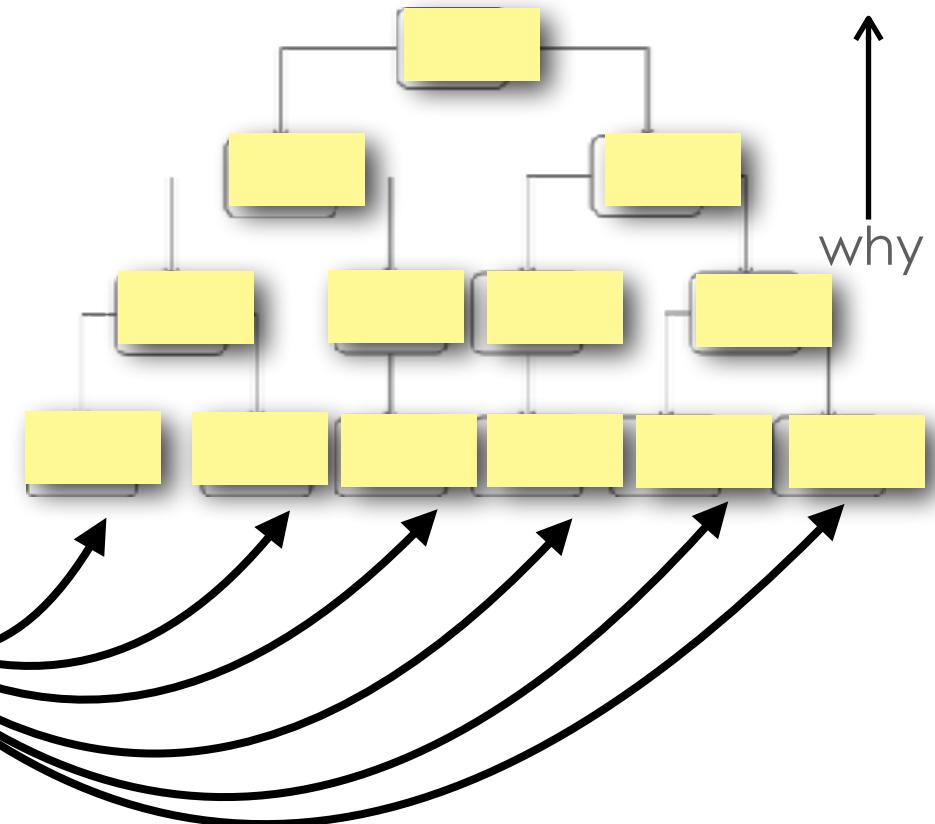
Source: Interaction Design Foundation



How/Why Laddering

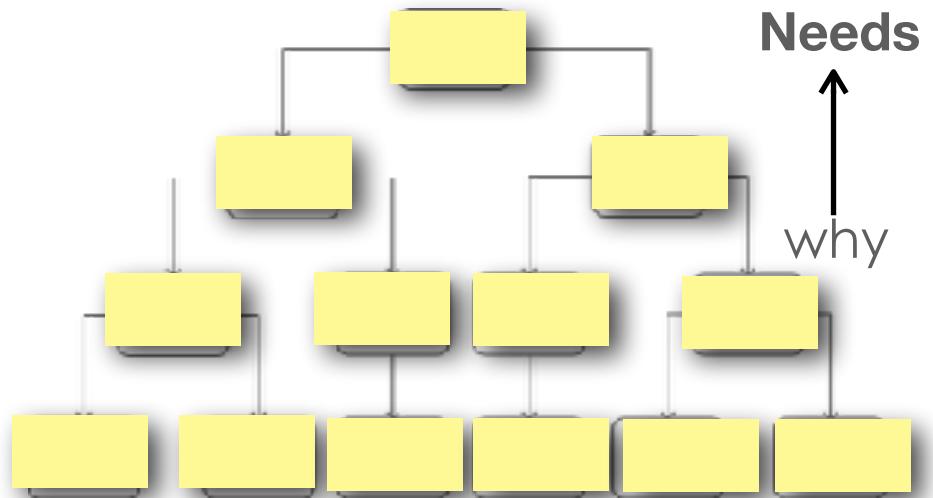


Source: Interaction Design Foundation



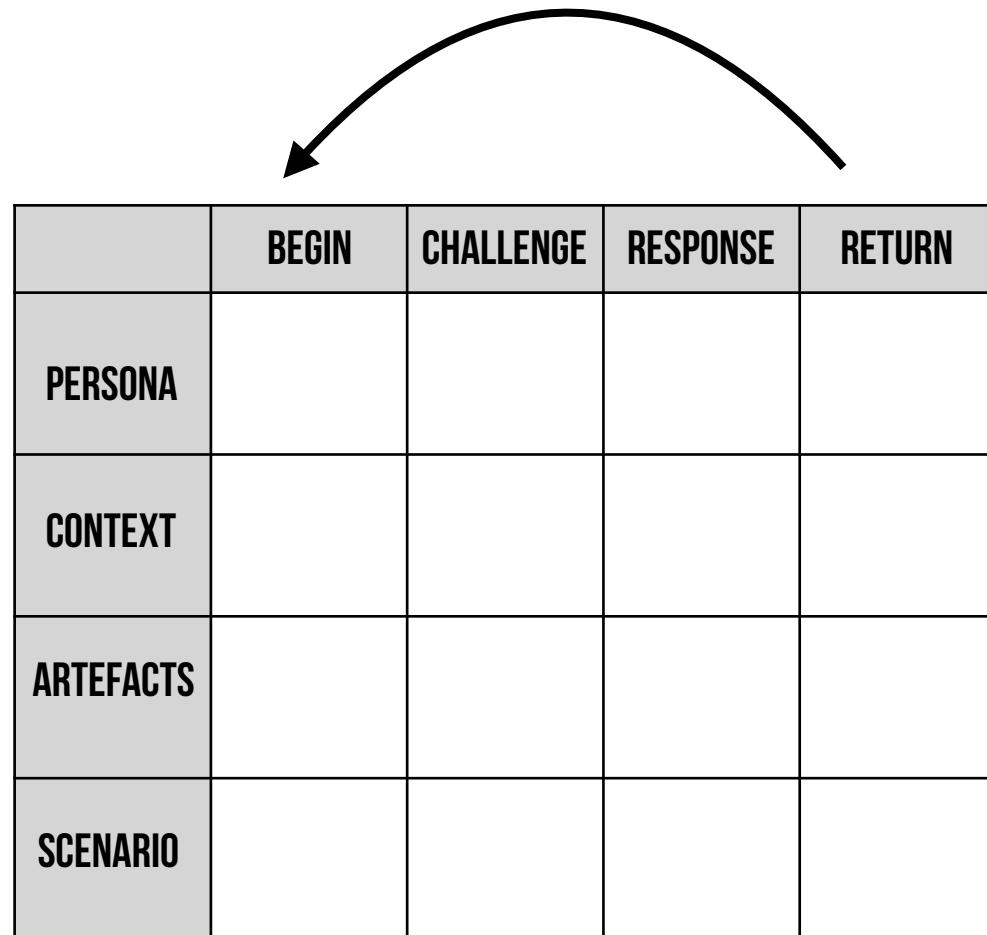
How/Why Laddering

How/Why Laddering decomposes complex, abstract needs into simpler, more specific tasks, or conversely keep asking why (e.g. 3 times) to find out the underlying needs that compel people to perform certain tasks.



Source: Interaction Design Foundation

Current Journey Map



Point of View

User (Who)	Experience (What)	Needs (Why)



PROBLEM STATEMENT (IN ONE SENTENCE):

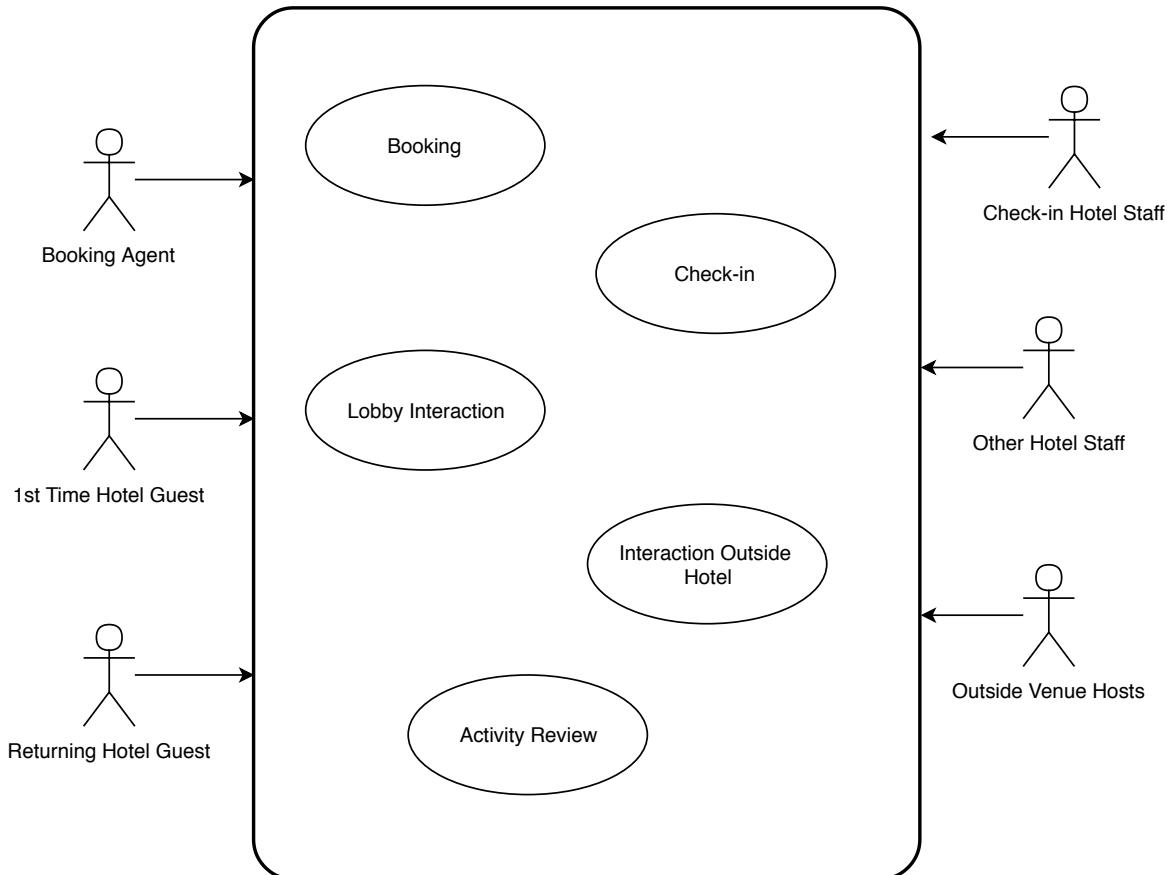
Synthesis of **who**, **what** and **why**

PROBLEM STATEMENT:

How might we make marriott guests (“**who**”) interact in the lobby space (“**what**”) feeling like nodes within a network (“**why**”)?

**Source: MIT Mobile
Experience Lab**

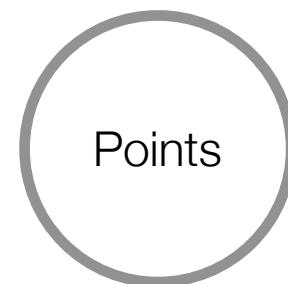
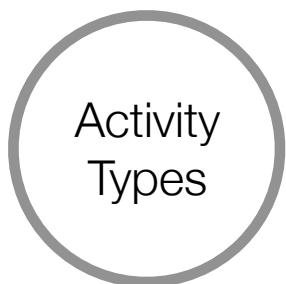
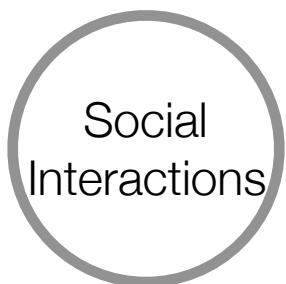
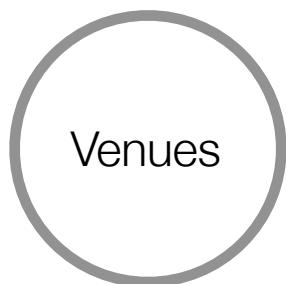
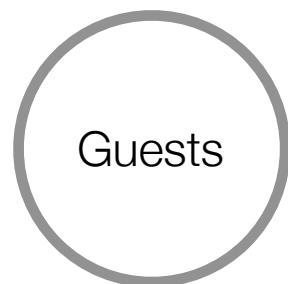
FROM JOURNEY MAPPING TO DATA MAPPING



Use Cases of a Hotel Loyalty App

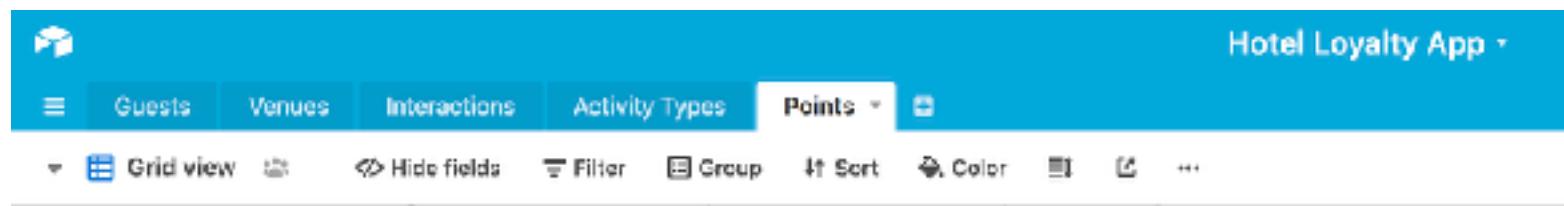
Derive data entities from use cases.

Data Entities to be Tracked



- e.g.
 - 1st time guests
 - Returning guests
- e.g.
 - Starbuck
 - Bar inside hotel
 - Boston Metropolitan Museum
- e.g.
 - Add friends
 - Take pictures
 - Share rides
 - Split bills
- e.g.
 - Museum tour
 - Bar hopping
 - Scenic picture taking
 - Business meeting
- e.g.
 - Revisit
 - Dine in hotel
 - Shop in hotel
 - Initiate contact
 - Give reviews

Tracking Data Entities



Where does the data come from?



HOME

DATA

LEARN



ENG

THE REVAMPED PORTAL

Now to The Site? **START HERE**

Search Data e.g. population

POPULAR DATA
GEOSPATIAL DATA
FEATURED DATASETS

BROWSE DATASETS

City Management Climate and Weather Commerce and Industry Development Education Employment and Labour



Features Download Pricing Help Blog Log In Sign up

A web scraping tool that is easy to use

ParseHub is a free web scraping tool. With our advanced web scraper, extracting data is as easy as clicking the data you need.

[Download our free app](#)



Open a website

Download our [desktop app](#). Choose a site to scrape data from.



Click to select data

Get data from multiple pages. Interact with AJAX, forms, dropdowns, etc.



Download results

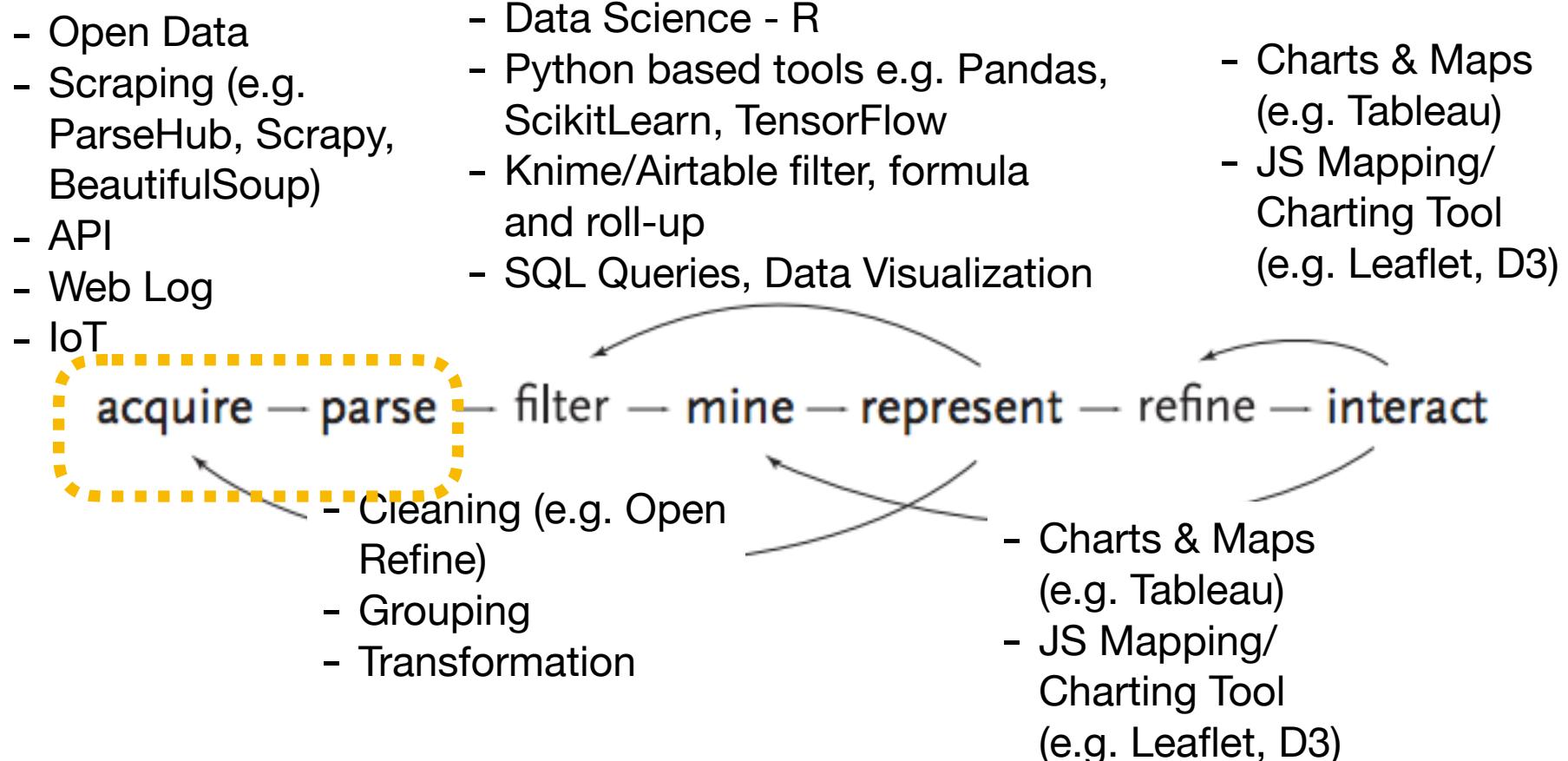
Access data via JSON, Excel and [API](#).
Data is collected by your servers



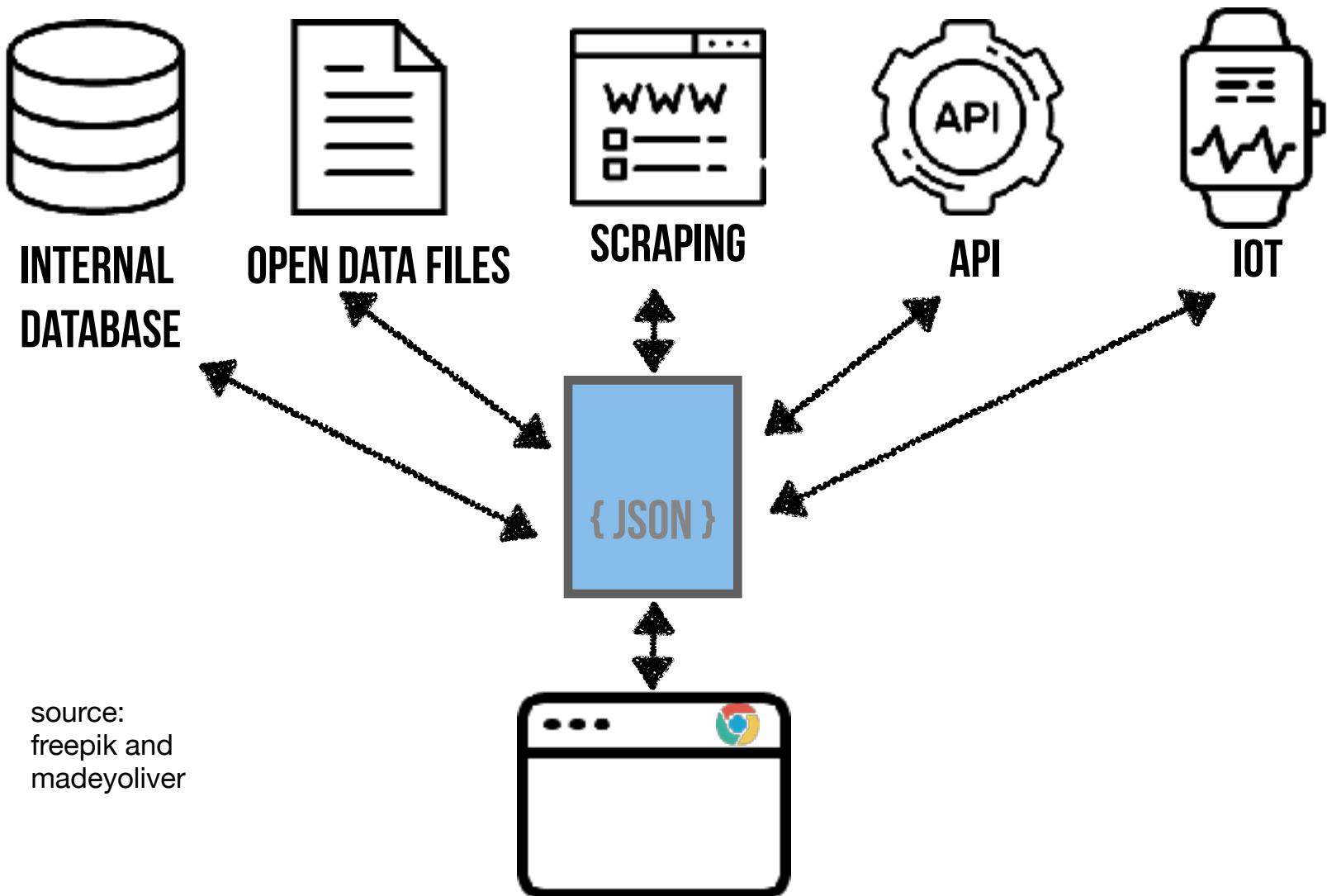


Source: Wikipedia Commons

**Traditional market
and social research
methods.**



source: Ben Fry's Visualizing Data





A free, open source,
powerful tool for working
with messy data



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Enhanced with Java profiler



Welcome!

OpenRefine (formerly Google Refine) is a powerful tool for working with messy data: cleaning it; transforming it from one format into another; and extending it with web services and external data.

OpenRefine is available in English, Chinese, Spanish, French, Russian, Portuguese (Brazil), German, Japanese, Italian, Hungarian, Hebrew, Filipino, Cebuano, Tagalog

OpenRefine is supported by:

Google News Initiative

Introduction to OpenRefine

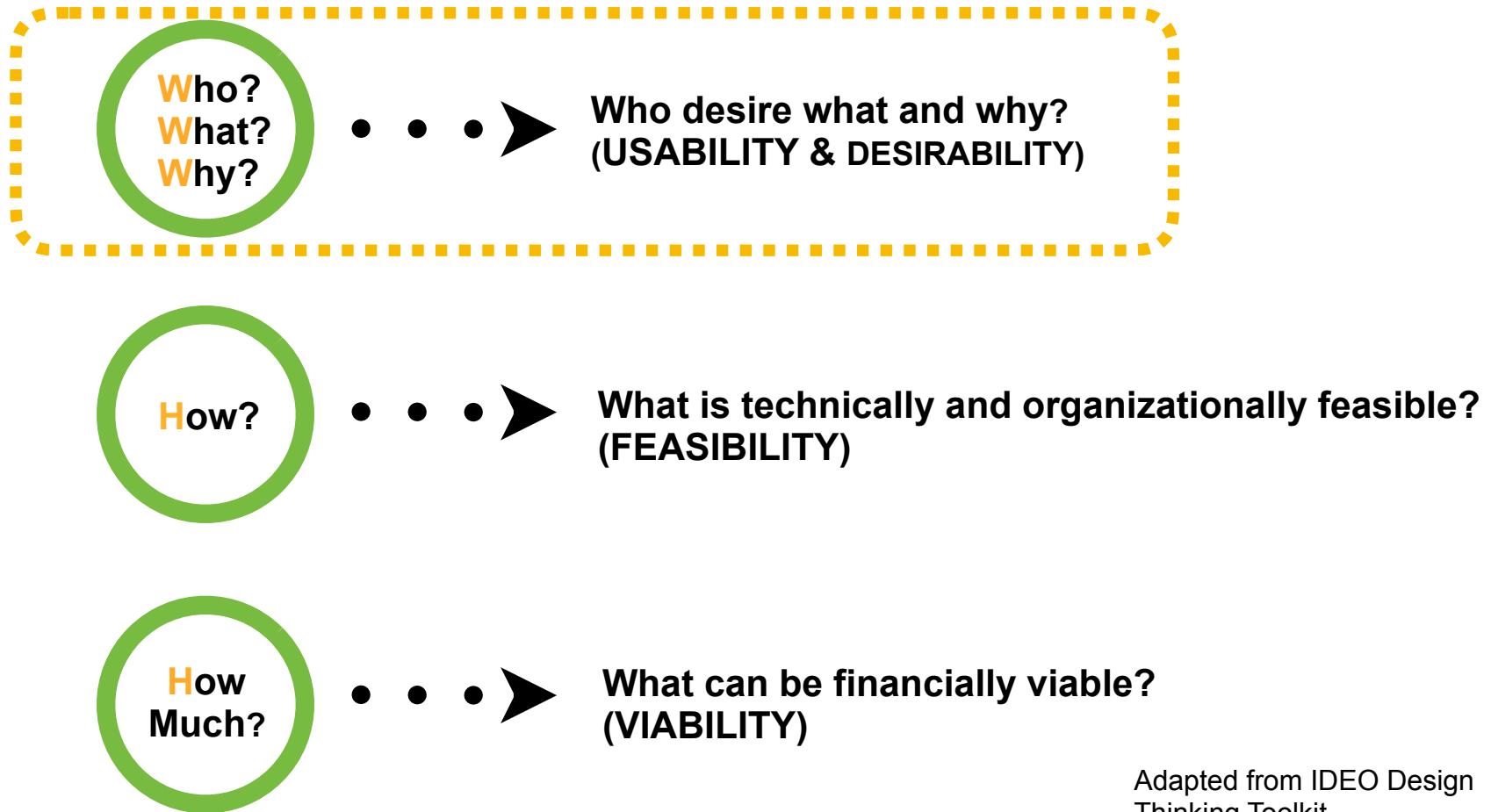
1. Explore Data

OpenRefine can help you explore large data sets with ease. You can find out more about this functionality by watching the video below and going through these articles.

The screenshot shows the OpenRefine interface with a data grid. The columns are labeled: 'Remove All', 'Merge', 'Delete', 'Current ID', 'Type of Identifier', 'Date of Record', 'Start Date', 'End Date', and 'Text value'. The data grid contains several rows of company names, such as 'GOOGLE INC.', 'GOOGLE LLC', 'GOOGLE HOLDINGS INC.', 'GOOGLE INCORPORATED', 'GOOGLE INCORPORATED', 'GOOGLE INCORPORATED', 'GOOGLE INCORPORATED', 'GOOGLE INCORPORATED', and 'GOOGLE INCORPORATED'. A video player at the bottom indicates the video is at 1:00 of 3:00.

Design Thinking	Computational Thinking	Description
Empathy	Decomposition	Collect and analyse <u>stories and data</u> to understand the stakeholders and discover their needs.
Definition	Patterns	Synthesise recurring <u>persona types, contexts, artefacts, and scenario</u> patterns to formulate problem (who, what, and why) .
Ideation	Abstraction	Develop journey map and data model to reshape user stories and data flow.
Prototyping	Algorithm	Build <u>experience prototype and computational models</u> to represent future scenarios for validation.
Testing & Implementation	Automation & Evaluation	Continuous testing, improvement and automation to evaluate <u>functional, emotional, social, economic and environmental</u> impacts (how and how much) .

FROM PROBLEM DISCOVERY TO PROBLEM SOLUTION



Adapted from IDEO Design Thinking Toolkit



SOURCE: DESIGN THINKING 101 NNGROUP.COM

ENTERING THE SOLUTION SPACE



THE SOLUTION (IN ONE SENTENCE): **how & how much - value proposition**

**HOW DO WE MOVE FORWARD TO ACHIEVE
PROBLEM SOLUTION?**

INTRODUCING LEAN STARTUP

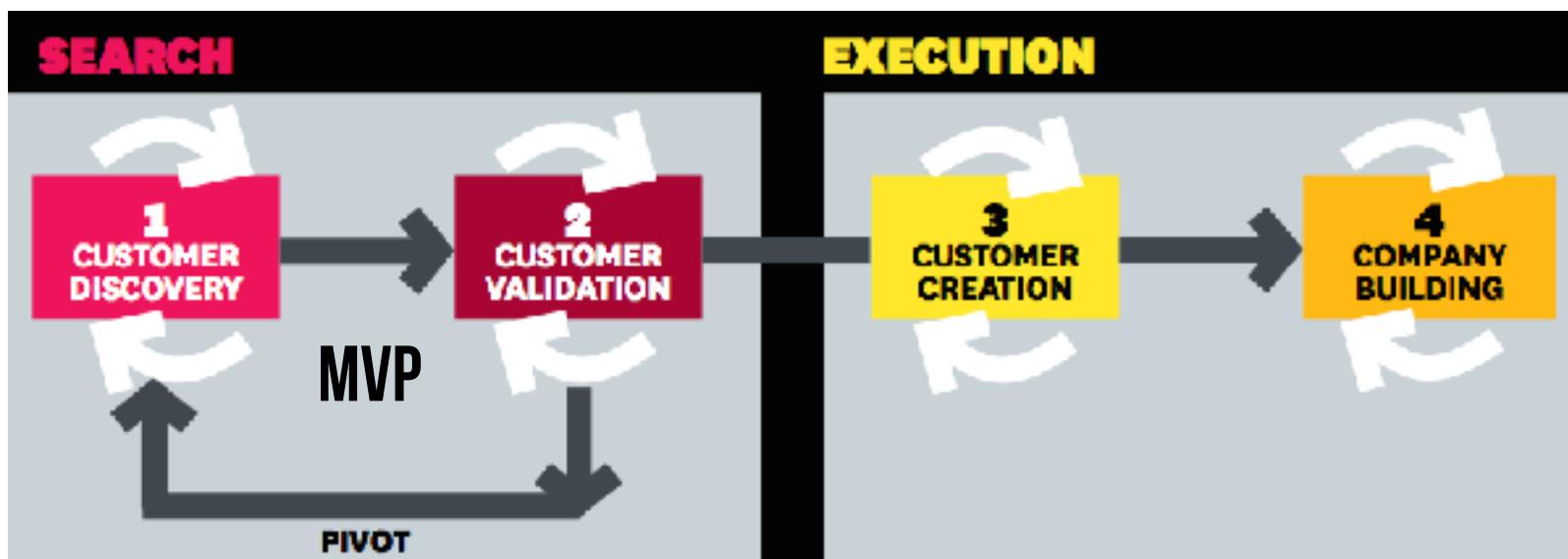


THE LEAN STARTUP APPROACH

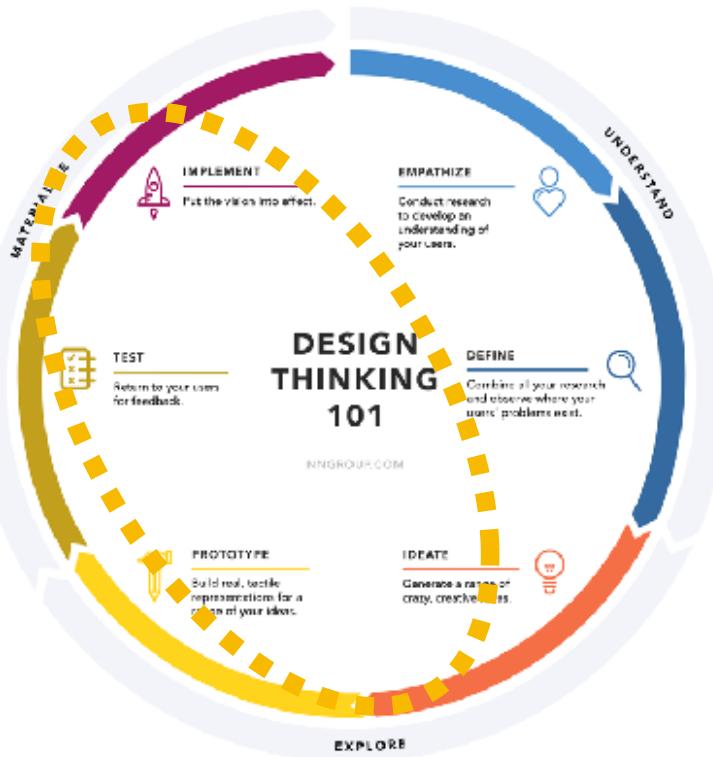
MINIMUM VIABLE PRODUCT AS A VERSIONING STRATEGY



BUILD-MEASURE-LEARN CYCLE IN SEARCH OF PRODUCT-MARKET FIT

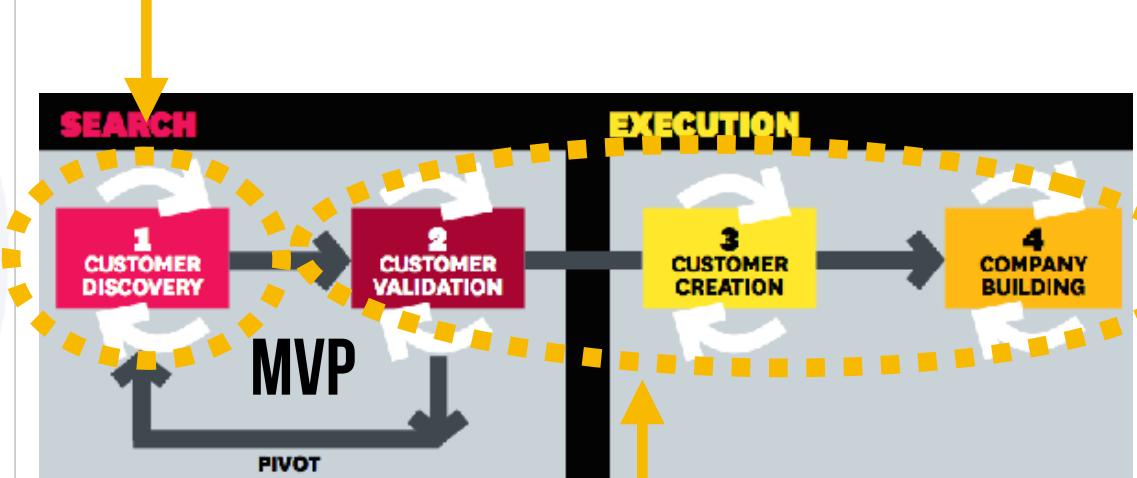


Source: "Why Lean Start-up Changes Everything" by Steve Blank, Harvard Business Review May 2013



Source: Sarah Gibbons,
Design Thinking 101
Nielsen Norman Group

USE DESIGN THINKING TO MAP CUSTOMER JOURNEY



Source: "Why Lean Start-up Changes Everything" by Steve Blank, Harvard Business Review May 2013

USE LEAN STARTUP TO VALIDATE AND SCALE CUSTOMER BASE

THE LEAN APPROACH: GETTING OUT OF THE BUILDING FOR CUSTOMER DEVELOPMENT

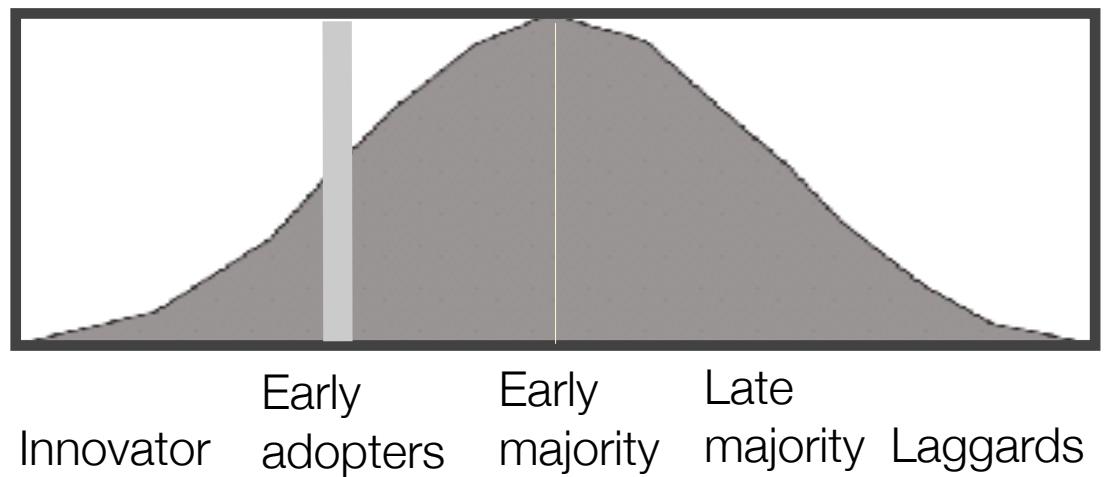
**CUSTOMER DISCOVERY BEGINS WITH IDENTIFYING THE PERSONA/
ARCHETYPE OF THE TARGETED CUSTOMER SEGMENT**

BREAK

THE PERSONA OF THE EARLY ADOPTERS

How to find an early adopter?

Crossing the Chasm



Adapted from Diffusion of Innovation Model
by Everett Rogers



Source: Flickr



STANFORD
TECHNOLOGY
VENTURES PROGRAM

Eric Ries

Co-Founder, IMVU | Author, "Startup Lessons Learned"

September 30, 2009

Dancing Man

Sasquatch 2009



THE AIRBNB STORY

WHAT IS THE “MVP” IN THE STORY?

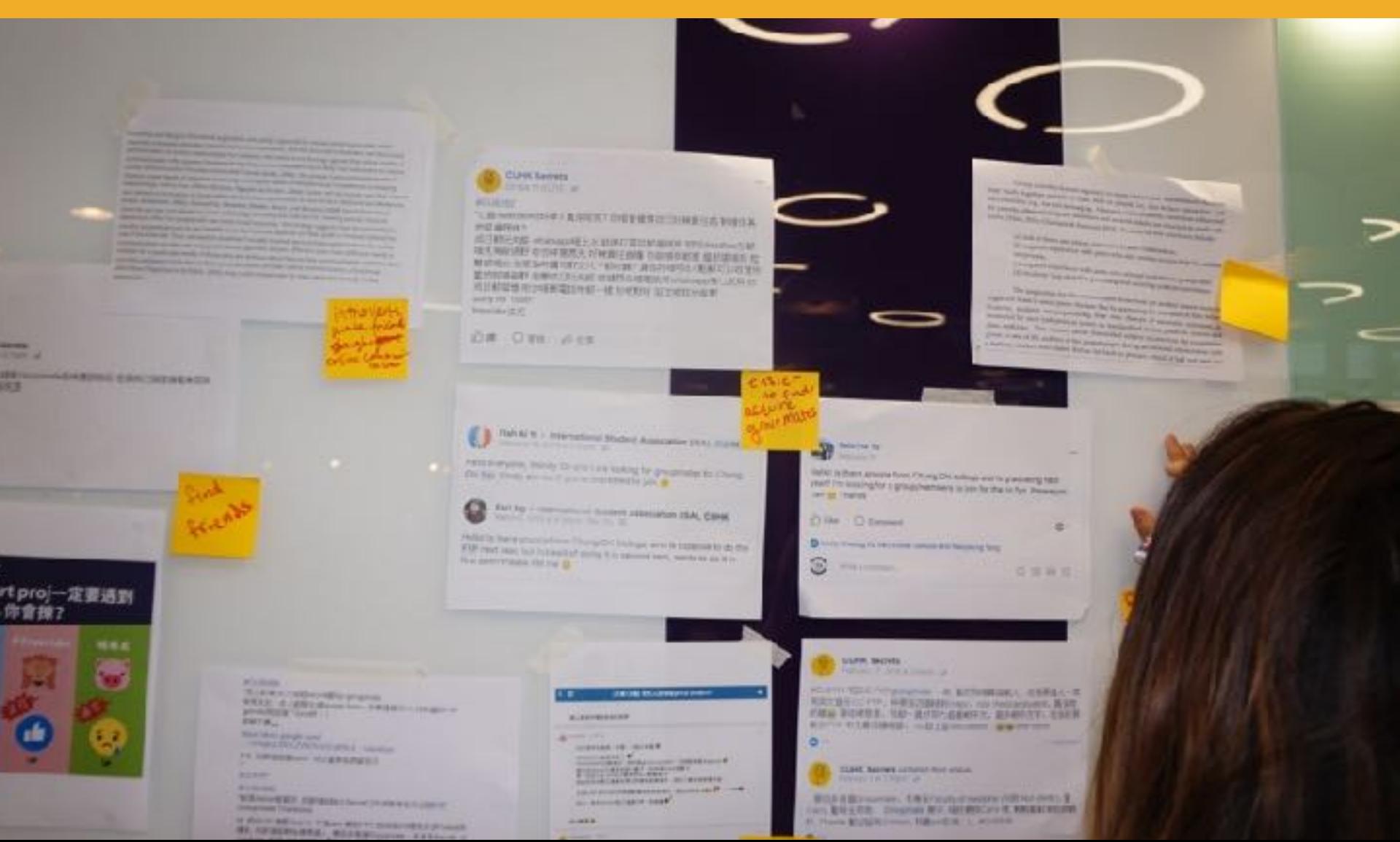
**MVP AND PERSONA/ARCHETYPE WORKS HAND-IN-HAND
TO DISCOVER THE EARLY ADOPTERS**

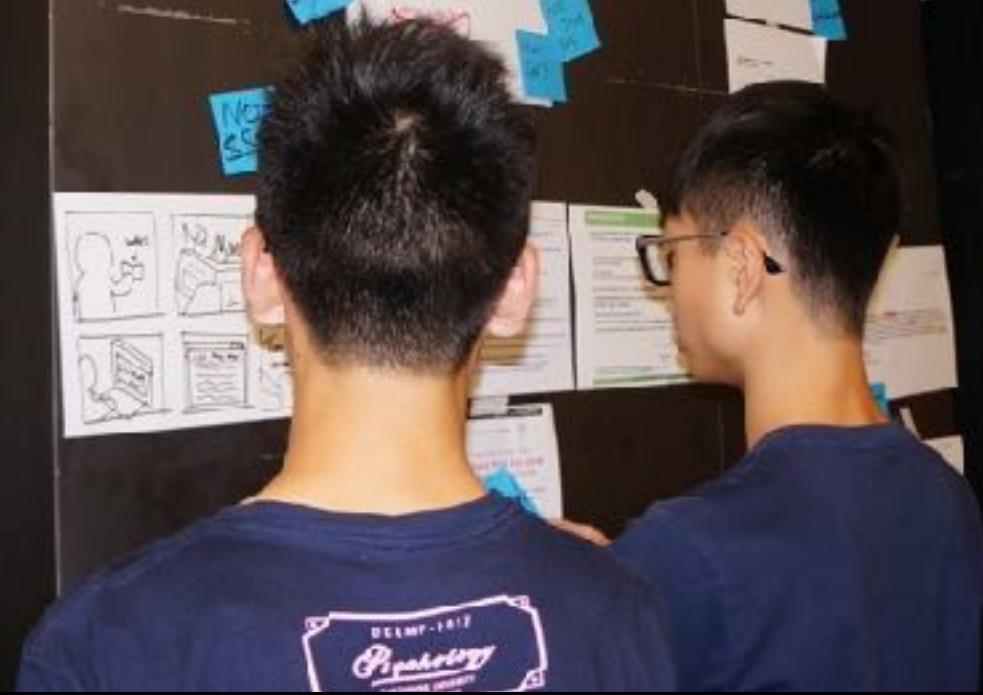
GROUP PREPARATION BEFORE CLASS

Get Out of the Building

- Take pictures from field observation and print out for bringing to class.
- Highlight important points in the pictures with post-it notes to describe what is happening in the picture.
- Make sure your pictures contain story elements (e.g. persona, context, artifacts, and scenarios)









THE LACK OF A PLATFORM
TO SHARE AND GIVE
REUSING OBJECTS
CREATES REWINDS AGAINST
OF WASTE IN OUR COUNTRY

Problems

Want to
the MP?



Buyer

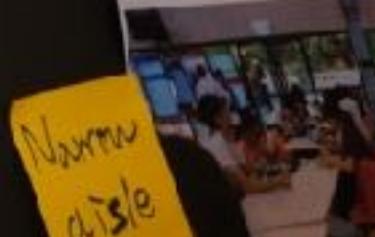
Seller

Storyboard



Problem

CANTEEN



Name
Date







ASSIGNMENT #3

Problem Set #3

- Scrape a website with ParseHub and download the CSV (assuming the data is accurate and usable).
- Pick a open dataset and download it for cleaning with Refine (assuming the data needs to be refined).

OR

- Scrape a website with ParseHub and bring it into Refine for cleaning.
- Please submit project file (tar.gz) with all the refining steps

END OF SESSION