

More Than Coding – Part II: Idea Validation & Product Design

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CS, NTHU

Now you have a rough idea...

How to verify if it is good?
How to design your product?

work → \$

brainstorm

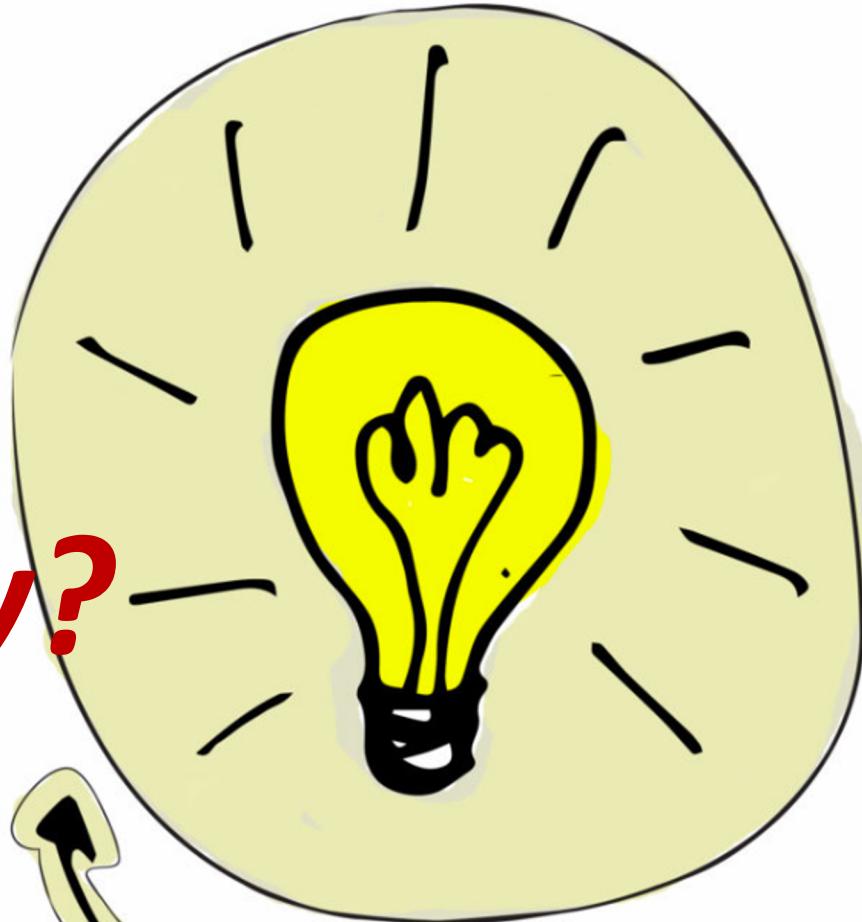
IDEA
↓
Plan
↓
Action



THINKING

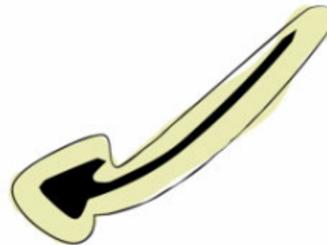


BRAINSTORMING



How?

BRAIN STORM 



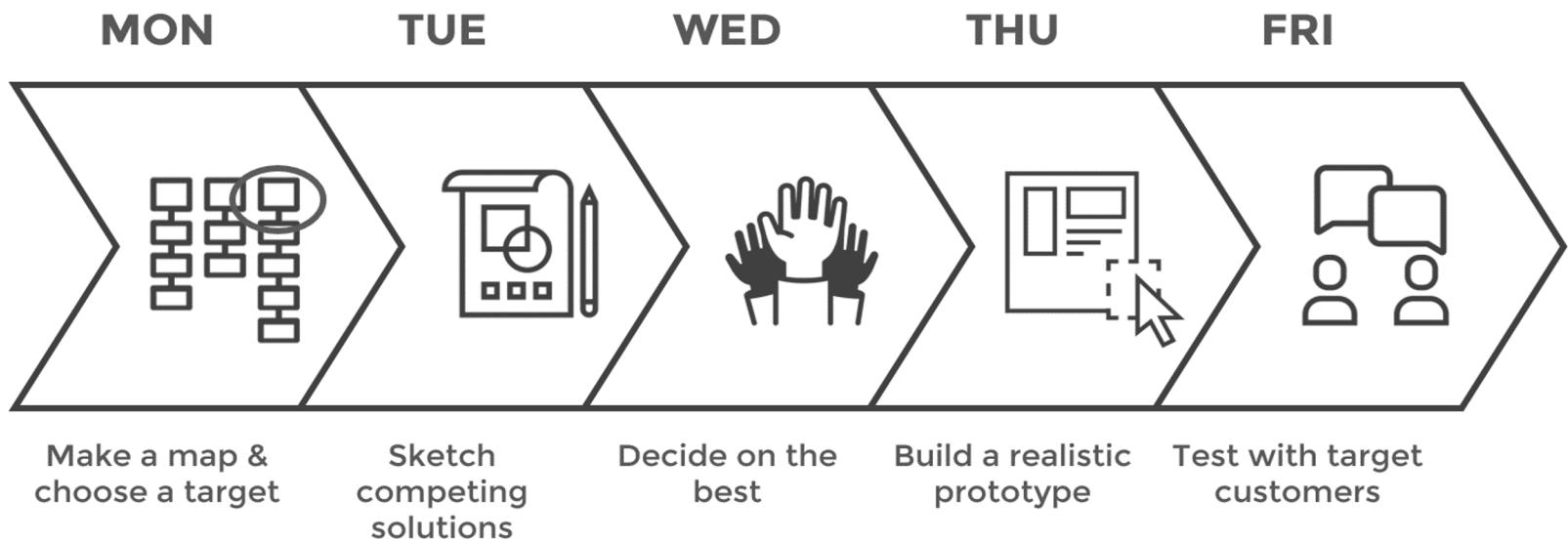
HERE IS MINE

PROBLEMS

The Sprint Approach



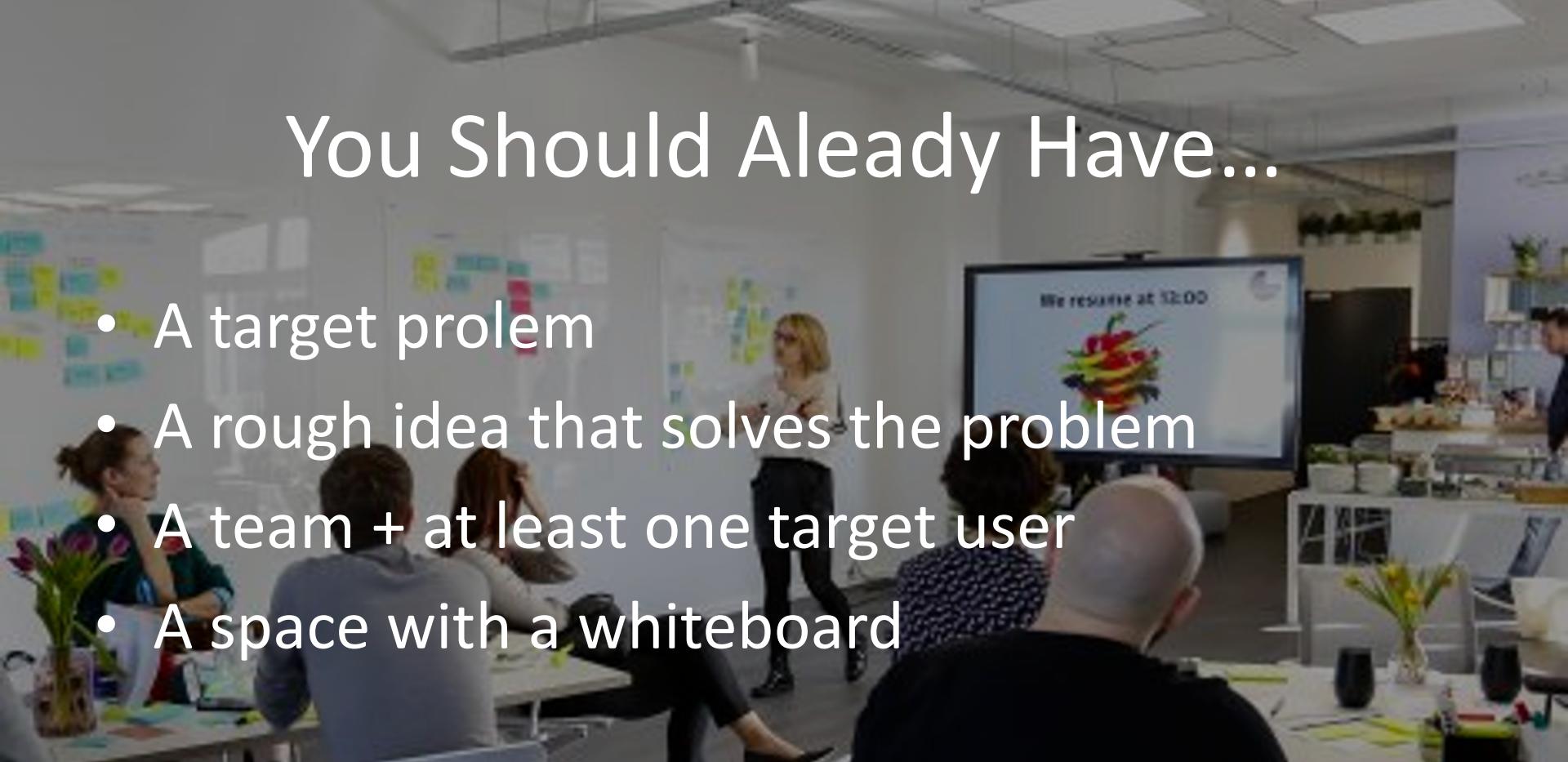
- It takes **one week**



- But is worthy of your time

You Should Already Have...

- A target problem
- A rough idea that solves the problem
- A team + at least one target user
- A space with a whiteboard



The Decider
(SVP, VP)



Business
(PM, Marketing)



Creator
(Designer, UX Eng)



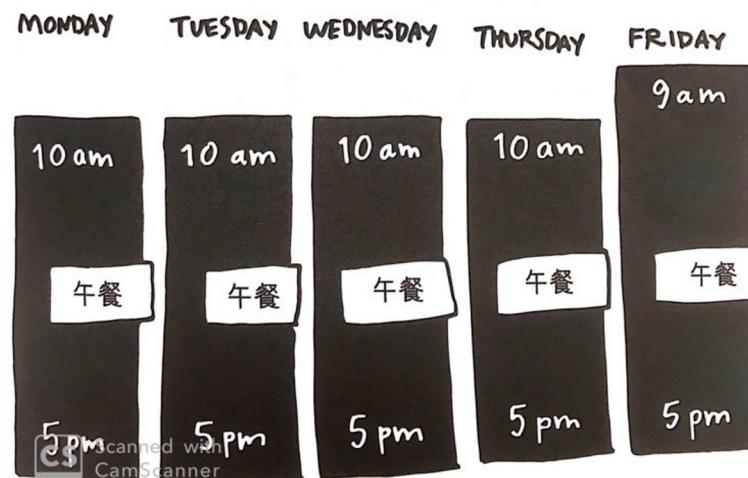
Builder
(Developer, Eng)



Customer Expert
(Sales)



Facilitator



Outline

- Mon: Make a map (user story)
- Tue: Sketch solutions
- Wed: Decide on the best
- Thu: Build a prototype
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1.1 Set a Long-Term Goal

Long Term Goal: Using Money Alarm to wake up is great because you can earn a cup of coffee for the breakfast or save the world .

Challenges and Issues:

How people can earn a cup of coffee by using our app?

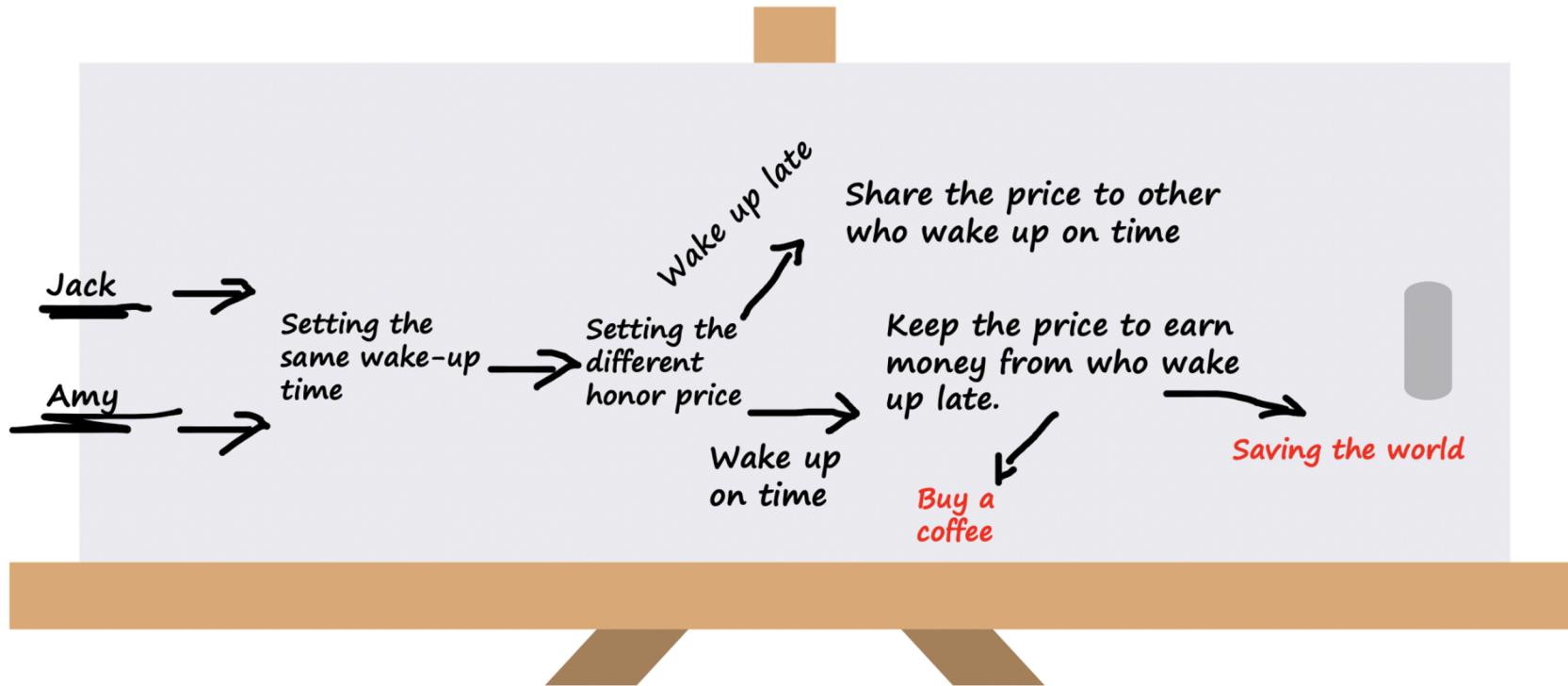
Why people trust our app can really earn penny per day?

Will people think our app as gambling?

Will people really wakeup by using our app?

.

1.2 Make a Map (User Story)



- Left: users, right: goals

1.3 Review Issues & Challenges

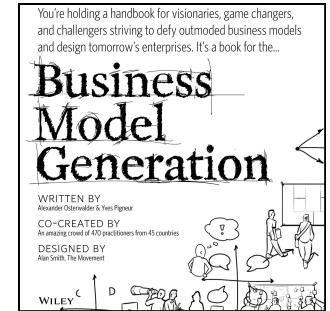
- Questions from target users/domain experts
- Technical challenges (How Might We?)



- *Execution challenges*

Answer at Least 6 Questions

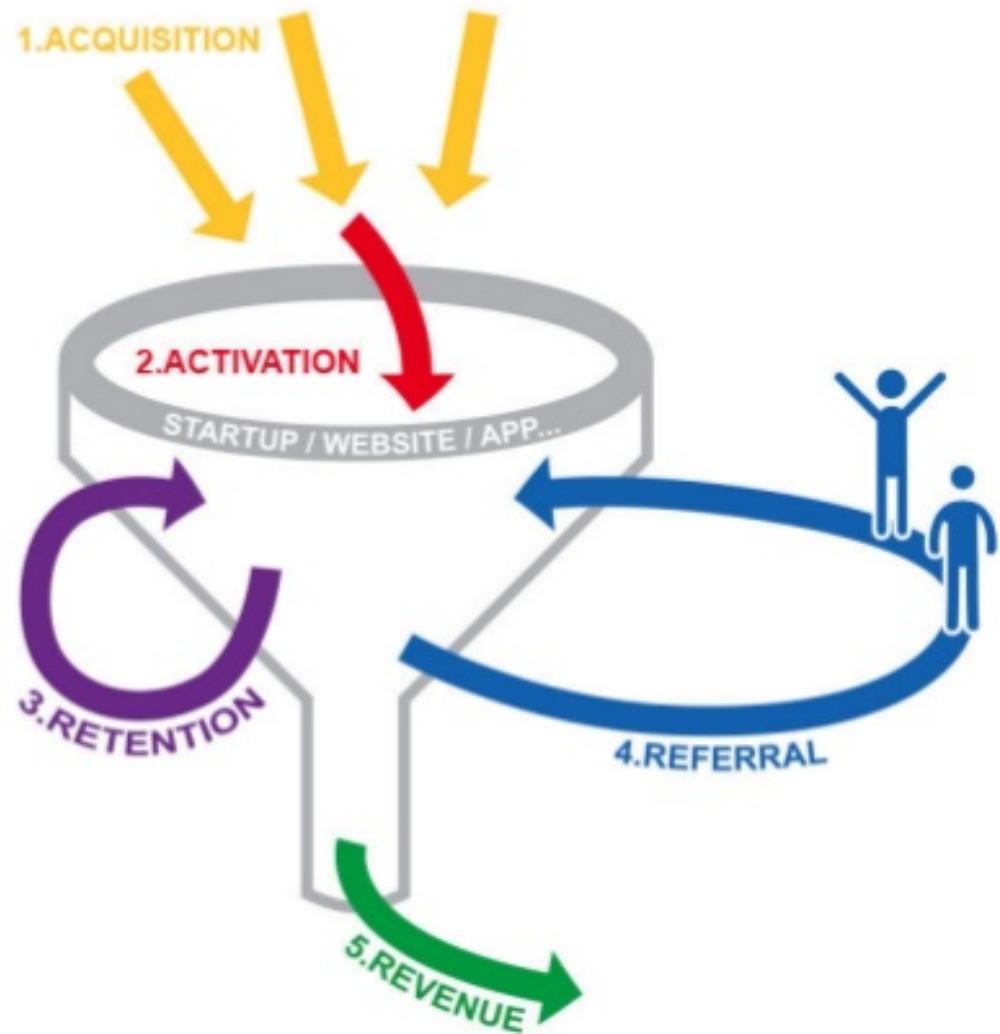
- Idea: Money Alarm



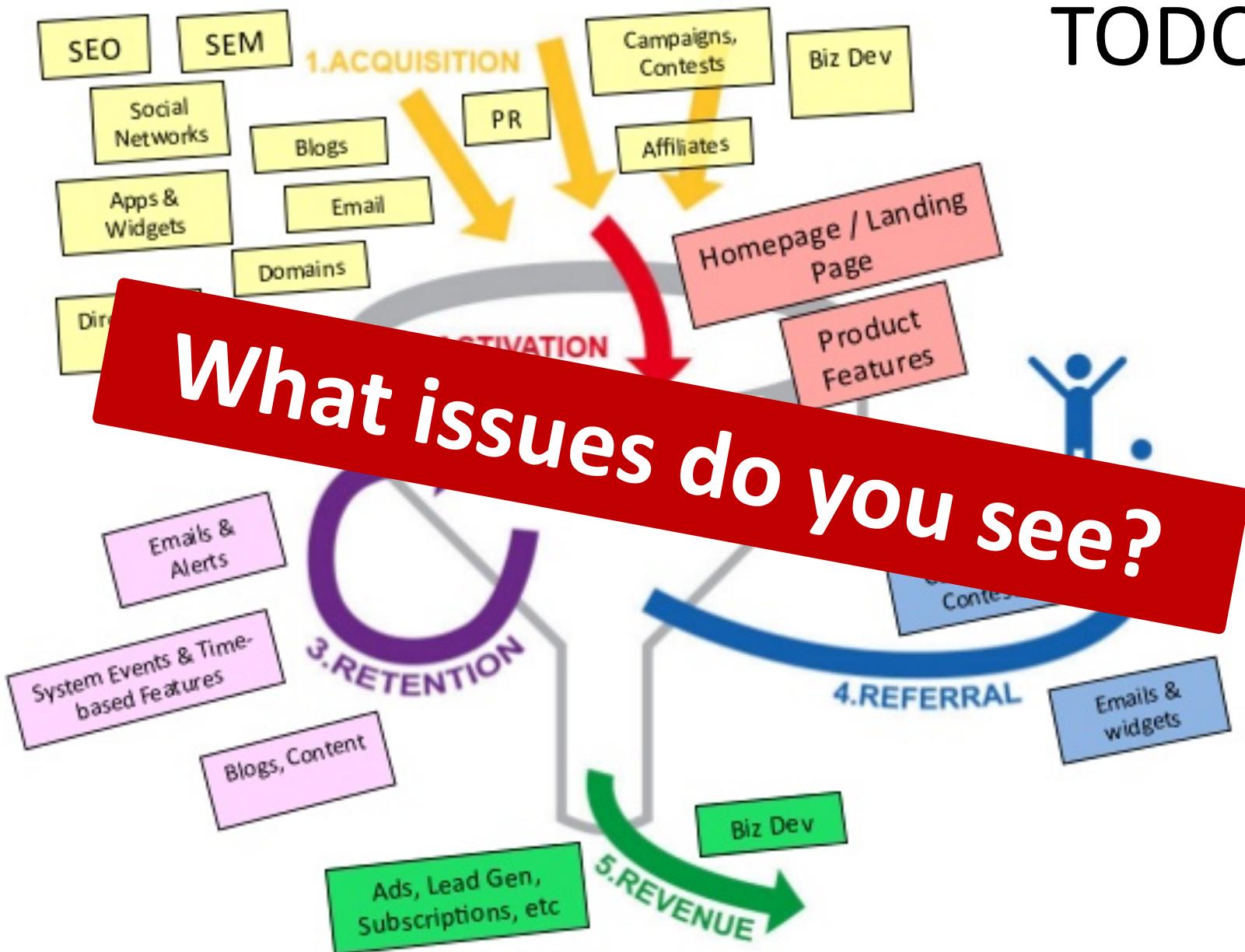
PROBLEM	SOLUTION	UNIQUE VALUE PROPOSITION	UNFAIR ADVANTAGE	CUSTOMER SEGMENTS
<i>Real?</i>	<i>Total or partial?</i>	<i>High enough to act/pay?</i>		<i>Find ones to talk?</i>
EXISTING ALTERNATIVES	KEY METRICS	HIGH-LEVEL CONCEPT	CHANNELS	EARLY ADOPTERS
<i>Poorly met?</i>	List the key numbers that tell you how your business is doing.	List your X for Y analogy e.g. YouTube = Flickr for videos.	List your path to customers (inbound or outbound).	<i>Start from small?</i>
COST STRUCTURE			REVENUE STREAMS	
List your fixed and variable costs.			List your sources of revenue.	

What is Execution?

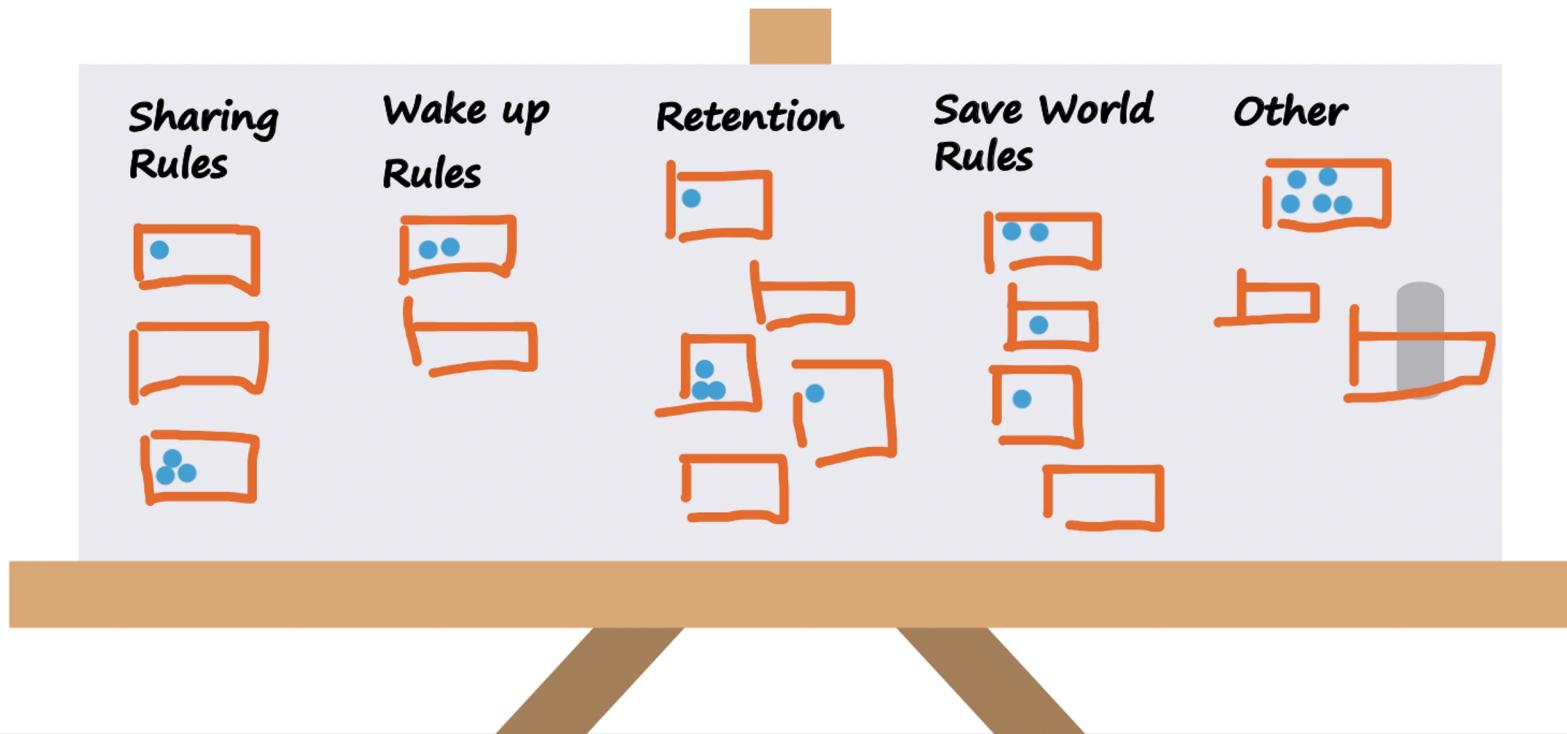
- AARRR Funnel
- **A**cquisition
- **A**ctivation
- **R**etention
- **R**eferral
- **R**evenue



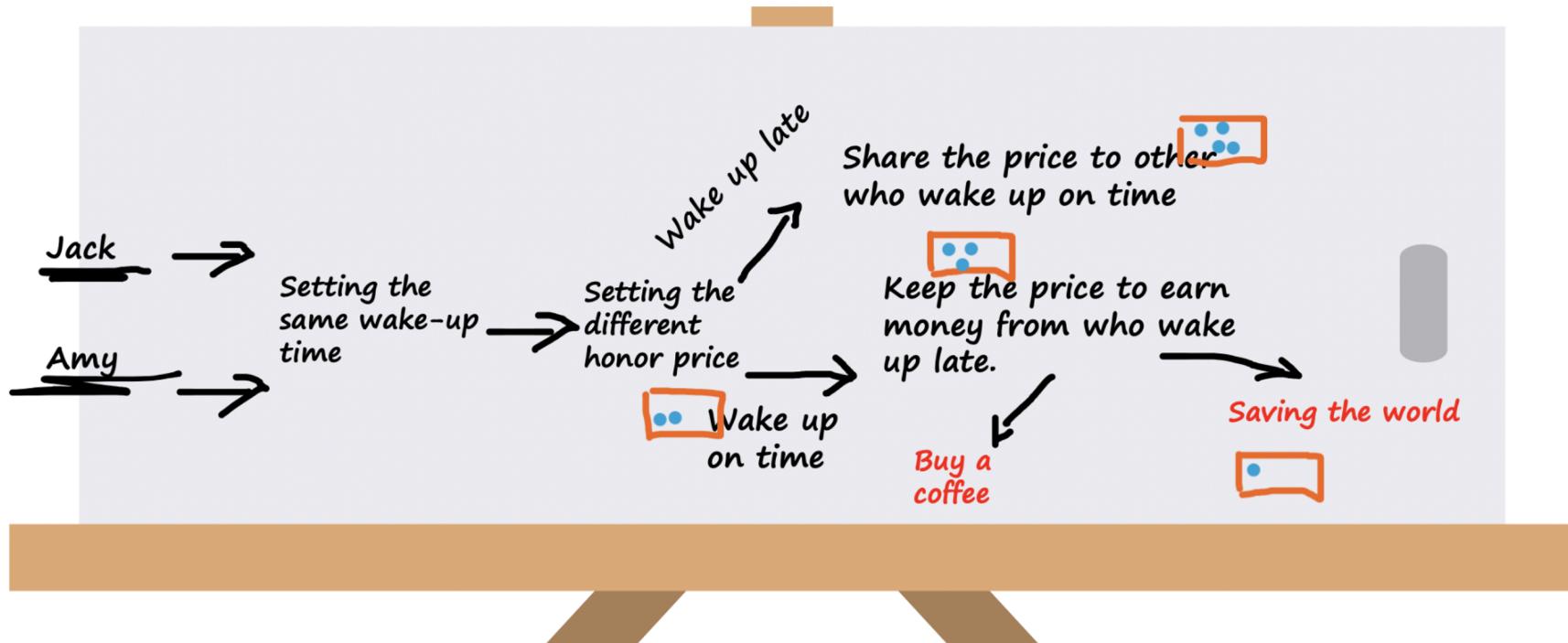
TODOs



1.4 Vote the Key Issues



1.5 Link Them Back to the Map



- Take a photo and go home

Homework:
Survey existing solutions
(competitors) to the key issues

Outline

- Mon: Make a map (user story)
- Tue: **Sketch solutions**
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2.1 Review Competitors



- Everyone take turns to make presentation

2.2 Capture Good Ideas

The image contains a grid of hand-drawn sketches of user interface prototypes, likely from a design sprint or workshop. The sketches are organized into several rows and columns, each representing a different application or feature.

- TUNE QUERY BEFORE YOU COMMIT**: Sketch of a mobile device screen showing a list of items.
- TABLE WITH TAGS**: Sketch of a table with columns labeled "Tags".
- EXPLAIN & TRAIN THE SYSTEM**: Sketch of a dashboard with sections for "Imported documents", "Training accuracy", and "Priority index".
- INLINE COMMENTING**: Sketch of a Google Sheets grid with a comment bubble icon.
- SNOOZE REMINDER**: Sketch of a smartphone screen with a reminder note and a snooze button.
- CONFIDENCE**: Sketch of a mobile device screen with a confidence bar.
- HINTS**: Sketch of a mobile device screen with a hint icon.

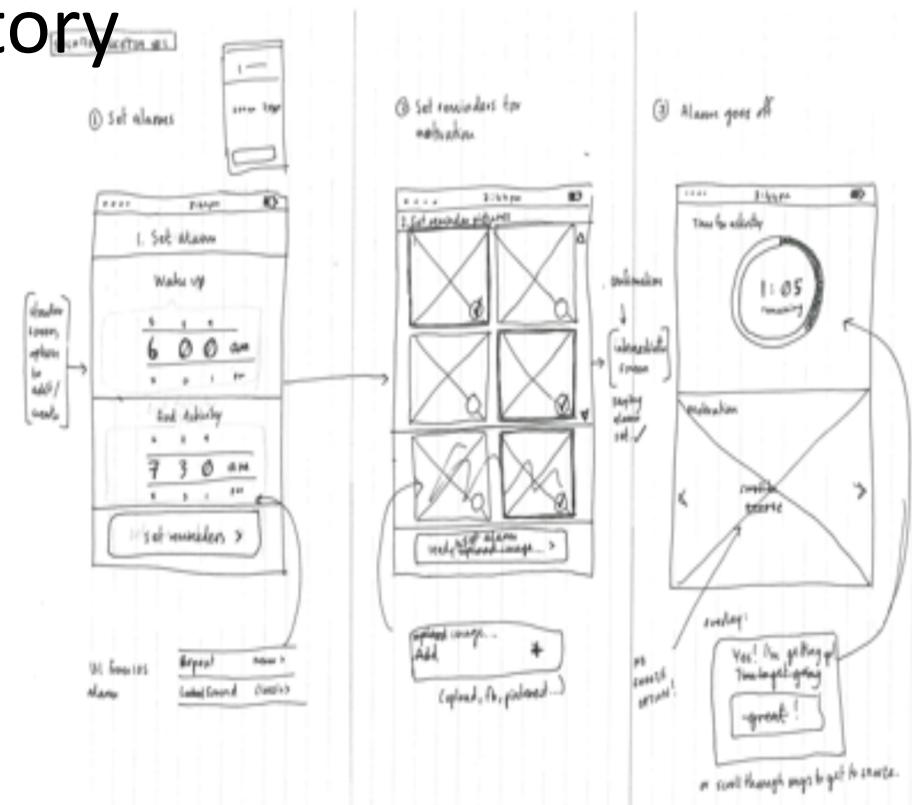
- CANDIDATE PIPELINE**: Sketch of a mobile device screen showing "100 applications", "Candidate name", and "Status".
- CANDIDATE DASHBOARD**: Sketch of a mobile device screen showing "163 this week" and "1009 total".
- CANDIDATE SCORECARD**: Sketch of a mobile device screen showing "Skills" and "Personality".
- MATCH SCORING**: Sketch of a mobile device screen showing "Sequence matching" and a table of scores: GFC vs my team 58%, 23/20 125, etc.
- ALERT SETTINGS**: Sketch of a mobile device screen with a message: "Or call me or text me".
- PROJECT STATUS**: Sketch of a mobile device screen showing "Pending / In Progress".

- QUICK CHART REVIEW**: Sketch of a mobile device screen showing a chart with data: "Lav 2", "22 months", "On track - 0%", "At risk - 0%", "In progress - 0%", "Completed - 0%".
- NO WORK DASHBOARD**: Sketch of a mobile device screen showing a large red X and the word "User".
- FUNNEL STATS**: Sketch of a funnel diagram with "Inquiry form" at the top, "2,679" in the middle, and "2,310" at the bottom.
- WORKFLOW VISUALIZER**: Sketch of a mobile device screen showing a grid of boxes representing workflow steps.
- APP STORE**: Sketch of a mobile device screen showing "Categories", "Get started", "Industry", and "More for growth".

Scanned with CamScanner

Homework: Sketch Solutions

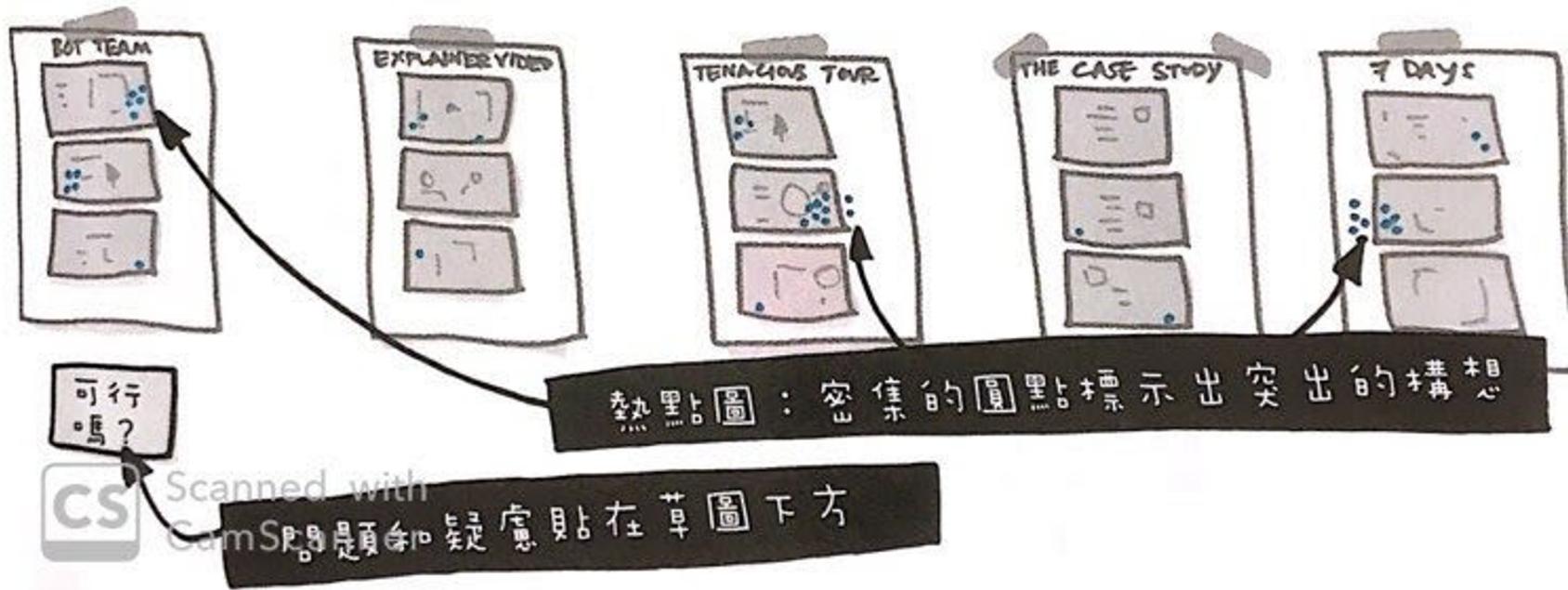
- Everyone should do this
- Make it self-explanatory
- ***Keep it anonymous***
- Ugly is okay
- Words matter
- Give it a catchy title



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3.1 Vote the Best *Parts*



- *Nobody* can talk; no discussion

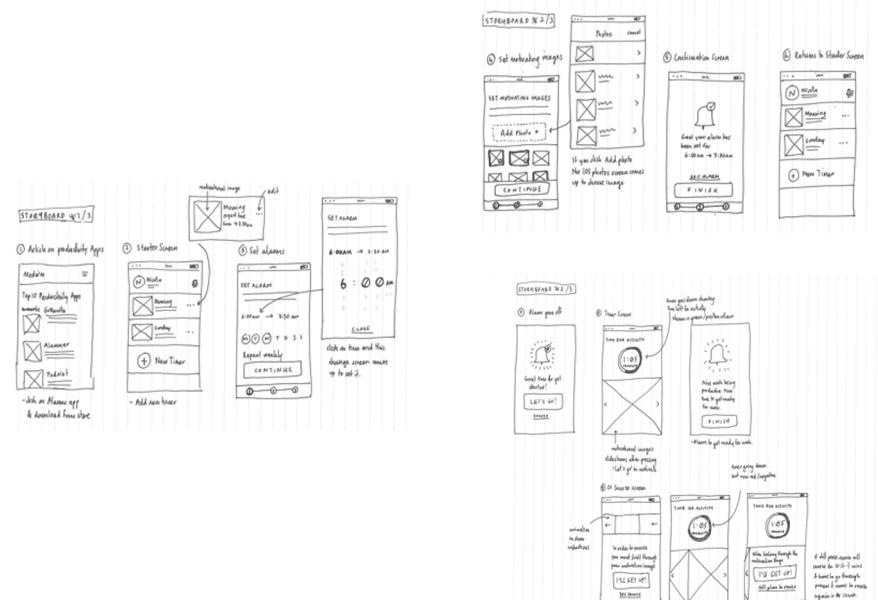
3.2 Speed Critique



- Now, **everyone** should talk

3.3 Make Final Storyboard

- Turn your map into the final storyboard
- Mix-in the best solutions to the key issues
- Also, include “How will users find your product/service?”
 - Web search
 - Blog reading
 - App store
 - ...



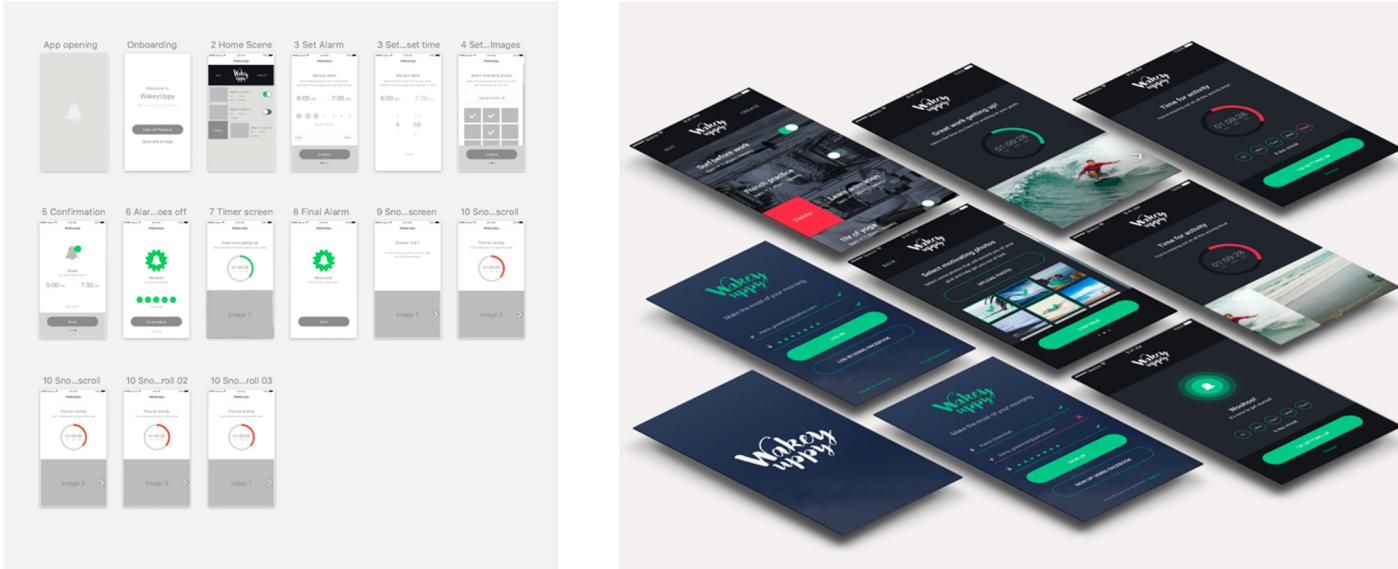
Homework:

Get familiar with a prototyping tool
(e.g., [Adobe XD](#))

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4.1 Turn Storyboard into Prototype



- Pick the right tools (Adobe XD allows collaboration)
- Divide and conquer (each one makes a part)
- Stitch it together (make different parts look consistent)
- Do a trial run (play interactions)

Homework:

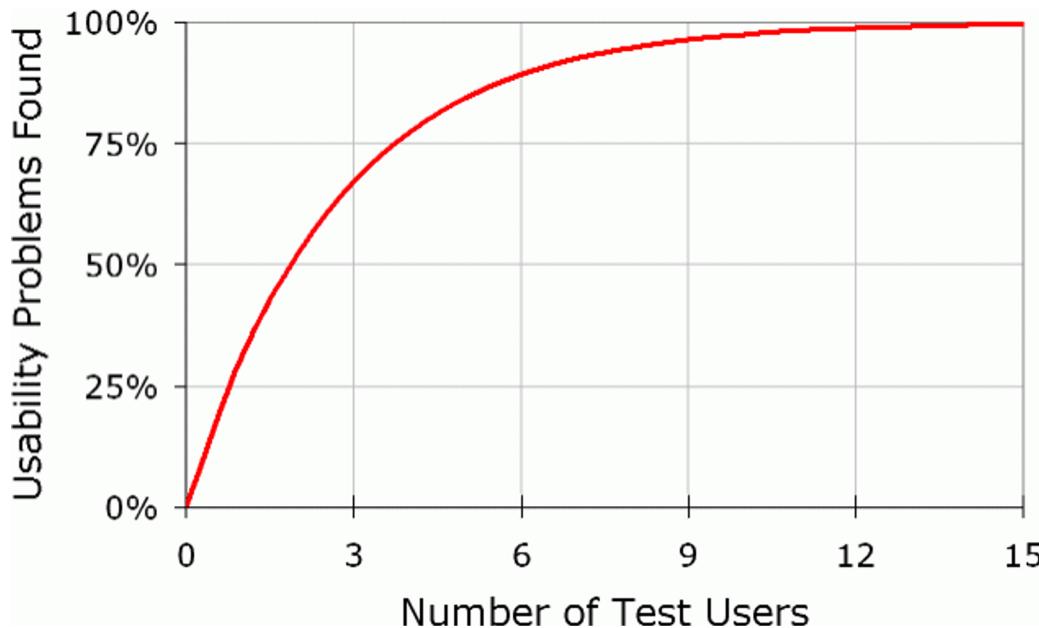
Invite 5 external target users to test
“*your friend’s*” prototype

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5.1 Interviews

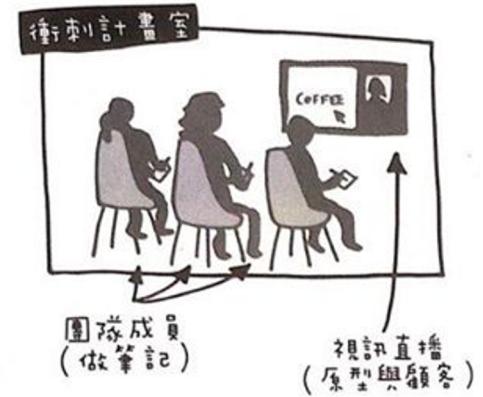
- Five is the magic number



- learn by watching them react to your prototype

What to Do?

- Friendly welcome
- Context questions
- Introduce the prototype
- Tasks and nudges
- Debrief



Friendly Welcome

- Put users at ease
- Explain that you're looking for candid feedback

Context Questions

- Start with easy small talk
- Then transit to questions related to the problem you try to solve
- Ex:
 - “Have you ever been late for work?”
 - “Have you tried other alarm apps?”

Introduce Prototype

- Link prototype to the problems
- Explain basic instructions
 - Do **not** give a complete user guide
- Remind the users that
 - Some things might not work
 - You're not testing him or her
- Encourage users to think and ask

Tasks and Nudges

- Give users some tasks
- Watch (record) how users interact with the prototype to complete the tasks
- If they stuck, don't give “correct” answer directly
- Ask open-ended questions
 - E.g., “What are you trying to do?”
 - “What do you expect to see here?”
- Ask broken questions
 - E.g., “So?” “And then?”

Debrief

- Ask questions that prompt the users to summarize
 - “How do you think about this product?”
 - “What feature of this product do you like or dislike?”
 - “How would you describe this product to a friend?”
 - “If you can make three wishes to improve this product, what are they?”

5.2 Learn and Iterate

- Learn from user behavior and feedback
 - Why something is not as you expected?
 - What to improve?
 - What is missing?
 - Should we pivot?
-
- Congratulations! You make a step toward a better product designer

Now It's Your Turn

Pitch

- On 4/7
- Each team has 3 mins (strict)
- Your presentation should include:
 1. Problem (25%)
 2. Existing solutions (25%)
 3. Your Prototype (25%)
 4. Feedback & Lesson Learned (25%)

Problem (25%)

- Target users
- What's their pain point?
- “5” Whys
 - It's not necessary to be 5

Existing Solutions/Competitors (25%)

- How do they work?
- Why they suck for your target users?

Your Prototype (25%)

- Show your main user story first
 - From product discovery to goals
- Demonstrate your prototype by following the story
 - E.g., play interactions in Adobe XD

Feedback and Lesson Learned (25%)

- Show user behavior and their feedback
- How will you change the design accordingly?
 - You do not need to respond to every comment
 - It's OK to pivot, but you need to explain what's next and why

Peer-Review Bonus (+30% Each)



**HIGHEST
NOVELTY**



The most novel idea compared to existing solutions to the target problem.



**BEST
PROTOTYPE**



The most well-designed prototype that realizes the idea and avoids key issues.



**DEEPEST
INTERVIEW**



The interview/test that gives the most insights to the problem, idea, or design.