MOBILE APP DEVELOPMENT FOR ENTREPRENEURS

eecs 441

Lecture 8: Minimum Viable Product and Story Mapping

Minimum Viable Product

What is an MVP?

A proof of concept or prototype that allows a team to maximally validate its value proposition with minimal effort

Not just a product with random incomplete features
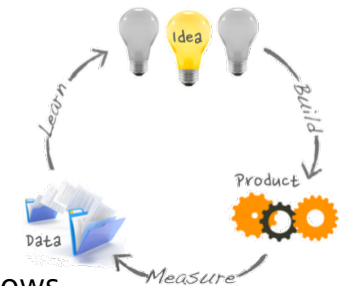
Nor just a way to release an early product

[Blagojevic, V., *The Ultimate Guide to Minimum Viable Products*; Brikman, *A Minimum Viable Product is not a Product, It's a Process*]

What Product?

The MVP doesn't have to be a product at all!
[Though it MUST be a working app in this course! 😄]

Could be a:
• landing page with an elevator pitch and a sign-up form
• demo video, with a survey(!)
• hand-crafted, bespoke model for early adopter(s)
• crowdfunding campaign (kickstarter, indiegogo, rockethub)

What does it mean to "maximally validate a value proposition with minimal effort"?

[Blagojevic, V., *The Ultimate Guide to Minimum Viable Products*; Brikman, *A Minimum Viable Product is not a Product, It's a Process*]

A Unit Test for Your Value Proposition

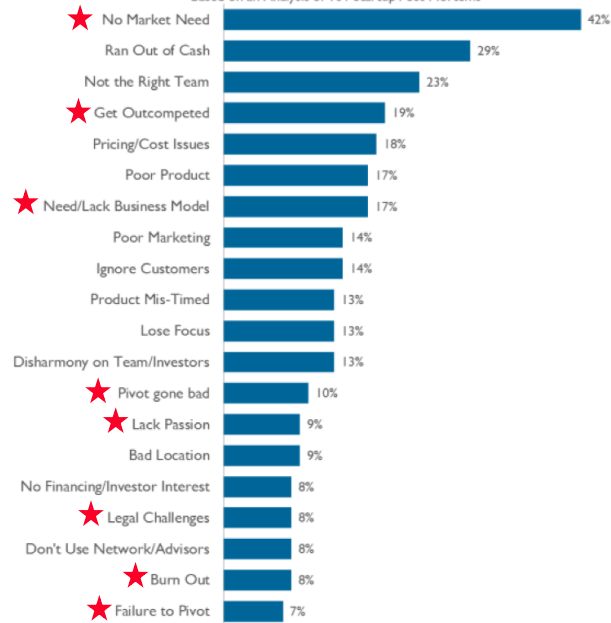An experiment to test the riskiest assumption and use the results to course correct

Assumptions could include:
• market needs and users' wants
• monetization potential
• legal and regulatory issues
• UX/UI design
• architecture: control and data flows
• marketing strategy

[Brikman, *A Minimum Viable Product is not a Product, It's a Process*]

Top 20 Reasons Startups Fail
Based on an Analysis of 101 Startup Post-Mortems

- ★ No Market Need — 42%
- Ran Out of Cash — 29%
- Not the Right Team — 23%
- ★ Get Outcompeted — 19%
- Pricing/Cost Issues — 18%
- Poor Product — 17%
- ★ Need/Lack Business Model — 17%
- Poor Marketing — 14%
- Ignore Customers — 14%
- Product Mis-Timed — 13%
- Lose Focus — 13%
- Disharmony on Team/Investors — 13%
- ★ Pivot gone bad — 10%
- ★ Lack Passion — 9%
- Bad Location — 9%
- No Financing/Investor Interest — 8%
- ★ Legal Challenges — 8%
- Don't Use Network/Advisors — 8%
- ★ Burn Out — 8%
- ★ Failure to Pivot — 7%

CB INSIGHTS
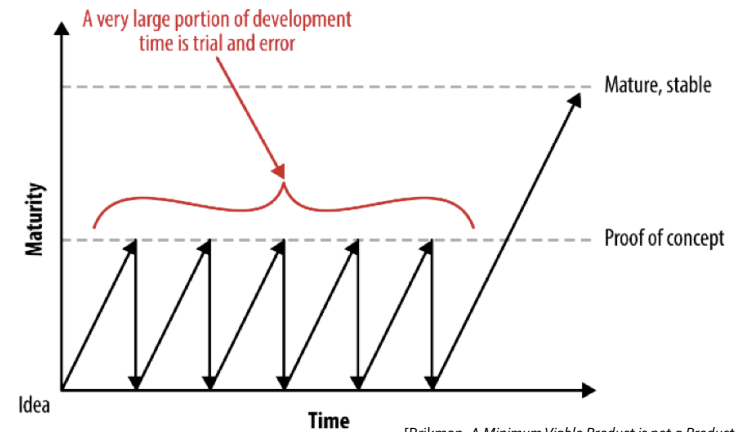www.cbinsights.com

It's a Debugging Process

How many unit tests do you need?

Try out "product" with real users, observe, adapt, repeat

A very large portion of development time is trial and error

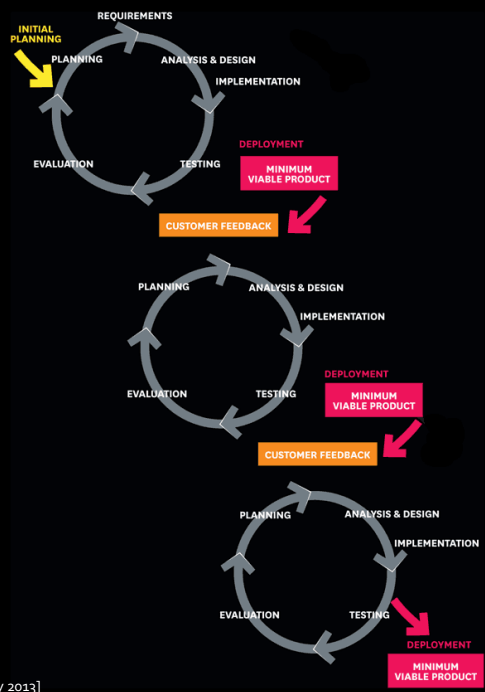Maturity — Mature, stable — Proof of concept
Idea — Time

[Brikman, *A Minimum Viable Product is not a Product, It's a Process*]

Agile Development

Working hand-in-hand with customer development, rapidly assemble minimum viable product and immediately elicit customer feedback

Iterate, making small adjustments or more substantive redirections (pivots)

[Blank, S., "Why the Lean Start-Up Changes Everything," *HBR*, May 2013]

In Summary

Always be asking:
1. What is my riskiest assumption (now)?
2. What is the smallest experiment I can do to test this assumption?

"There is surely nothing quite so useless as doing with great efficiency what should not be done at all." – *Peter Drucker*

Fail Fast, Fail Often!

[Brikman, *A Minimum Viable Product is not a Product, It's a Process*]

What to Observe from Customers

Are they interested in your product?
(e.g., mobile app builder for restaurants)

What are their real pain points?
(want a web site)

Are they willing to pay? How much?
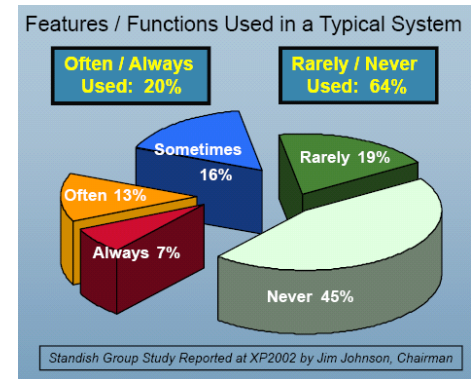(show a hand-crafted web site (MVP!))

How can you attract more customers?
(landing page, asking for email addresses)

[Brikman, *A Minimum Viable Product is not a Product, It's a Process*]

What Features to Include in an MVP?

64% of features in a typical system is wasted effort

Say we want to build an MVP with the smallest set of features that still captures our value proposition

Features / Functions Used in a Typical System
Often / Always Used: 20%
Rarely / Never Used: 64%
Sometimes 16%
Rarely 19%
Often 13%
Always 7%
Never 45%
Standish Group Study Reported at XP2002 by Jim Johnson, Chairman

How to define this smallest set of features?

[Cayenne Apps, *5 Steps to Building Minimum Viable Product with Story Mapping*]

Story Mapping

Instead of simply listing all features by priority, map out the features as a 2D map, backing up each feature with a user story

Example: Starting an Online Bookseller

Step 1: define your value proposition

Example: Buy book online, 24/7

Step 2: define the User eXperience (UX) of your product

What are the steps users take to achieve your value proposition?

[Cayenne Apps, *5 Steps to Building Minimum Viable Product with Story Mapping*]

Step 2: User eXperience

What are the stages most users would follow in using your product?

Focus on the process/usage flow, not on the features

Value proposition: Buy book online, 24/7

User eXperience

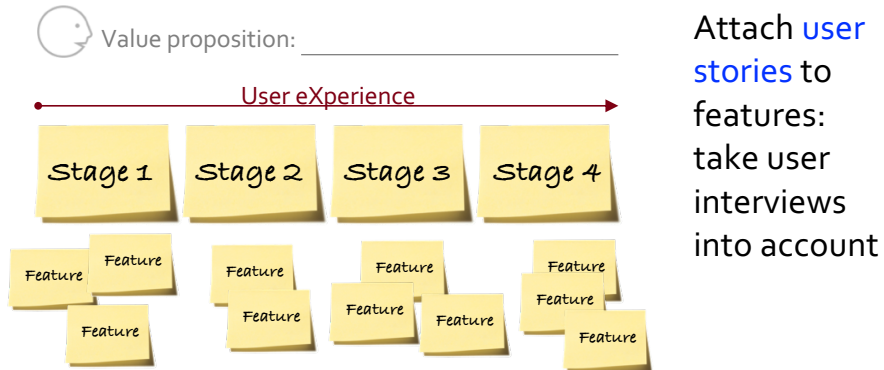Stage 1   Stage 2   Stage 3   Stage 4

[Cayenne Apps, *5 Steps to Building Minimum Viable Product with Story Mapping*]

Step 3: List of Features per Stage

List all features that should be part of a stage

Let the creative juices flow, brainstorm, list features unordered

Value proposition: _____

User eXperience

| Stage 1 | Stage 2 | Stage 3 | Stage 4 |

Feature Feature Feature Feature Feature Feature Feature Feature Feature Feature Feature Feature Feature

Attach user stories to features: take user interviews into account

[Cayenne Apps, *5 Steps to Building Minimum Viable Product with Story Mapping*]

Step 3: List of Features per Stage

Example:

- Stage: find book

- Features:

- User stories:
  - specific type of user
  - specific action
  - specific reason for action
  - include user tally from Affinity Map for each feature

BAD user story examples:

- as a reader, I want to find books
- as a reader, I want to search for books

Duh! 🙄

User Personas

Construct 3 distinct composite (not fake or made up) user personas, reflecting different customer segments

How?

Angie Rosales

Bio
Angie is a second year university student pursuing her degree in psychology. During school breaks she travels around the U.S. and Carribean with her boyfriend of two years.

She loves to see all the tourist sites in cities and lounge on white sand beaches in front of the crystal blue waves.
She takes time to carefully craft their trips and make sure the neighborhood they stay in is safe and that their flights get them in early so they can enjoy an extra day of vacation wherever they are.

Age: 20
Location: Santa Cruz
Work: Student
Status: Relationship

Motivations
Experience: Find great sites to see or great places to relax and enjoy

Fiscal: Save money so she can do more on trip

Seamless: After booking she doesn't have to worry about the logistics just look forward to the experience

Goal
Fiscal: To easily find and compare the best trip prices

Experience: Know and see the sites and landmarks in new cities

Seamless: Plan the trip so the logistics fade away

Frustrations
Compare: Comparing prices across travel, hotel, and flight bookings sites and apps

Schedule: Trying to find the best departure times to minimize air time and max vacation time

Accomodation: Finding best location to stay in new city


Step 4: Prioritize Features

Rank order the features in each stage according to user input/interviews

Consider:

- How important is the feature to complete the process?
- How often will the feature be used?
- How many users will use the feature?
- How much gain/pain relieve will the feature bring to user?
- How "risky" is the feature?
  - how soon to ready
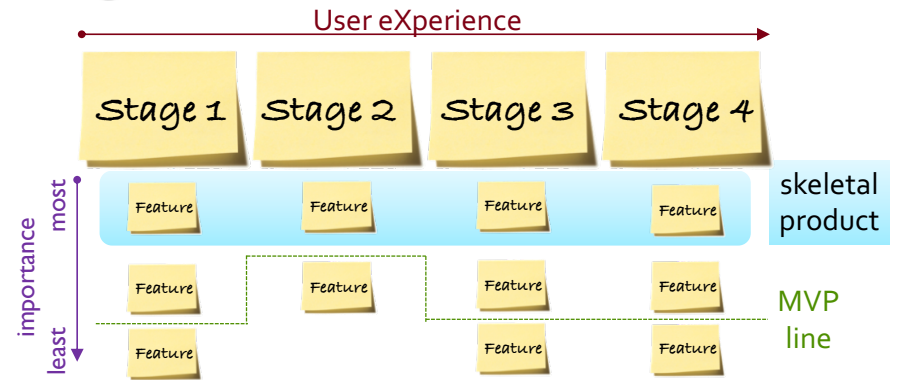 - how long to done
  - latent benefits

[Cayenne Apps, *5 Steps to Building Minimum Viable Product with Story Mapping*]

Step 4: Prioritize Features

Value proposition: _____

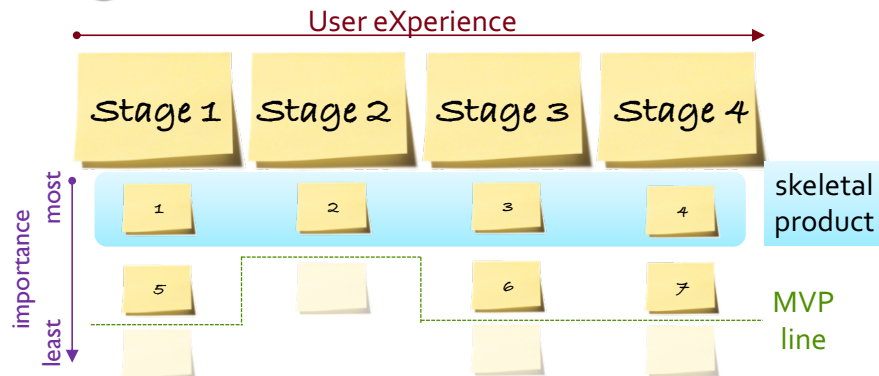[Cayenne Apps, *5 Steps to Building Minimum Viable Product with Story Mapping*]
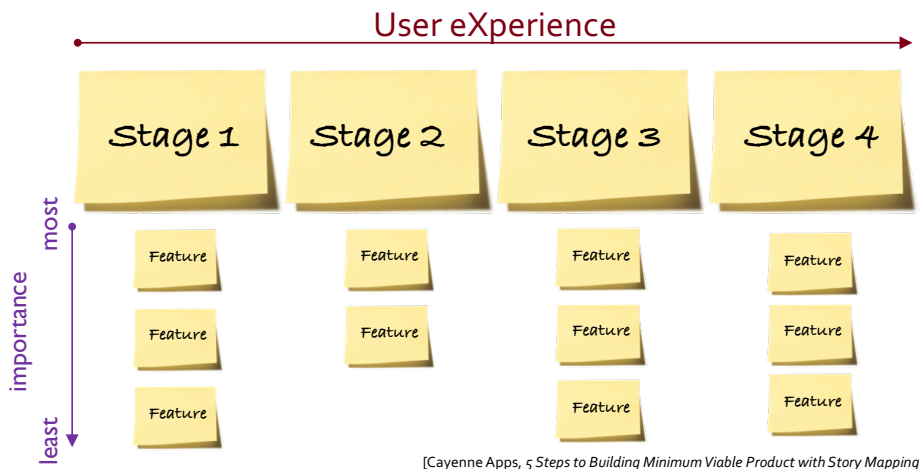
Step 5: Define MVP

Value proposition: _____

Skeletal product: just functioning, built first
MVP: must have vs. nice-to-have features

[Cayenne Apps, *5 Steps to Building Minimum Viable Product with Story Mapping*]

Step 5: Define MVP

Value proposition: _____

Build to right, not down
What comes after you've built your MVP?

[Cayenne Apps, *5 Steps to Building Minimum Viable Product with Story Mapping*]

VPC Presentation This Week

About 25 minutes per team

Be more "professional" than casual, including Q&A

Hands not in pockets nor crossed

No cap, no headphones

Step up to speak, step back to yield the floor

5th Assignment DUE Thu, 2/1, 2 pm

1. Title and team slides: list of ≥3 presenters

2. Affinity map: cluster user sentiments into groupings, topics, themes (use RealtimeBoard, can be turned in as a separate pdf)

3. User Personas: ≥ 3 (≥ 1 per customer segment), each constructed from ≥ 3 interviews

4. Story map: stages, user stories, skeletal vs. MVP User story: TYPE of user, ACTION, REASON

5. Updated VPC (last chance) and Gantt Chart, if necessary

User Personas

Each persona constructed from ≥ 3 interviews
- persona's typical demographic, bio, personality
- persona's needs (motivations), wants (goals), and pain points (frustrations)
- persona's familiarity with various technologies and brands
- may need to conduct more interviews for coverage
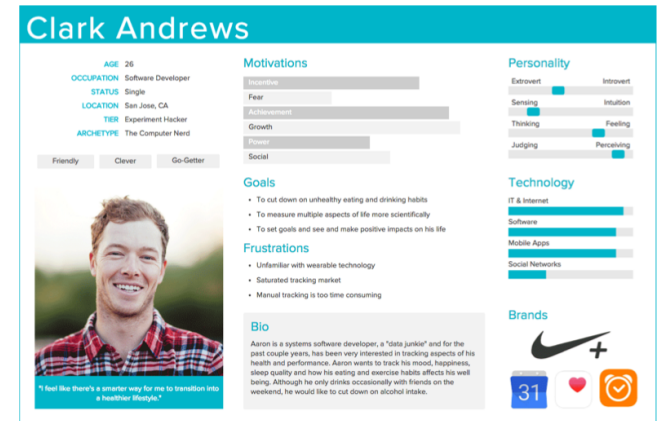
Story Map of Product Features

[Cayenne Apps, *5 Steps to Building Minimum Viable Product with Story Mapping*]
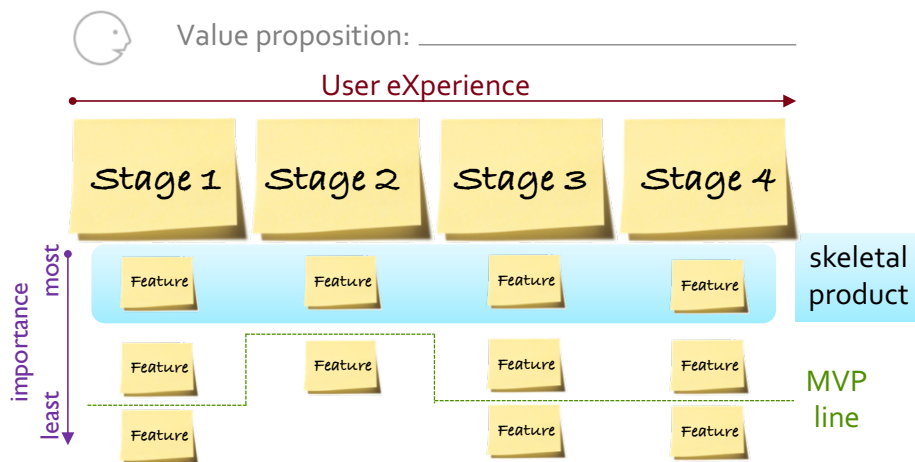
Product Feature List

1. Attach user stories to non-navigational features

2. Assign team members to feature implementations

3. List all 3rd-party libraries and tools used

If the full feature list is equivalent to attaching a mobile list viewer on a spreadsheet or a couple of relational database tables, your project may only get a C grade