Lecture 2: September 6

Discovery and Research

Reminders

- Project ideas due by Sunday night - start with today's brainstorming as baseline to have conversations with mentors/instructors week of September 11th
  - (we'll send out a google form later this week)
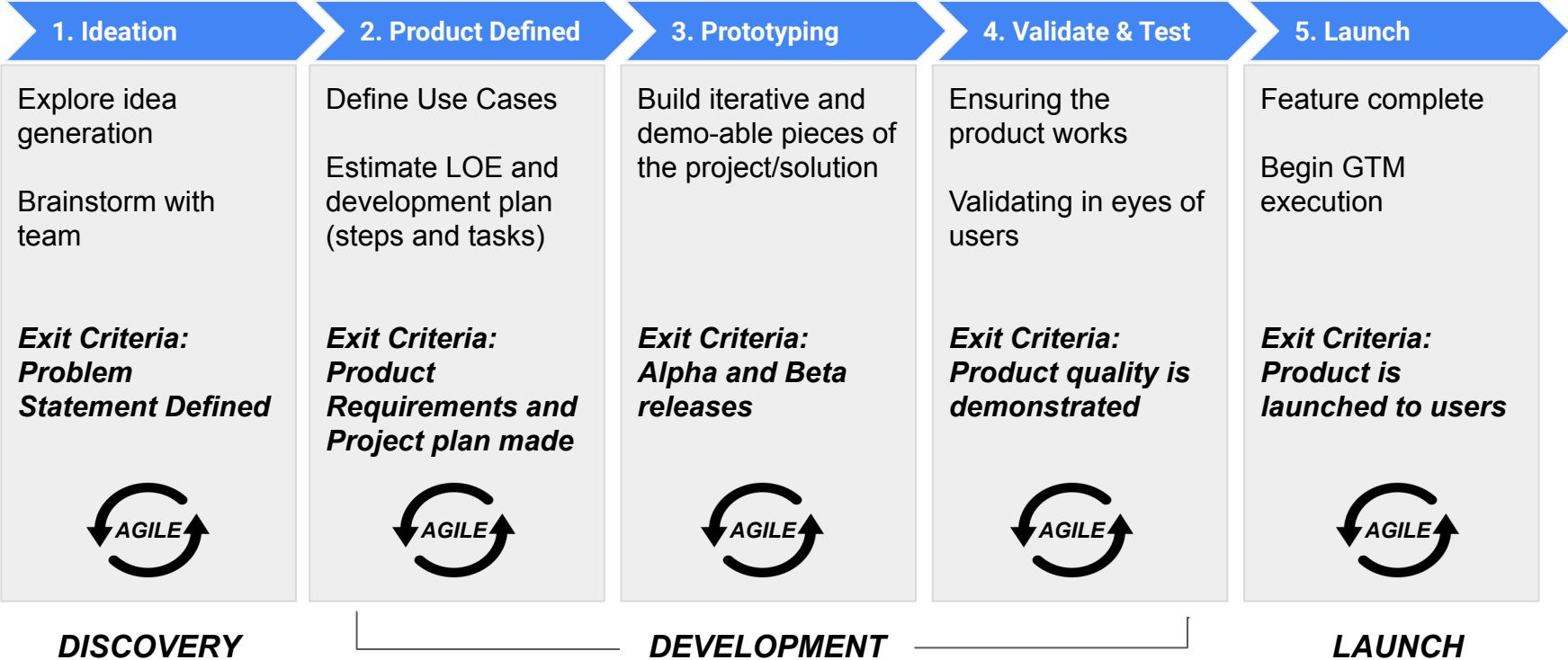- Resumes due by Sunday night

Agenda

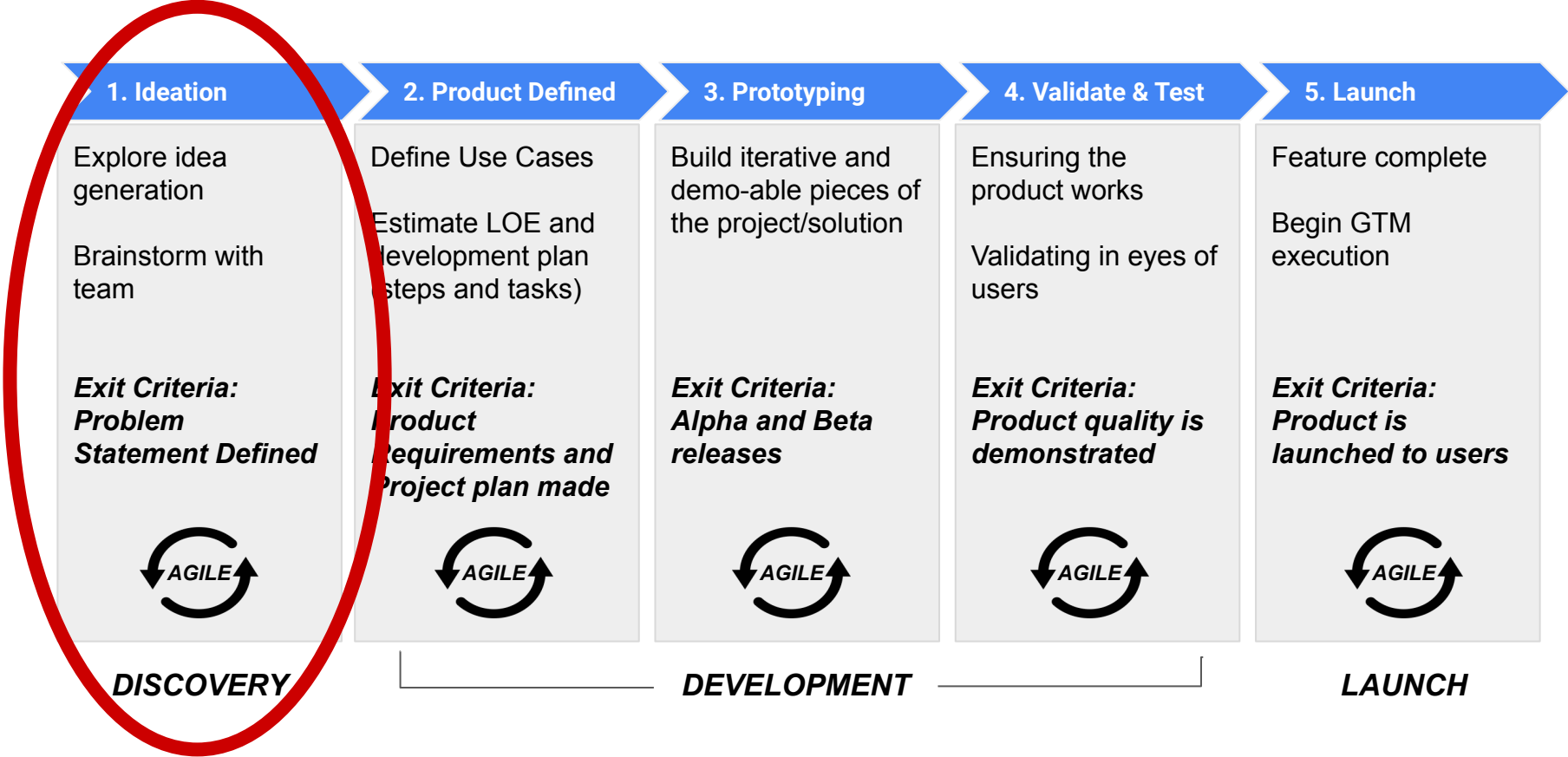Senior Design Project Timeline

Trello Board Walkthrough

Lecture
- Research and Discovery Phase
- Key Questions to Ask
- Goals & Success
- Research Methodologies
- Working with Clients / Customers
- Roles: UX Researcher, UX Designer, Data Scientist

Product Development Lifecycle

1. Ideation	2. Product Defined	3. Prototyping	4. Validate & Test	5. Launch
Explore idea generation Brainstorm with team ***Exit Criteria: Problem Statement Defined***	Define Use Cases Estimate LOE and development plan (steps and tasks) ***Exit Criteria: Product Requirements and Project plan made***	Build iterative and demo-able pieces of the project/solution ***Exit Criteria: Alpha and Beta releases***	Ensuring the product works Validating in eyes of users ***Exit Criteria: Product quality is demonstrated***	Feature complete Begin GTM execution ***Exit Criteria: Product is launched to users***
AGILE	AGILE	AGILE	AGILE	AGILE

DISCOVERY   *DEVELOPMENT*   *LAUNCH*

Discovery Phase

1. Ideation	2. Product Defined	3. Prototyping	4. Validate & Test	5. Launch
Explore idea generation	Define Use Cases	Build iterative and demo-able pieces of the project/solution	Ensuring the product works	Feature complete
Brainstorm with team	Estimate LOE and development plan (steps and tasks)		Validating in eyes of users	Begin GTM execution
Exit Criteria: Problem Statement Defined	**Exit Criteria: Product Requirements and Project plan made**	**Exit Criteria: Alpha and Beta releases**	**Exit Criteria: Product quality is demonstrated**	**Exit Criteria: Product is launched to users**
AGILE	AGILE	AGILE	AGILE	AGILE

DISCOVERY   *DEVELOPMENT*   *LAUNCH*

Industry approaches to product discovery

Top-down

Leadership sets Objectives or "Top Projects" and team executes on solutions to those objectives / project ideas

Pros: Often aligns with broader business goals, more strategic

Cons: Can be disconnected from on-the-ground realities or actual user needs

Bottoms-up

Product team pitches roadmaps to leadership and priorities are set based on those ideas

Pros: Tends to be more user-centric, can uncover unique opportunities, often more agile

Cons: Risks being too narrow or not aligning with broader strategy

These approaches aren't necessarily exclusive

Key Questions to Begin Discovery

Problem-centric Questions

User-centric Questions

Market-centric Questions

Problem-centric Questions

Questions
What problem are we solving?
Who faces this problem?

Top-down:
Senior leadership or stakeholders identify a broad issue or market opportunity, and teams work to define the specifics. Often relies on market trends or competitive pressures.

Bottom-up:
Teams or individuals identify problems through their own experiences or insights. Can be more grassroots, originating from customer feedback or frontline observations.

User-centric Questions

Questions
Who are our users?
What are their needs, habits, and pain points?

Top-down:
Use broad market segments or personas defined by corporate strategy or marketing insights.

Bottom-up:
Gathered from direct user engagement (user interviews, feedback, ethnographic research). Often more granular and specific.

Market-centric Questions

Questions
What are the existing solutions?
What is the market opportunity?

Top-down:
Driven by market research reports, competitive analyses, and larger industry trends.
May involve third-party consultants / research firms.

Bottom-up:
Grounded in direct observations of user behavior, competitor product analysis, and grassroots market feedback.

Team Workshop

What problems do you want to solve?
Who are your users?

(don't worry about your solution yet)

What are our goals, how do we measure success?

From [Project Criteria](), projects must include:

- Technical Challenges

- Algorithmic Components

GIST Framework

GIST: Goals, Ideas, Steps, and Tasks

Goals: What do we want to achieve?

Ideas: How can we achieve these goals?

Steps: Later lecture

Tasks: Later lecture

OKRs & KPIs

Objective & Key Results

Objective: The "goal" – what we aim to achieve

Key Results: Measures of "success" – how we know we're on track. If we hit all key results, we achieve our goal

Key Performance Indicators

Concrete metrics that track performance in specific areas

Support and feed into OKRs by providing data to evaluate key results

More operational and consistent, allowing teams to monitor & adjust in real-team

Success at different levels

Are there **company-wide goals** (OKRs) that this project needs to align with?

- Based on product stage: Introduction, Growth, Maturity, Decline
- Based on customer journey: Awareness, Consideration, Conversion, Loyalty, Advocacy

Does my **team** have goals we want to hit?

- Improve certain metric (KPI)
- Implement new framework
- Etc.

Is there anything I, **myself**, want to get out of this project?

- Learn something new

Team Workshop

What are your project goals?
What are your team goals?
What are your individual goals?

How are you going to solve your project goal?
(What is your solution!)

In your groups, brainstorm these questions in a shared document, scratch paper, or even the room's whiteboards. Be sure to SAVE your notes!

September Goal

**Answer the question:
What are you building and why?**

Discovery and Research Methods

If we have a product, what can our product already tell us about the problems?
If we don't have a product, how can we learn more about the problems?

Goal: ensure product decisions are user-centric, data-driven, and aligned with market needs

Research Methods:
- Qualitative approaches: focus on the why (user behavior)
- Quantitative approaches: focus on the what (patterns in data)

Qualitative vs Quantitative approaches

Qualitative

- Deals with descriptions & interpretations
- Offers insights into user behavior & motivations
- Understand the "why"

Quantitative

- Deals with measurable data to formulate facts & uncover patterns
- Provides broad, measurable insights
- Understand the "what"

Discovery and Research Methods

Qualitative Tests

- Usability Testing
- User Interviews
- Conferences, Social Events
- Competitive Research

Quantitative Research

- User surveys
- User billing, segmentation data
- Product data
- A/B Testing

Considerations when choosing research methods:

- Market size, Customer population size
- Type of product
- Cost

Research tradeoffs by customer

B2B

- Small customer pool
- Intimate convos
- Higher value per customer

B2C

- Large customer pool
- More quantitative methods used
- Lower value per customer

Research

- More explicit user groups

B2B2C, B2G, and more…

Team Workshop

Competitive Research: what problems are already being addressed? How do others solve those problems?

In your groups, brainstorm these questions in a shared document, scratch paper, or even the room's whiteboards. Be sure to SAVE your notes!

Role: UX Researcher

Who? Roles and Responsibilities?

- Uncovers user behaviors, needs and motivations to make products, services and websites more intuitive and enjoyable for users

- Uses qualitative and quantitative methods, they conduct comprehensive research

- Share the insights from research with the UX designers

- Works with Product Managers, Designers, and Engineers

Role: UX Designer

Who? Roles and Responsibilities?

- Builds out UX ideas, prototypes, and designs based on the product's problem to be solved and success criteria

- Collaborates with Product team in order to enable engineers to build technical solution

- Works with Product Managers, Engineers, and other project/product team members

Role: Data Scientist / Analyst

Who? Roles and Responsibilities?

- Find patterns and trends in datasets to uncover insights

- Create algorithms and data models to forecast outcomes

- Deploy data tools

- Share insights with org and team

- *Scientist*: Works to create data vision and strategy for organizations

- *Analyst*: Usually works with a team to help uncover findings based on team's needs

For Next Week

- Form teams & have a rough project idea

- Fill out student survey (so I can send you September Trello Boards!)

- Be prepared to meet with your mentors after Wednesday lab