# GenAI Coding for Ideation / Concept Demos

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Today

- Brief sketch of the design process

- HW 5 Prelab + Vibe Coding

- Upcoming deliverables

  - Homework 5 (prelab) due TODAY at 11:59pm

  - Homework 5 (individual) due SATURDAY at 11:59pm

  - Homework 5 (team) due NEXT MONDAY at 11:59pm

Brief sketch of the design process

We are going to touch on using GenAI for coding, but I want to contextualize it within the broader design process
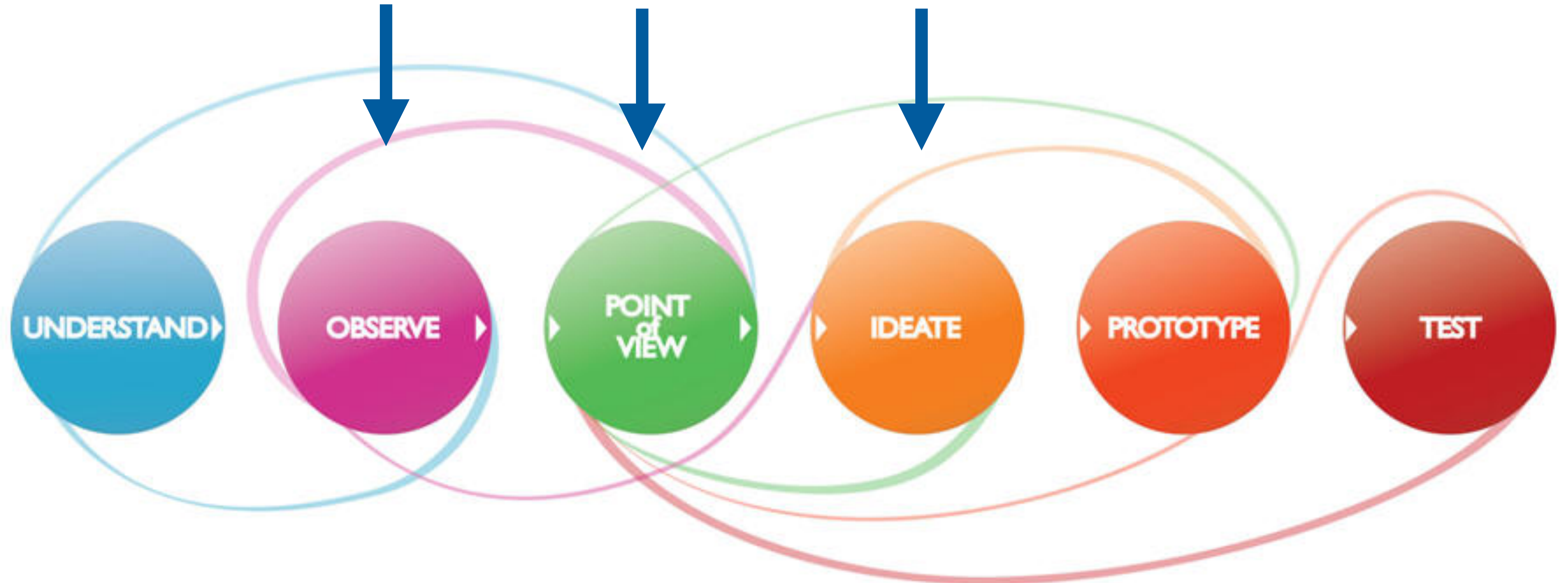
UNDERSTAND ▸ OBSERVE ▸ POINT of VIEW ▸ IDEATE ▸ PROTOTYPE ▸ TEST
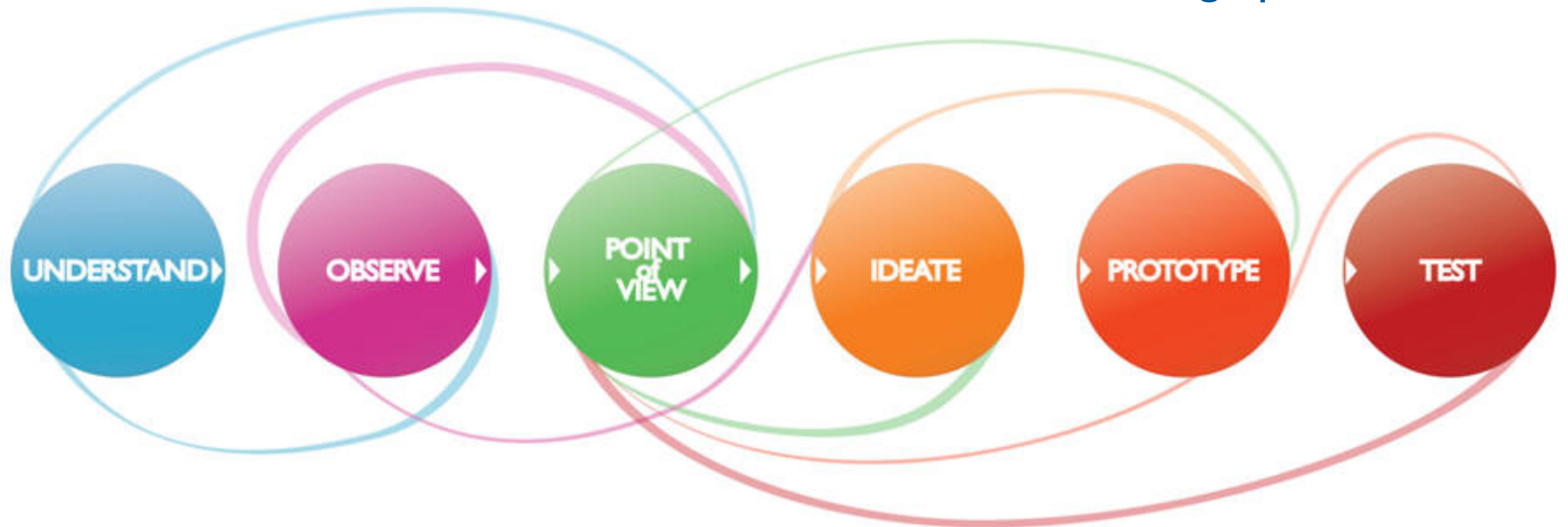
articulate the problem   develop a solution

Ideation

Ideation is about

Building innovation potential (a starting seed), not necessarily finding that one great idea,

Separate framing

Observations, Point of Views

from brainstorming

How-Might-We, Solutions

A point of view

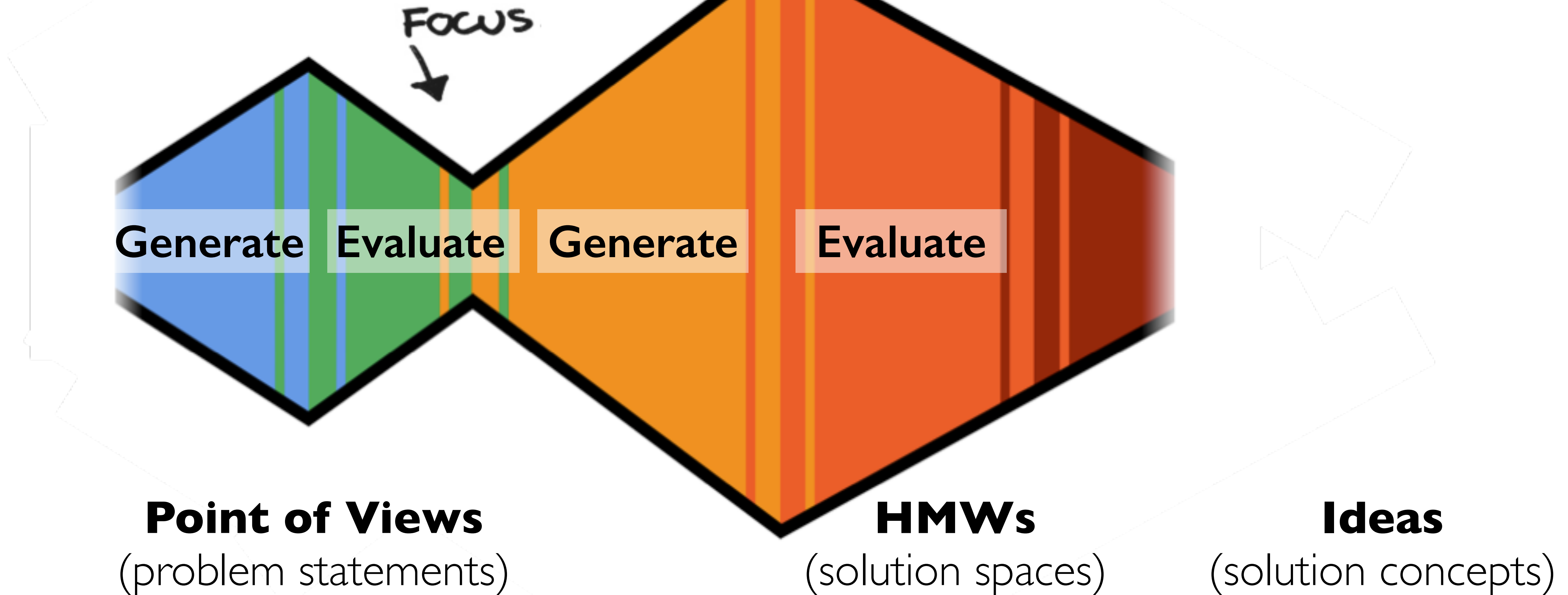A unique, concise reframing of the problem that is grounded in user needs & insights.

- Who is the specific user?

- What is their **specific need?**

- What is the **specific insight?**

Challenge: Redesign the ground experience at the local international airport

POV: Harried mother of three, rushing through the airport only to wait hours at the gate, needs to entertain her playful children because "annoying little brats" only irritate already frustrated fellow passengers.

Separate generation from evaluation

FLARE!

FOCUS

Generate | **Evaluate** | **Generate** | **Evaluate**

Point of Views
(problem statements)

HMWs
(solution spaces)

Ideas
(solution concepts)

How to think about which jobs to tackle in the JTBD framework.

"How might we…?" questions

- Turn large needs into actionable charges
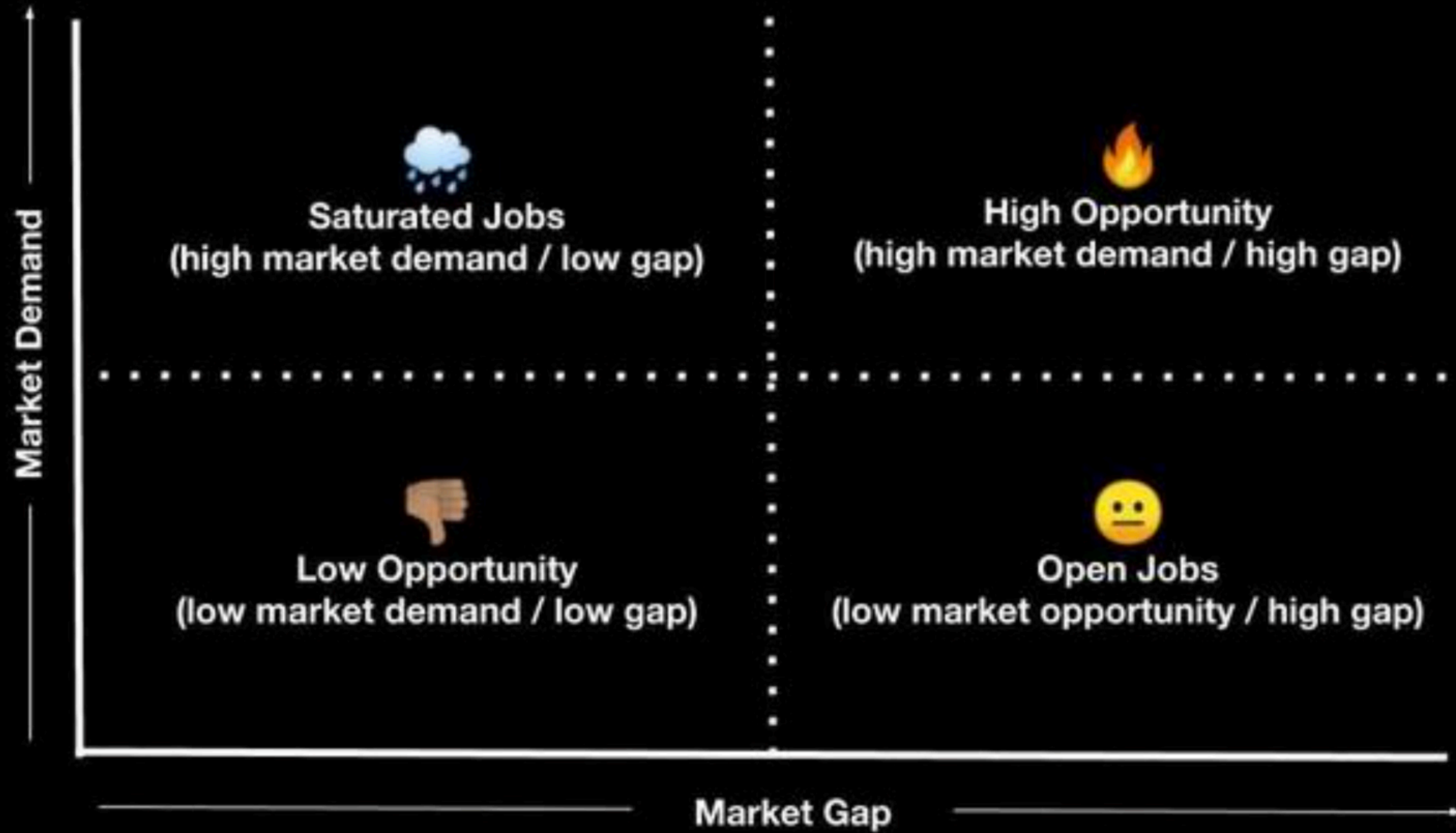
- A useful way to ground a brainstorm

EXAMPLE

Challenge: Redesign the ground experience at the local international airport
POV: Harried mother of three, rushing through the airport only to wait hours at the gate, needs to entertain her playful children because "annoying little brats" only irritate already frustrated fellow passengers.

Amp up the good: HMW use the kids' energy to entertain fellow passenger?
Remove the bad: HMW separate the kids from fellow passengers?
Explore the opposite: HMW make the wait the most exciting part of the trip?
Question an assumption: HMW entirely remove the wait time at the airport?
Go after adjectives: HMW we make the rush refreshing instead of harrying?

Defer judgment

Go for quantity

Build on others (yes, and)

Prototyping

You have some ideas. Now what?

Your ideas are guesses

You've learned a lot about the rich user context during needfinding, but you still have many assumptions and there may still be more important context that will determine viability.

What is the purpose of a prototype?

Prototypes are not demos.

Though this is what is temping: brainstorm, select, and then create.

Prototypes are questions.

When you are done with a prototype, you have answered its question.

Good questions are focused.

Be rapid. Be ruthless. Strip out everything less important.
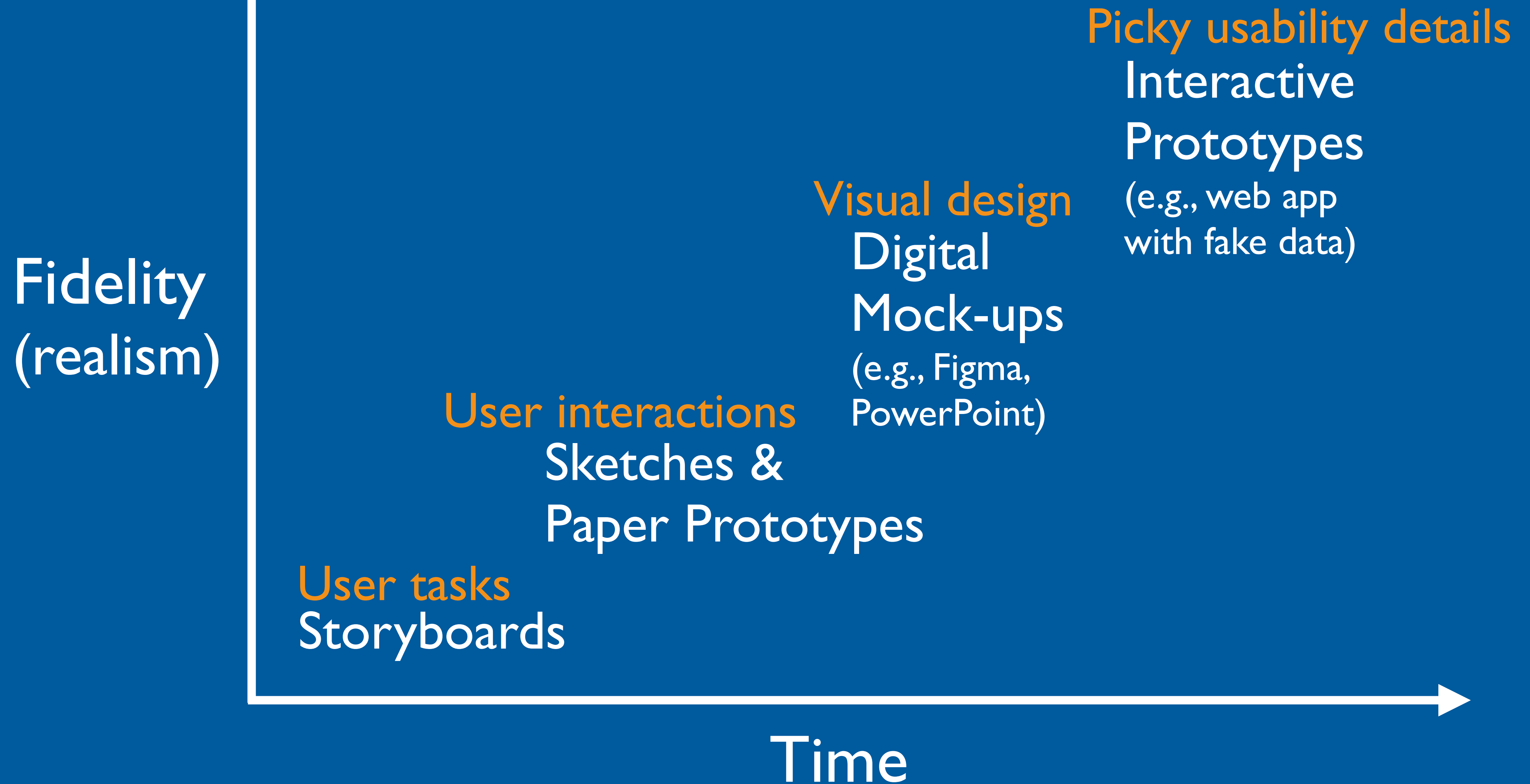
A site for paired cultural exchanges

What's the most important first question? What do you prototype first?

Start by testing the experience

- Test how they interact to an *experience* rather than just having them intellectually judge something you describe

- Looking for a reaction, strong or otherwise, to your concept

- Then follow-up with an interview to unpack nuances of need

  - What they *think* and *feel* during the experience.

  - What this reveals of *motivations, values, context.*

After experience, *then* can move to product design of interface and interactions

Common app prototyping flow

Fidelity (realism)

Time

User tasks
Storyboards

User interactions
Sketches &
Paper Prototypes

Visual design
Digital
Mock-ups
(e.g., Figma,
PowerPoint)

Picky usability details
Interactive
Prototypes
(e.g., web app
with fake data)

Vibe coding

- Generative AI can be used to support coding

- Typically, you still need coding experience

- However, it can be useful for generating a quick prototype to visualize an experience or concept

Prelab overview

LLM Code Generation For Demo Creation

TIM 175 WEEK 5 PRELAB

Brief Task Overview

Complete the following activities to understand methods for creating demos with LLMs:

1. Set up your [Bolt](#) account
2. Create a one-shot prompt to generate a YouTube homepage
3. Customize your Youtube like homepage with follow-up prompts
4. Explore other demo-creation tools including [v0](#), [replit](#), [Gemini](#), and [ChatGPT](#)
5. Brainstorm an idea for a new demo
6. Generate and iterate on your demo

Activity 1: Creating a Customized Copy of the YouTube Homepage

Bolt is a platform that lets you create interactive product demos quickly, no coding required! In this activity, you will create a demo of a YouTube homepage. Let's get started!

First, set up your Bolt account:
- Go to https://bolt.new/
- Create an account using your email

Task 1: Try a one-shot prompt

In Bolt, enter the prompt "Please create a YouTube-like homepage". Take note of what happens next, and how it differs from entering a prompt into traditional LLM-powered chatbots.

Task 2: Customize your homepage

WARNING: Bolt does have a limit of **150K tokens per day**! Be mindful of this as you create your homepage. You can check the amount of tokens you have used in Settings > Tokens

Using follow-up prompts, (don't start a new chat) make the following changes:
1. Change the background color of the page
2. Change the site title
3. Change the number of videos per row
4. Add an explosion of confetti whenever the mouse is clicked

Once you've made all these modifications, <u>implement 2 additional changes</u>. These can be similar to the ones above, or something completely different. Get creative!
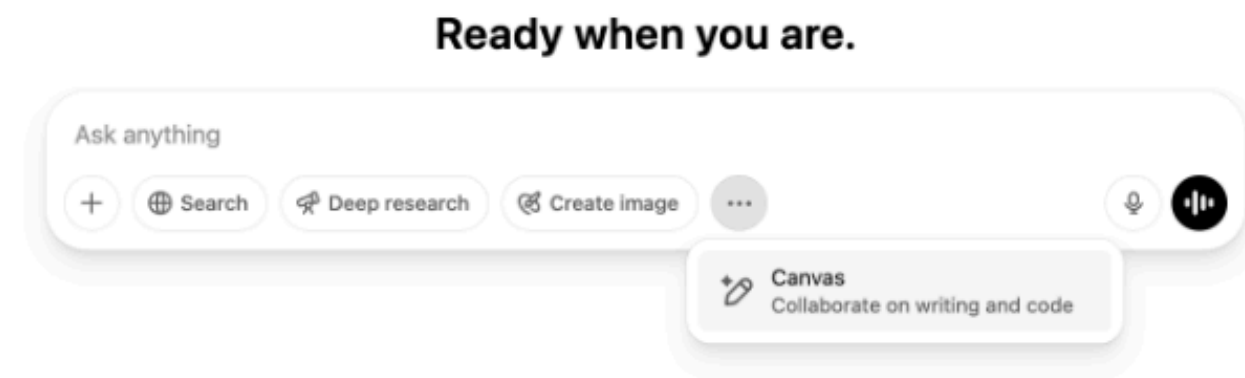
Activity 2: Explore Additional Tools

In addition to Bolt, there are a variety of similar tools you can use to create demos. Each will have its own strengths and weaknesses, so it's important to find a tool that works for you.

Task: Test Prompt on different sites:

Test the one-shot prompt "Please create a YouTube-like homepage" on each of the following tools:

- https://v0.dev
- https://replit.com
- https://gemini.google/overview/canvas
- https://chatgpt.com ← make sure to select ChatGPT-4o and "Canvas" from the chat box

Note: there are currently a lot of free plans for students who sign up soon. I'd highly recommend you to do so as it's a great opportunity: Gemini Advanced (till June 30), ChatGPT Plus (till May 31)

Activity 3: Create a Small Demo of Your Choosing

Now that you've had practice creating a demo, it's your turn to make a new demo from scratch! You can use whatever tool you'd like.

> **NOTE:** If you ran out of tokens for Bolt, they should refresh at the end of the day and you can create the demo the next day. But you are welcome to use any of the other demo-creation tools for this activity.

Task 1: Create an idea for a demo

Take 5 minutes to brainstorm an idea for your own demo. This could be a website, game, data visualization, really anything you want. Try to create something unique, but if you can't think of anything you can draw inspiration from existing things (like we did above). You could also begin to explore visualizations that relate to the What-To-Be podcast annotation dataset we've been creating as this is what we will eventually be doing in the lab.

Task 2: Write a prompt to generate your demo

Once you have an idea nailed down, create a prompt that captures as many aspects as you can. Don't worry too much about implementing prompting techniques, since this prompt will only need to be run once it's ok for it to be simple. Once your prompt is written, try it out on any of the tools we've used thus far.

Initial Prompt:

Task 3: Iterate on your demo

Once your first draft is complete, play around with your demo and see how well the model did. After testing your demo, iterate on it by adding at least 3 follow-up prompts to get it closer to your initial idea.