

Product Specs & Wireframes

Unit 7

Agenda

00

Product Spec Design

01

Wireframing

02

Lab

03

Project Preview



Discussion Prompt

We're about to start our project! What are some of your **favorite apps** to use, and **what makes them so good?**

10 minutes

Common App Categories

- * Education
- * Productivity
- * Travel
- * Health & Fitness
- * Social
- * Entertainment

How to Evaluate App Ideas



1. **Mobile:** How uniquely mobile is the product experience?
 - + More than a glorified website
 - + Two or more of: maps, camera, location, audio, sensors, push, real-time, etc

How to Evaluate App Ideas



2. **Story:** How compelling is the story around this app?
 - + Clear value to audience
 - + Friends and peers would respond well to app

How to Evaluate App Ideas



3. **Market:** How large or unique is the market for this app?
 - + Large size and scale of potential user base
 - + Provides huge value to a niche group
 - + Audience is well defined

How to Evaluate App Ideas

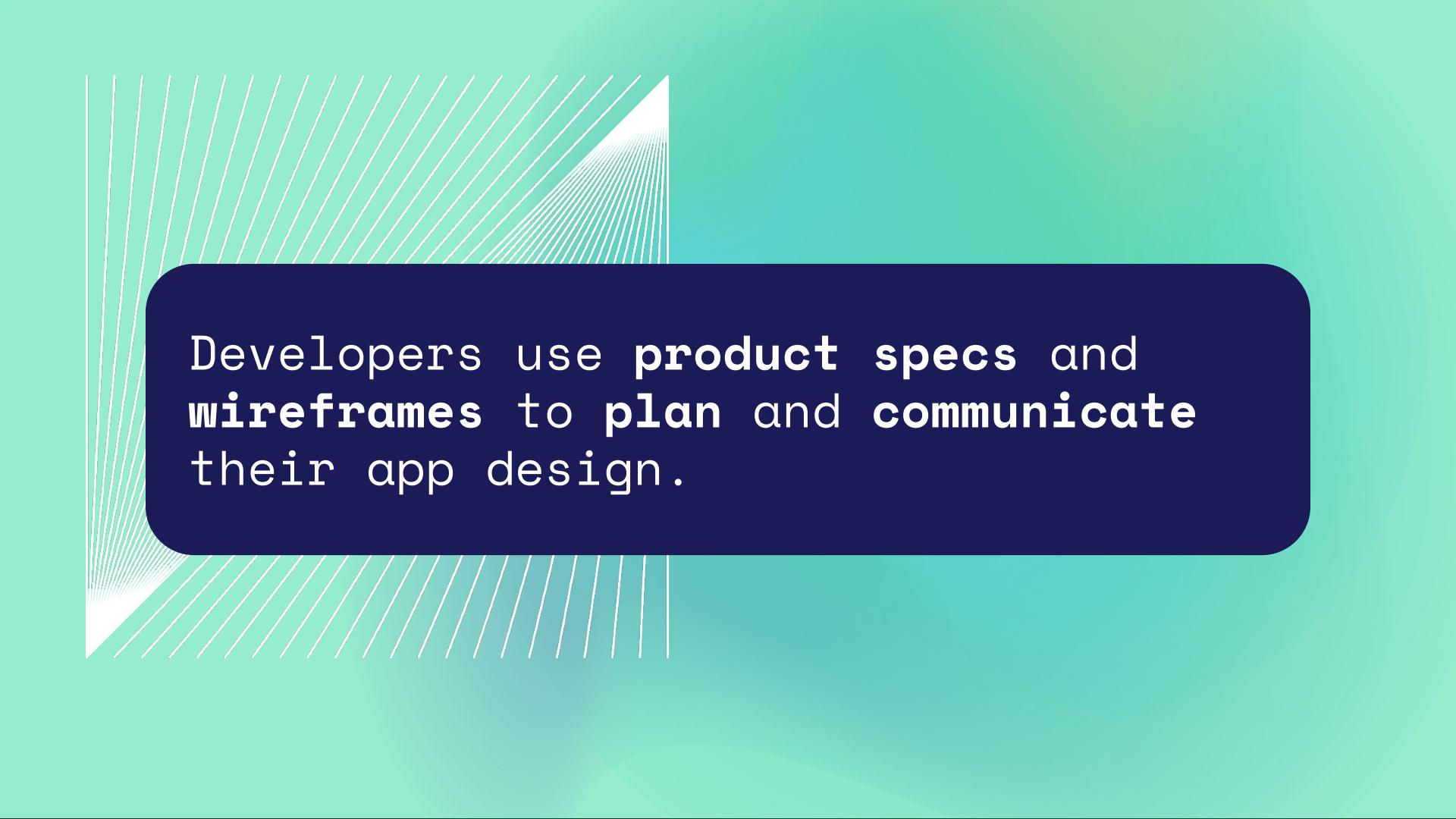


4. **Habit:** How habit-forming or addictive is this app?
 - + Average user opens app frequently
 - + Average user creates as well as consumes content

How to Evaluate App Ideas



5. **Scope:** How well-formed is the scope for this app?
 - + Appropriately technically challenging for time bounds
 - + Stripped down version of app still interesting to build
 - + Product is clearly defined



Developers use **product specs** and **wireframes** to **plan** and **communicate** their app design.

00

Product Spec Design

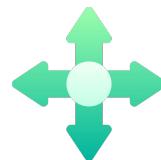
Three Components of a Product Spec



User Features



Screens



Navigation



User Features

- * An **end goal** expressed from the **user perspective**
- * Include **required** (must have) and **optional** (nice to have) features
- * Examples:
 - The user can **post** a new photo to their feed
 - The user can **rate** a restaurant
 - The user can **search** for items in previous entries

* **User Features** are sometimes also called **User Stories**

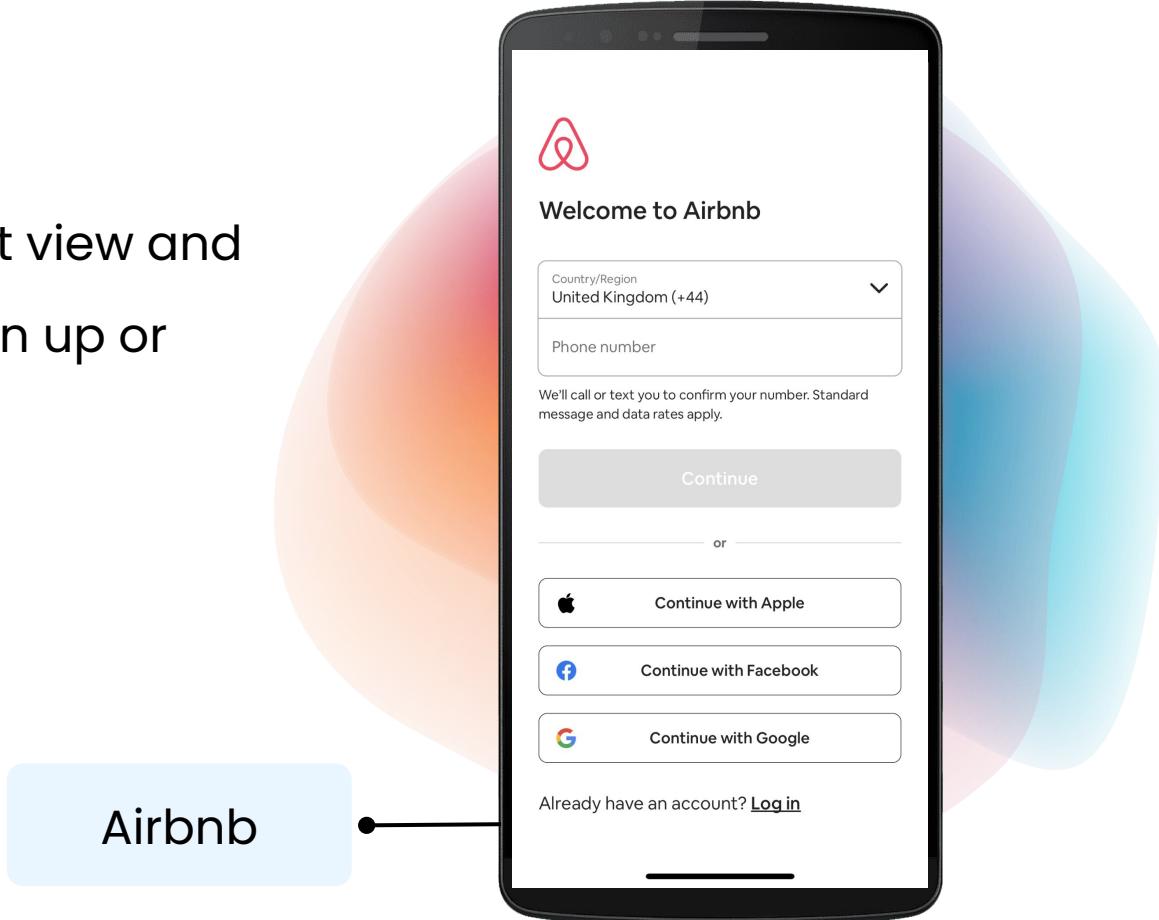


Screen Archetypes

- * Mobile apps tend to use a **standard set of screen types**
- * **Six** core types:
 - o Login
 - o Stream
 - o Detail
 - o Creation
 - o Profile
 - o Settings

Login

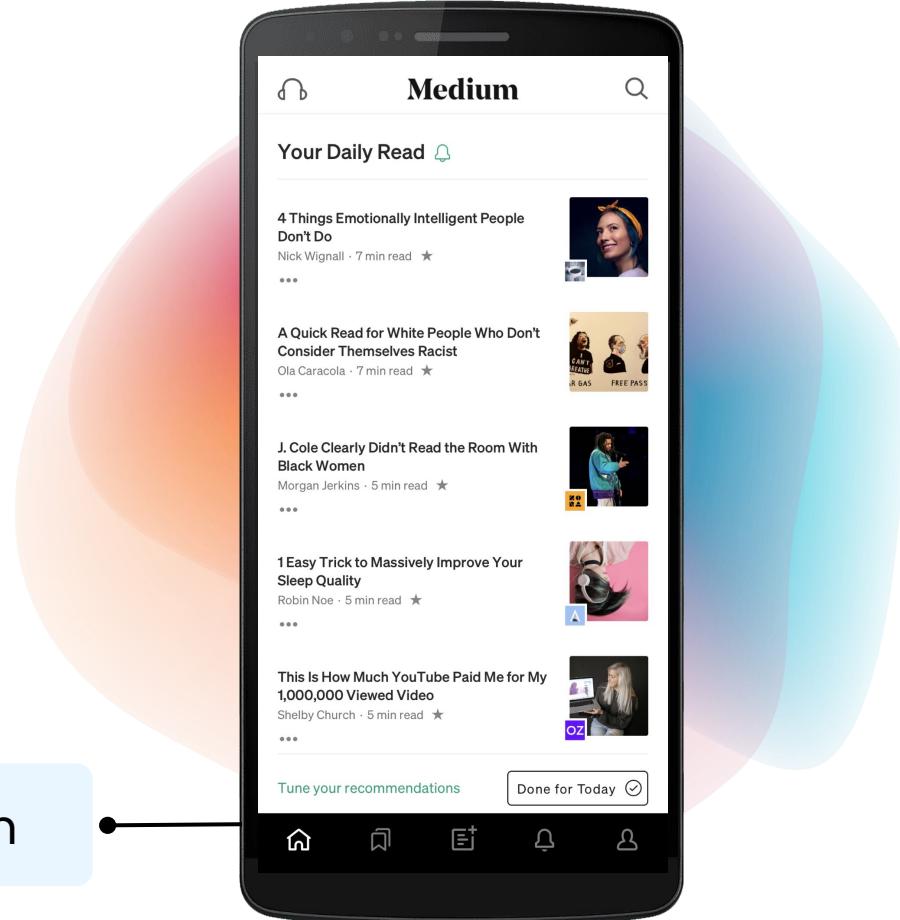
- * **Presents** a signed out view and
- * **Allows** the user to sign up or log into their account



Stream

- * **Contains** the primary content the user consumes
- * **Often presented** as a list of discrete items
- * **Allows** users to scroll through the list

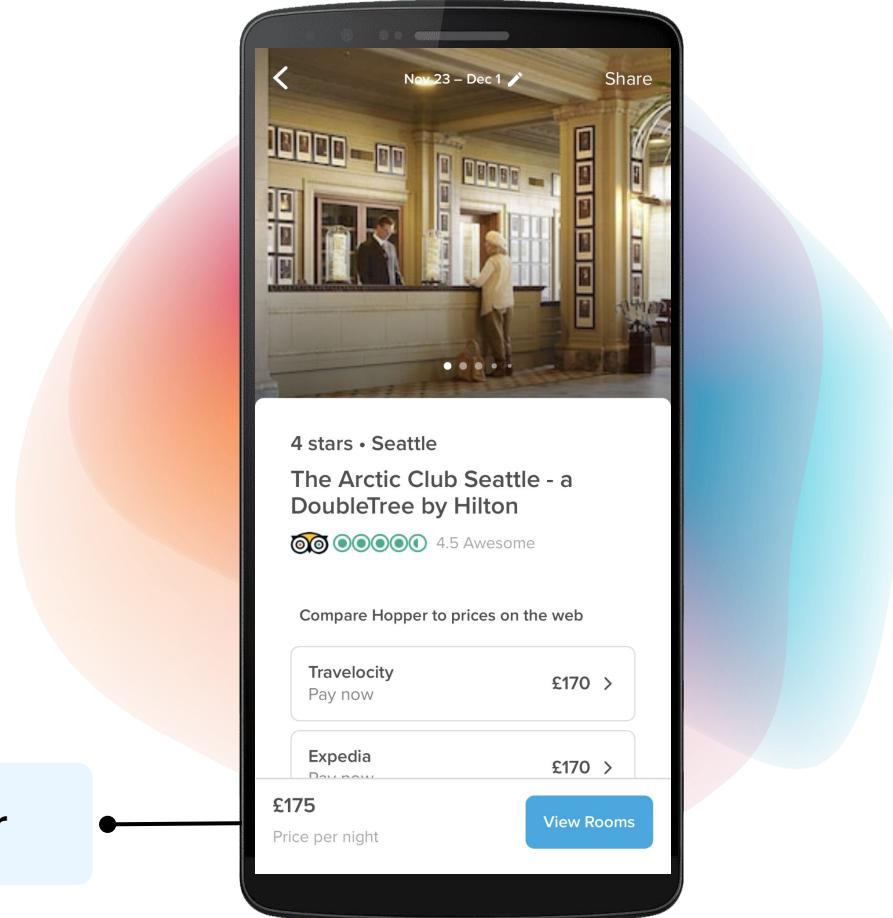
Medium



Detail

- * **Displays** all relevant information about a single discrete item
- * **Often contains** additional data not displayed in the stream view

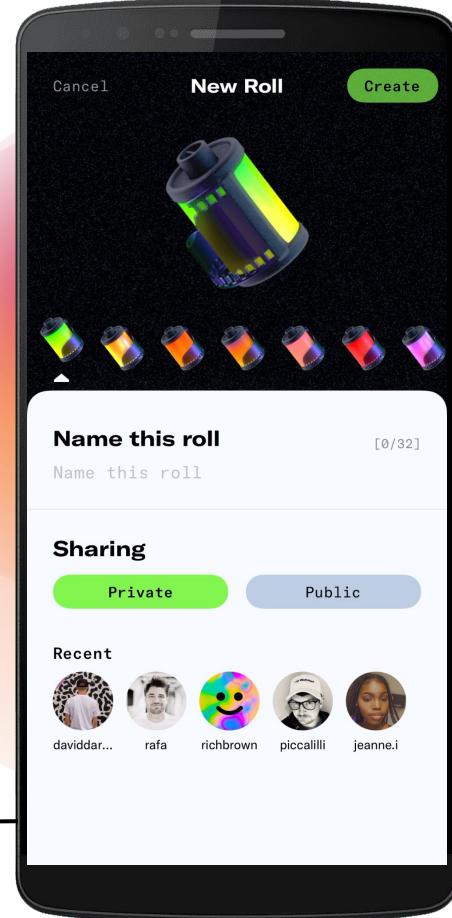
Hopper



Creation

- * **Allows** the user to create a new item by filling in all relevant properties

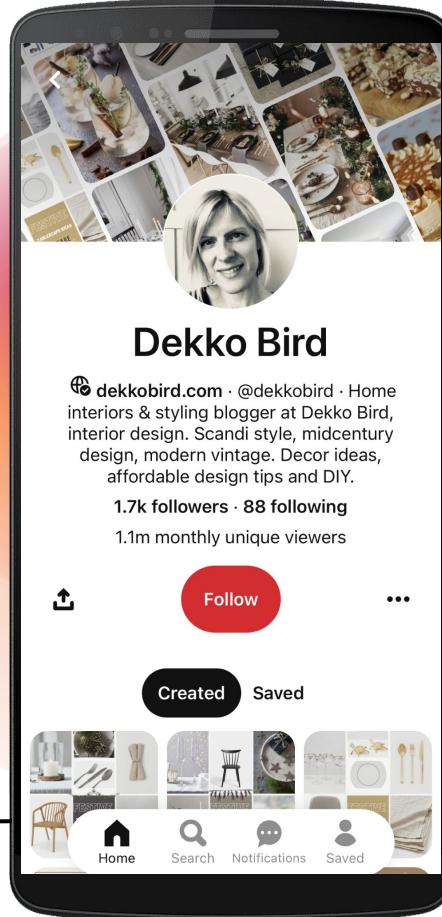
Dispo



Profile

- * **Allows** the user to view information about their account
- * **Provides** account-related action items

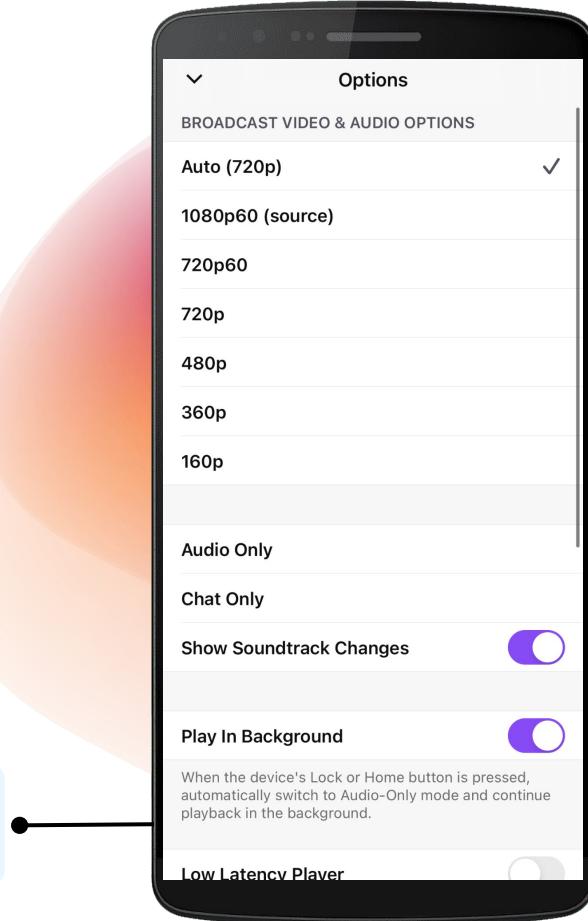
Pinterest



Settings

- * **Allows** the user to tune preferences associated with the behavior of the app

Twitch





Navigation

- * **Describes** paths that allow the user to move between screens
- * **Decide** how you want to use **tab**, **flow**, and **bottom navigation**
- * Use the **hierarchy of information** in your app to determine the **best type(s) of navigation**



Thinking Through Navigation Hierarchy

Component	Use for	Destinations	Devices
Navigation drawer	Top-level destinations	5+	Mobile, Tablet, Desktop
Bottom navigation bar	Top-level destinations	3-5	Mobile
Tabs	Any level of hierarchy	2+	Mobile, Tablet, Desktop

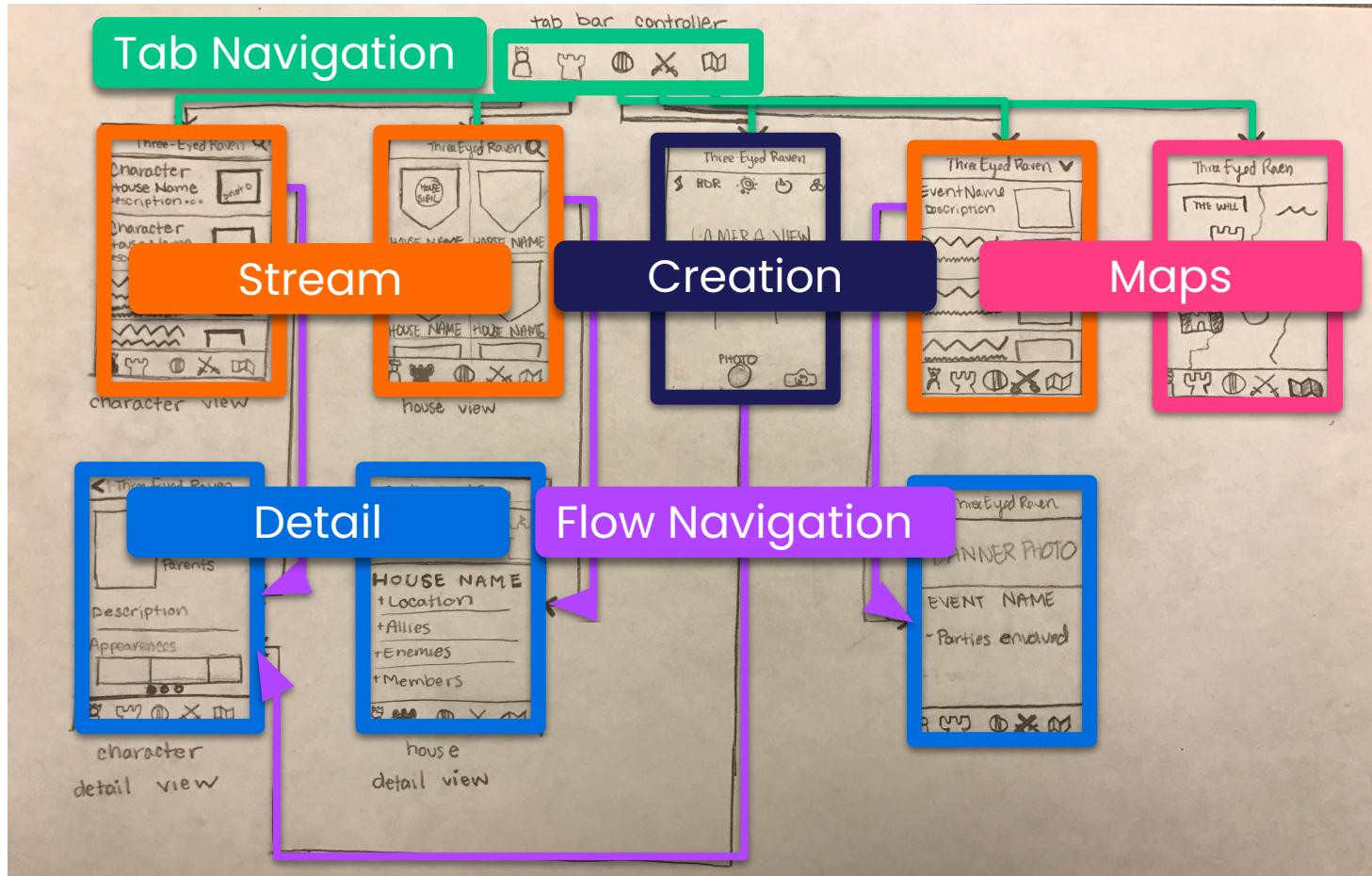
01

Wireframing

The purpose of wireframes is to...

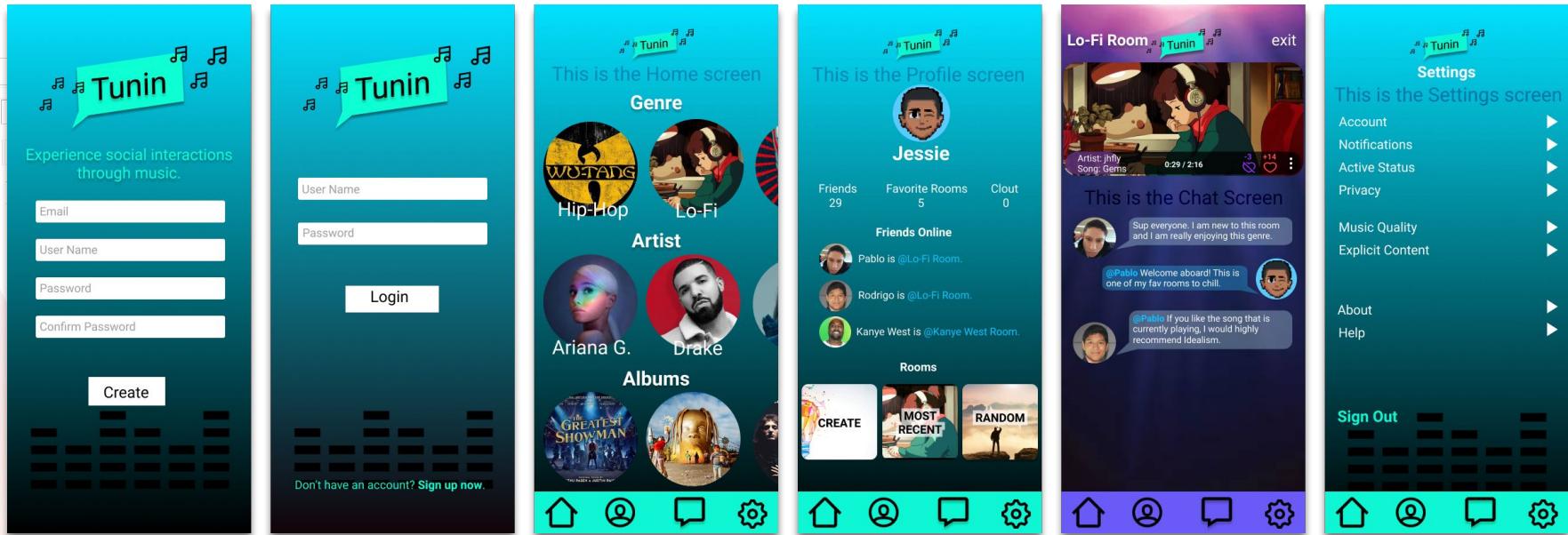
1. **Show how** various screens **connect** and **flow** together
2. **Explain what information** is displayed and **how** it is displayed
3. **Demonstrate how** users **interact** with each screen
4. **Allow for quick iteration** before investing in higher fidelity designs
 - a. Saves on overall costs and design/development time

Wireframe Example



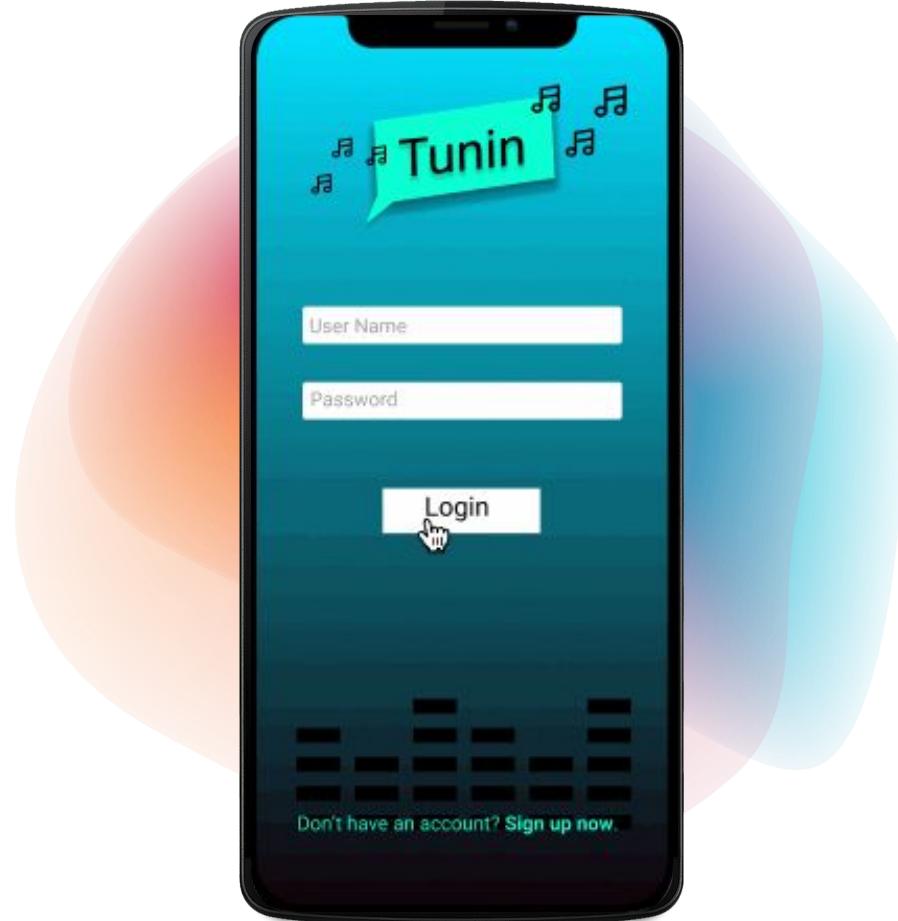
Digital Wireframes - Figma

Figma is a great tool for **collaboratively creating designs**



Interactive Prototype using Figma

A ***click-through interactive prototype*** provides a more realistic representation of your app's flows and function.





Let's try it!

Create a HackMD file and invite others for collaboration, then check out Figma for wireframing.

02

Milestone 1 Planning + Group Project Work

Project Work Time

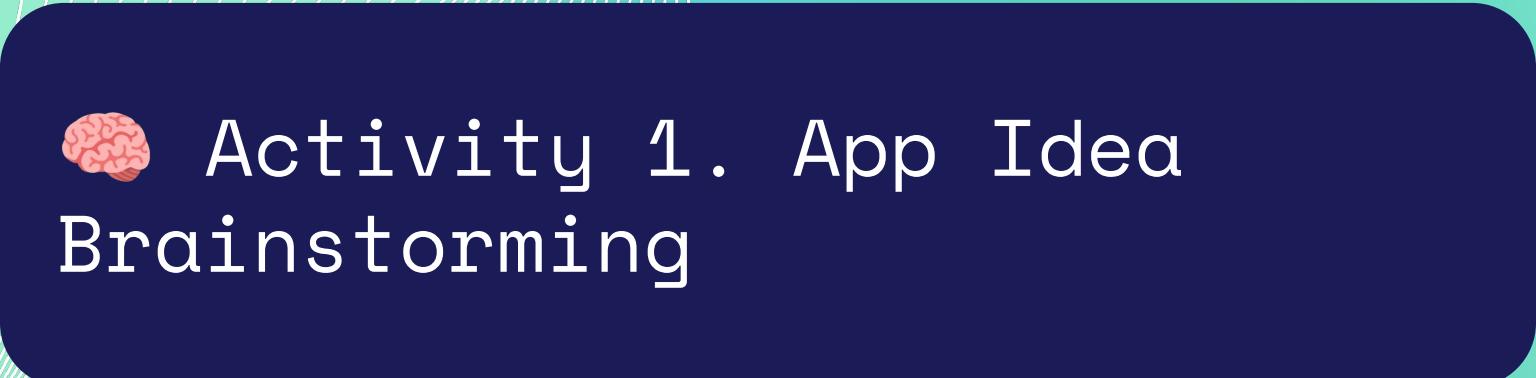
Starting now, our labs are primarily focused on your group project. You will:

- * **Work** collaboratively with your group
- * **Get started** on your three part project:
 - Brainstorming
 - Product Spec
 - Wireframing

Milestone 1

Milestone 1 consists of three different activities:

- *  Activity 1: App Idea Brainstorming
- *  Activity 2: Product Spec-ing
- *  Activity 3: App Wireframing



Activity 1. App Idea Brainstorming

Activity 1: App Idea Brainstorming

You'll split into your project groups to work on the first part of your milestone:

1. Brainstorm in your HackMD doc
2. Evaluate your app ideas
3. Document 3 evaluated ideas from Step 2
4. Pick 1 of them to be your final group project idea



Activity 1: App Idea Brainstorming

We provide an example of what this should look like in the Course Portal:

```
1  ↴ Mobile App Dev - App Brainstorming Example
2  ===
3
4  ↴ ## Favorite Existing Apps - List
5  1. Instagram
6  1. Wag
7  1. Rover
8  1. Coinbase
9  1. Waze
10 1. Notes
11 1. Messages
12 1. Facebook Messenger
13 1. Craigslist Client
14 1. Yelp
15
16 ↴ ## Favorite Existing Apps - Categorize and Evaluate
17 ↴ ### Instagram
18   - **Category:** Photo & Video / Social
19   - **Mobile:** Website is view only, uses camera, mobile
first experience.
20   - **Story:** Allows users to share their lives in pictures
and enhance their content with filters
21   - **Market:** Anyone that takes pictures could enjoy this
app. Ability to follow and hashtag based on interests and
categories allows users with unique interests to engage with
relevant content.
```

Before You Go: Set up your Github Repo

- * Your first step should be to create an organization for your group and a repo to manage your project.
- * The Portal has instructions in Activity 2, but we'll go over the first couple steps right now in advance.

Github Setup Pt 1

Let's break down the steps together:

- * Designate a group member to create an organization on Github.
- * Create your organization by going to Settings → Access → Organizations → New organization
- * Choose a name for your organization and select the Free plan.
- * Invite each group member to the organization, making sure they have write access permissions.

Github Setup Pt 2

Steps continued:

- * Create a new repo.
- * Choose a name for your repo and choose, "initialize with README".
- * Change the repository to be private.
- * **Add the `codepathreview` account as a collaborator for the repository.**



This is a very common problem! Students forget to add `codepathreview` as a collaborator, which prevents them from grading your work.



Breakout Rooms

60 minutes

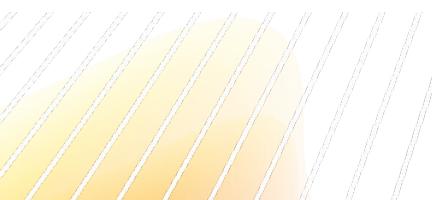
Get in your groups, introduce yourselves, and get started! Navigate to your [Unit 7 Course Portal page](#).

- * Before you do anything, set up your github together and give collaborator access to `codepathreview`
- * Follow the structure provided in your [template readme](#).

Questions?

Post on Slack
and tag:

@android-help





Progress Check: Activity 1



What you should have by the end of this session:

- A hackMD page containing:
 - Brainstorming ideas from Step 1
 - 3 evaluated ideas from Step 2 (*These must use the app evaluation attributes: Mobile, Story, Market, Habit, & Scope*)
 - Your final idea

Your final `brainstorming.md` should be added to the repo you created.



Activity 2: Product Spec-ing



Activity 2: Product Spec-ing

- * Now that you've completed the first activity and have a final idea, we're moving on to the next step: designing your product spec.
- * This is about working with your team to define "What does our app do?"
 - Screens
 - Navigation Flows
 - Features

Activity 2: Product Spec-ing

- * Step 1: Setting Up
- * Step 2: Design your Product Spec
 - Step 2A: Describing User Features
 - Step 2B: Identifying Screen Archetypes
 - Step 2C: Documenting Navigation Flows
- * Step 3: Create Group GitHub Organization
- * Step 4: Update Group Project README – App Description & Spec
- * Step 5: Add Activity 1 doc to Github
- * Step 5: Update Group Info on the Course Portal

A: Describing User Features

- * User features can be thought of as required and optional.
 - Required features → most essential features of your app. This is what is known as a Minimum Viable Product or MVP.
 - Optional features → features that would be "nice to have", but are not **absolutely essential** for the main objective of your app.
- * **Your Turn:** Write down your features and sort them into required or optional. For full credit, you will need to submit at least 3 required and 3 optional features.

B: Identifying Screen Archetypes

- * Every app is composed of many different screens. Based on your required features, the next step is identifying the core screen archetypes, the different screens your app will need in order to function.
- * **Your Turn:** Look through your user features and think about what screen each one will need. **For each screen you define in this step, there should be at least one corresponding user feature.**

B: Identifying Screen Archetypes

Common Screen Archetypes

- * Login / Register - User signs up or logs into their account
- * Stream - User can scroll through important resources in a list
- * Detail - User can view the specifics of a particular resource
- * Creation - User can create a new resource
- * Profile - User can view their identity and stats
- * Settings - User can configure app options

C: Documenting Navigation Flows

- * Next we want to take our screen archetypes and required features and define the navigation within our apps. There are 2 key navigation types within an app:
 - Tab Navigation – User switches between screens by clicking on a tab displayed at the top or bottom of the app.
 - Flow Navigation – User taps on something on a screen and is taken to another screen. From that screen, they can go back to the previous screen, or navigate to another screen.

C: Documenting Navigation Flows

* **Your Turn:** To figure out your navigation flows:

- You should start by listing all Tab Navigation -- what tabs does the app have that users can swap between?
- Next, list all your screens from above. Under each screen, list the screens you can navigate to from that screen.

Step 2 Example: Instagram

2A: Describing User Features

Required and optional features for the popular Instagram app:

Required Must-have Stories

- User can post a new photo to their feed
- User can create a new account
- User can login
- User can search for other users
- User can like a photo
- User can follow/unfollow another user
- User can view a feed of photos

Optional Nice-to-have Stories

- User can add a comment to a photo
- User can tap a photo to view a more detailed photo screen with comments
- User can see trending photos
- User can search for photos by a hashtag
- User can see notifications when their photo is liked or they are followed
- User can see their profile page with their photos
- User can see a list of their followers
- User can see a list of their following
- User can view other user's profiles and see their photo feed

Step 2 Example: Instagram

2B: Identifying Screen Archetypes

Login Screen

- User can login

Registration Screen

- User can create a new account

Stream

- User can view a feed of photos
- User can double tap a photo to like

Creation

- User can post a new photo to their feed

Search

- User can search for other users
- User can follow/unfollow another user

2C: Documenting Navigation Flows

Tab Navigation (Tab to Screen)

- Home Feed
- Search User
- Post a Photo

Flow Navigation (Screen to Screen)

- Login Screen
 - => Home
- Registration Screen
 - => Home
- Stream Screen
 - => None, but future version will likely involve navigation to a detailed screen to see comments for each photo.
- Creation Screen
 - => Home (after you finish posting the photo)
 - => In the actual wireframe, you will need multiple screens to represent the creation process to add filters, etc.
- Search Screen
 - => None



Breakout Rooms

70 minutes

Get in your groups, introduce yourselves, and get started! Navigate to your [Unit 7 Course Portal page](#).

- * Follow the structure provided in your [template readme](#).

Questions?

Post on Slack
and tag:

@android-help



Progress Check: Activity 2



What you should have by the end of this session:

- Your GitHub Repo, which contains:
 - `brainstorming.md` - Your doc from Activity 1
 - `readme.md` - Your Product Spec, containing:
 - App Overview: Description and evaluation**
 - App Spec: User features, screens & navigation flows**



Progress Check: Activity 2



- * Step 1: Setting Up 
- * Step 2: Design your Product Spec 
 - Step 2A: Describing User Features 
 - Step 2B: Identifying Screen Archetypes 
 - Step 2C: Documenting Navigation Flows 
- * Step 3: Create Group GitHub Organization 
- * Step 4: Update Group Project README – App Description & Spec
- * Step 5: Add Activity 1 doc to Github
- * Step 5: Update Group Info on the Course Portal



Activity 3: Wireframing



Activity 3: Wireframing

- * Now that you've completed the first two activities, we're moving onto the final step: wireframes.
- * You will now visualize the app's flows and screens that you wrote down through the creation of a wireframes. You'll start by sketching wireframes by hand, using your app spec as a guide.



Activity 3: Wireframing

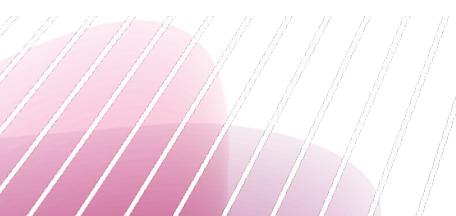
- Review your product spec for your app:
 - User features
 - Screens in your app
 - Navigation flows
- Hand sketch wireframes
 - Sketch the basic screens and navigation flow
 - Add view elements and controls



Instructor Demo

10 min

Let's take a look at Instagram and sketch out the wireframes for it.





Breakout Rooms

70 minutes

Get in your groups, introduce yourselves, and get started! Navigate to your [Unit 7 Course Portal page](#).

- * Follow the structure provided in your [template readme](#).

Questions?

Post on Slack
and tag:

@android-help



Progress Check: Activity 3



What you should have by the end of this session:

- Your GitHub Repo, which contains:
 - `brainstorming.md` - Your doc from Activity 1
 - `readme.md` - Your Product Spec, containing:
 - Low-fidelity Wireframe images**
 - [Bonus] Digital Wireframe/Mockup images**
 - [Bonus] Interactive Prototype video/gif**

03

Project Preview

Project Preview

- ❑ Complete and turn in **Milestone 1** of your group project: brainstorming, product spec, and wireframes!
- ❑ Codepathreview has collab access to your repo.
- ❑ Try the stretch features for extra points.

Files / Tasks	Points	Activity
◦ Creation of GitHub Organization and Group Project Repo	1pt	Activity 2
◦ Updated Course Portal group info: Group Name + App Description	1pt	Activity 2
brainstorming.md		
◦ Initial brainstorming ideas - 6 minimum (2pt)	2pts	Activity 1
◦ Evaluation of top 3 ideas (2pt)	2pts	Activity 1
◦ Final app idea chosen (1pt)	1pt	Activity 1
readme.md (template)		
◦ App Overview: Description and evaluation	2pts	Activity 2
◦ App Spec: User features, screens & navigation flows	3pts	Activity 2
◦ Wireframe images	3pts	Activity 3
◦ [BONUS] Digital Wireframe/Mockup Images	+1pt	Activity 3
◦ [BONUS] Interactive Prototype video/gif	+1pt	Activity 3
Total Possible Points:		15pts



Reflection Prompt

How will your team **collaborate and communicate** between **now** and **our next meeting?**

5 minutes