Mobile Application Development

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Outline

- Goals and Objectives
- Marketing Research
- Timeline and Milestones
- Scope and Priority
- Wireframe and User Flow
- User Stories and Use Cases
- Development Methodology

Goals and Objectives

- Start with Core Idea – the main reason you want to make this app
- Try to be concise so you will never lose your intention

- Core idea of Dropbox is a file storage. Other features are secondary.
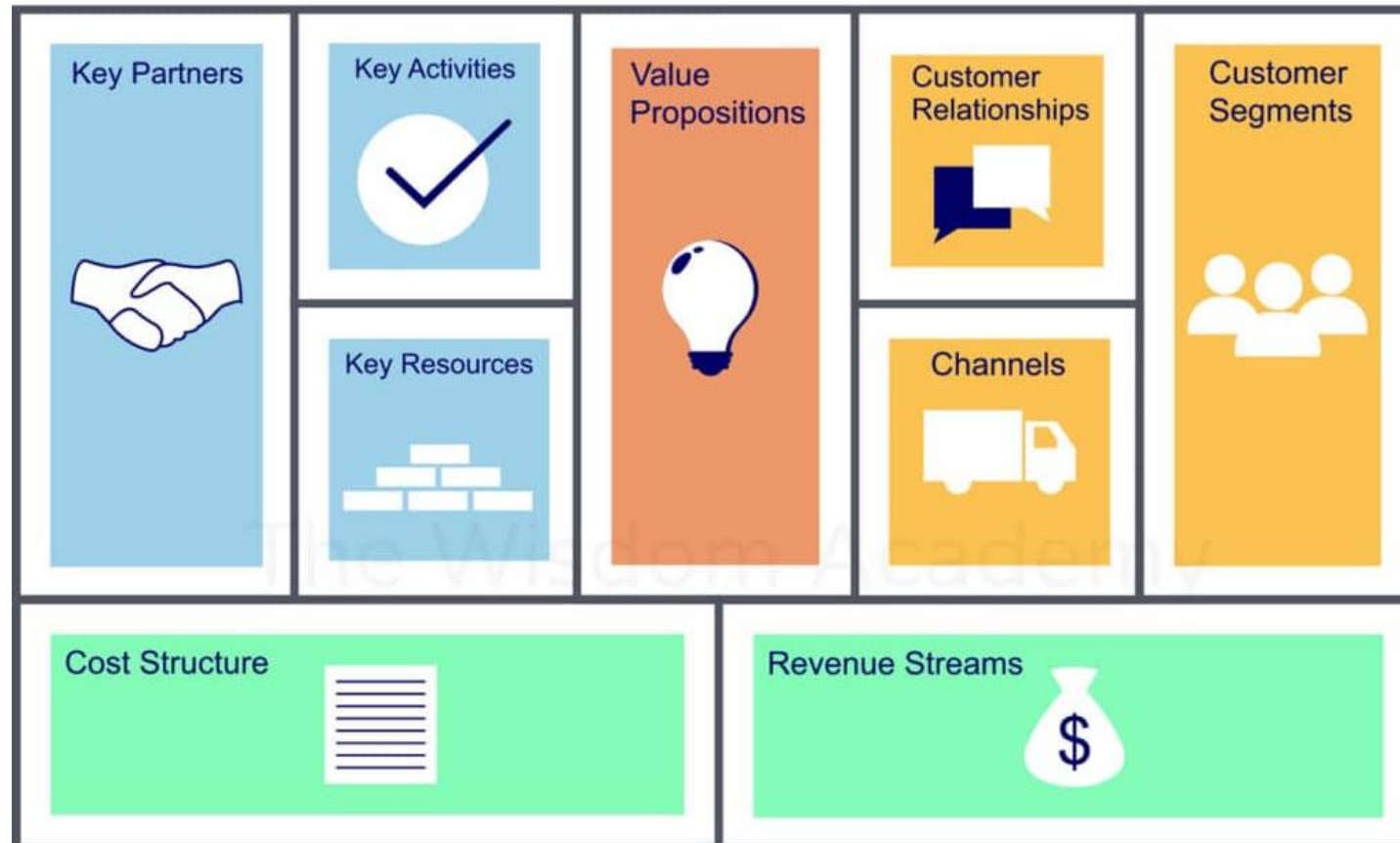- Core idea of Lazada is a platform that connects consumers to brands.

Dropbox

- Keeps files:
  - In sync across computers
  - Backed up
  - Accessible from anywhere
  - Easy to share
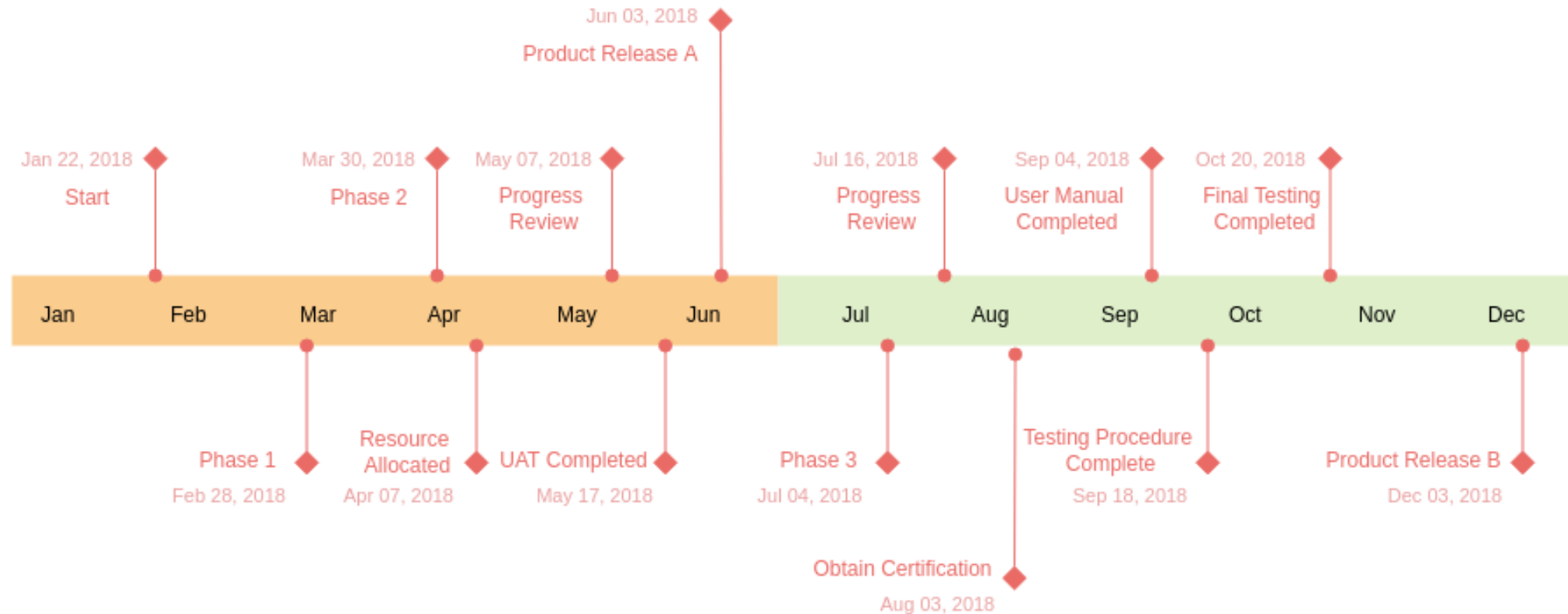- It just works

Dropbox
www.getdropbox.com

Marketing Research

- Use business model to determine how to monetize your app.

Timeline and Milestones

- Create a realistic project timeline.
- Set achievable milestone.

Reminder: Project Timeline

Project Pitching [Dec 13]

Group Meeting [Jan 2 – 5]

Prototype Showdown [Feb 16]

Presentation [Mar 6 or 8]

Documentation [Mar 8]

Scope and Priority

- Identify core features and functionalities.

- Prioritize features based on importance and complexity.

- For example, core features of Uber app are searching for a ride and booking a ride. Fare estimation is not in their minimal viable product (MVP), despite being useful.
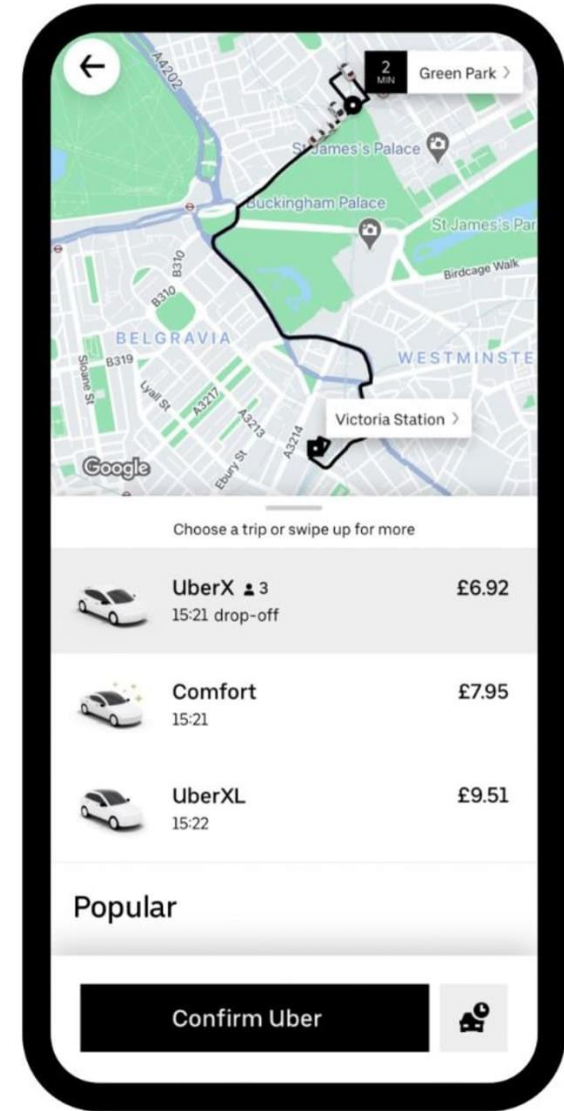
Technology Requirement

- You should specify the minimum operating system and hardware requirements for the app to function optimally.

- iOS and Android handle memory differently
  - Android runs on the Java runtime environment, making memory management easier for the developer. Trade-off is more memory consumption.
  - iOS, in contrast, gives developers more freedom to optimize their app's memory handling.

- Do your research on users on what type of devices they own.

MoSCoW Matrix

- Features are divided into 4 categories based on 3 factors; risk, impact and effort.

- Must Have and Should Have are your core features because they have high impact.

- Could Have is nice to have but does not bring huge impact. They are easy to implement in return.

- Will Not Have will be implemented only if users heavily request.
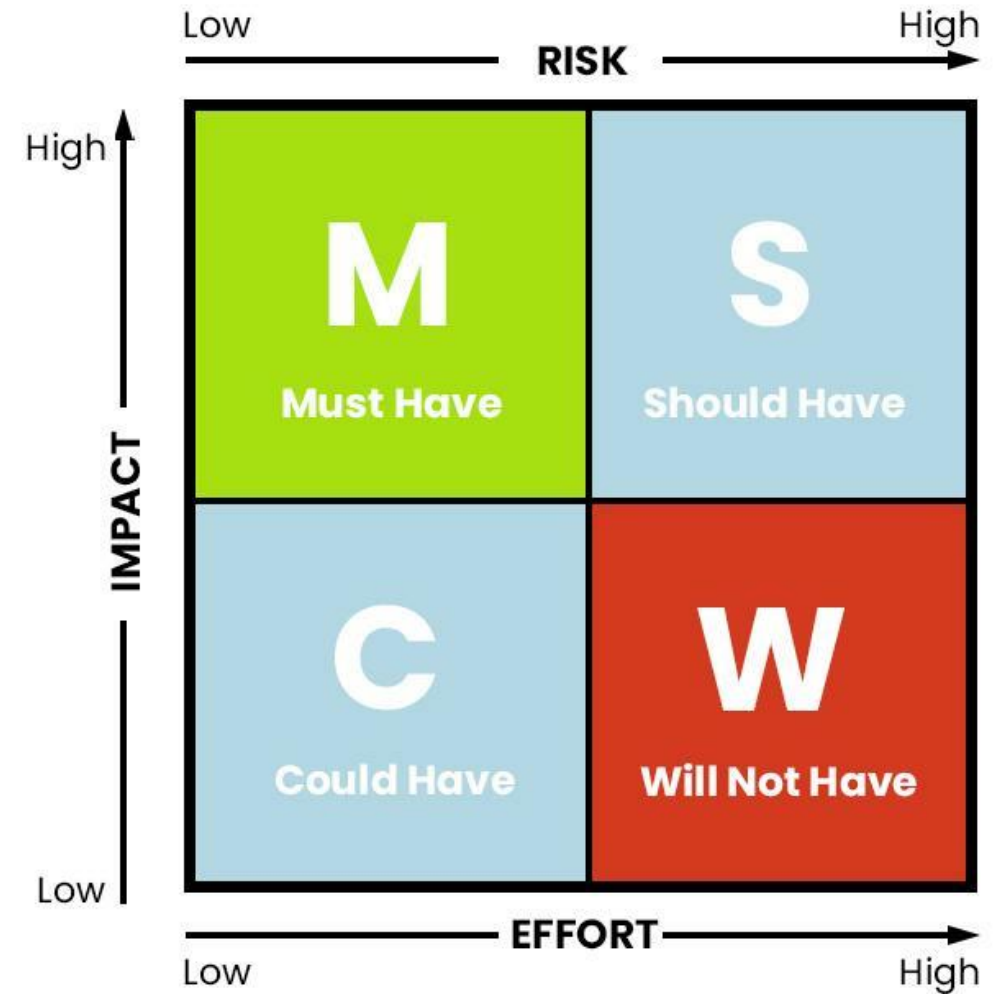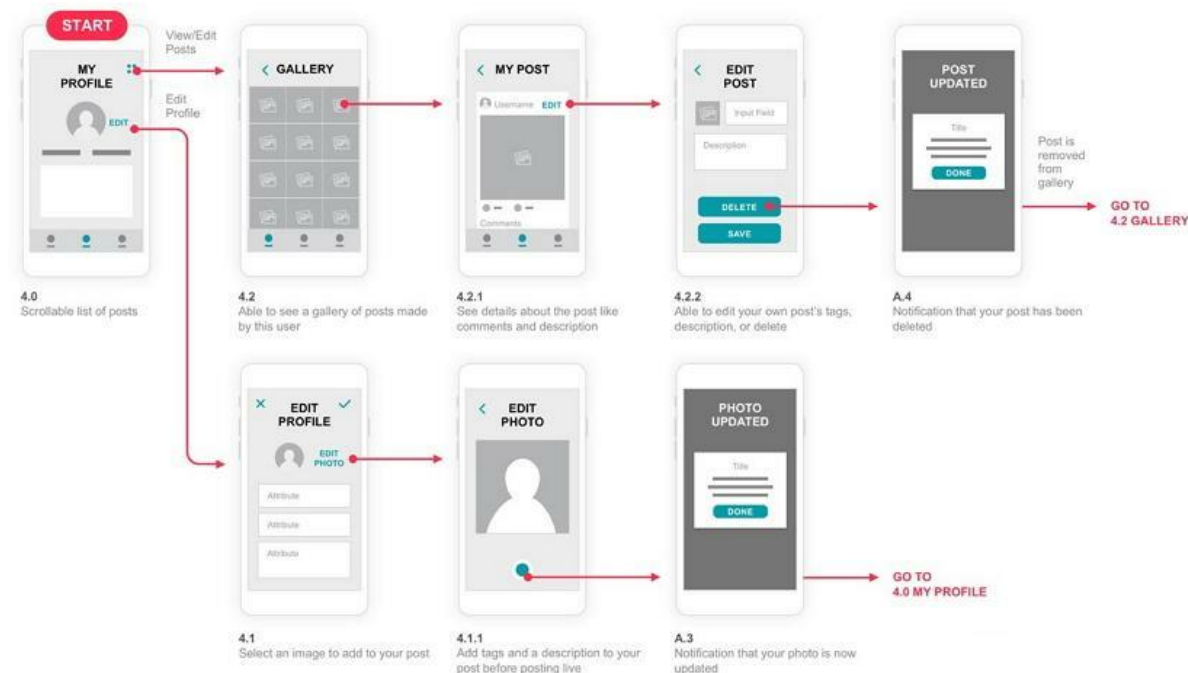
Wireframes

- A wireframe is a visual outline of your app's UI.
- It serves as a low-fidelity, conceptual guide for developers.
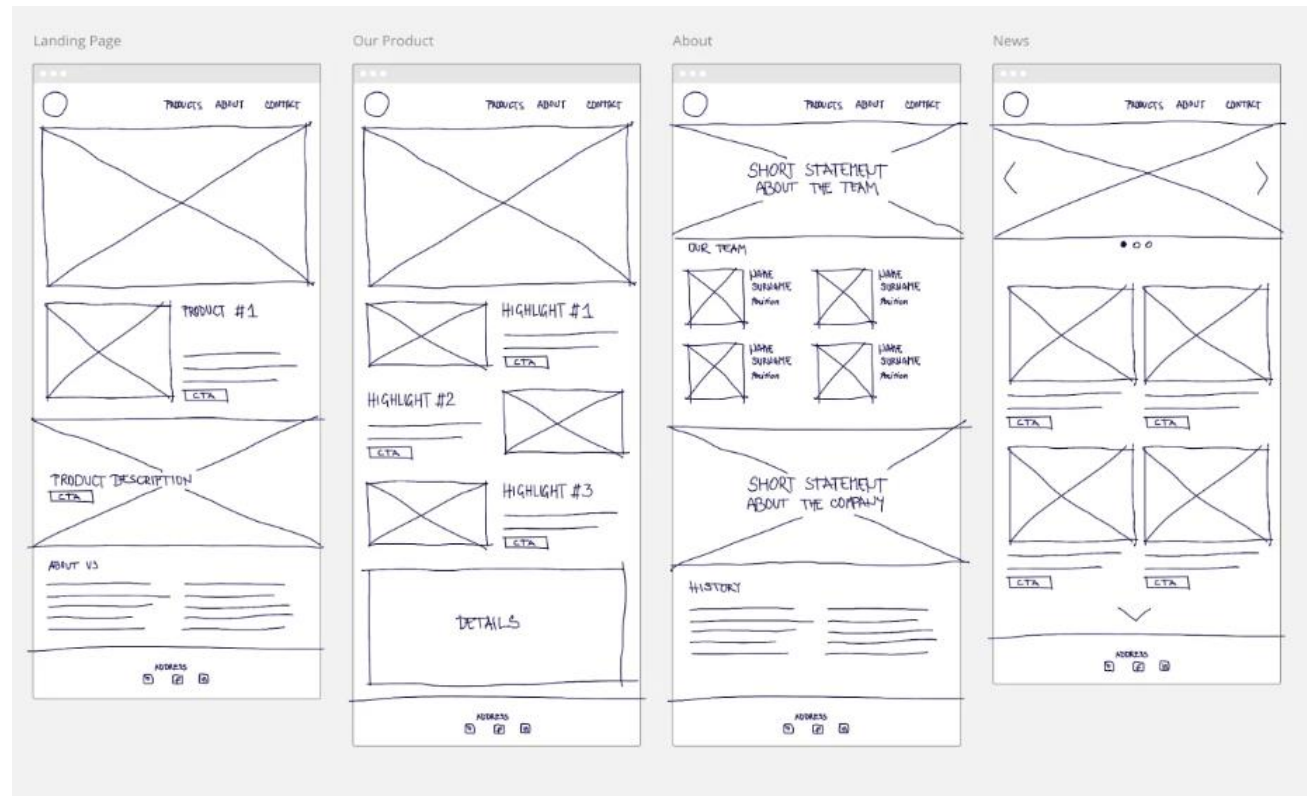
User Flow

- User Flow is a diagram that lays out all screen of your app and how they connect to each other.

- This will tie into user stories and use cases.

Navigation Patterns

- How should your users navigate from one area to another?

- Different patterns have different pros and cons. Pick the one that suits your app the best.

- We will look at 2 common patterns.
  - Tab Bar Navigation.
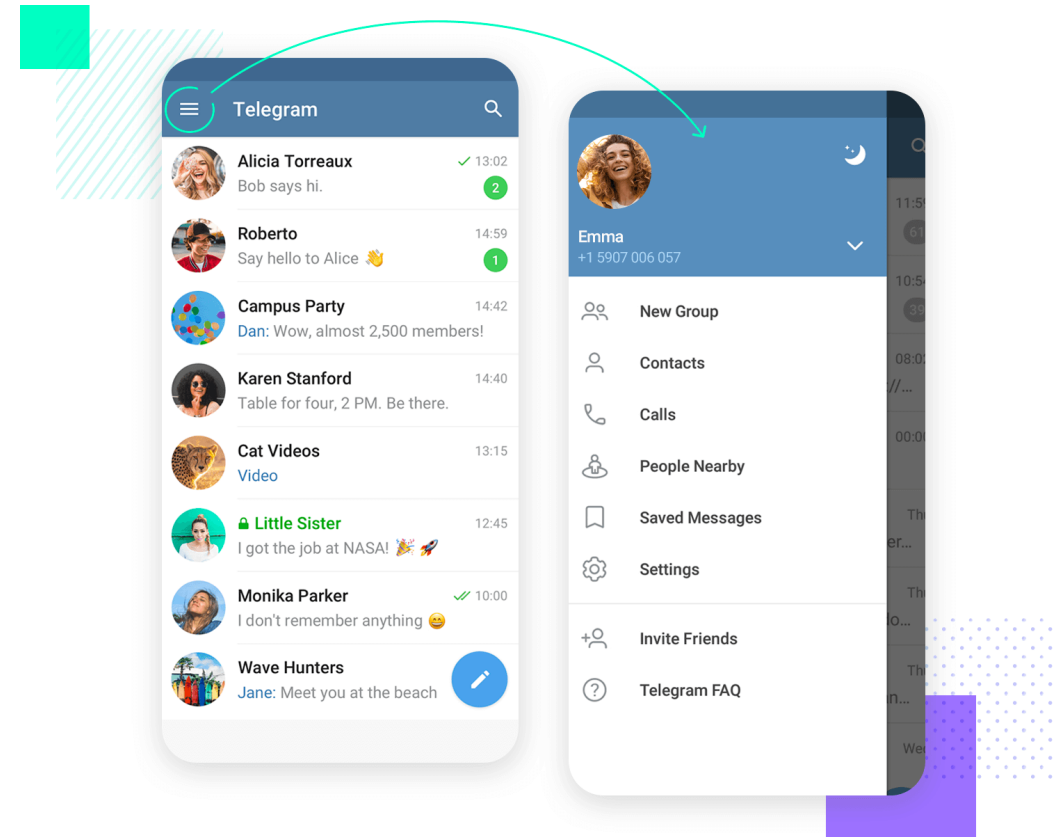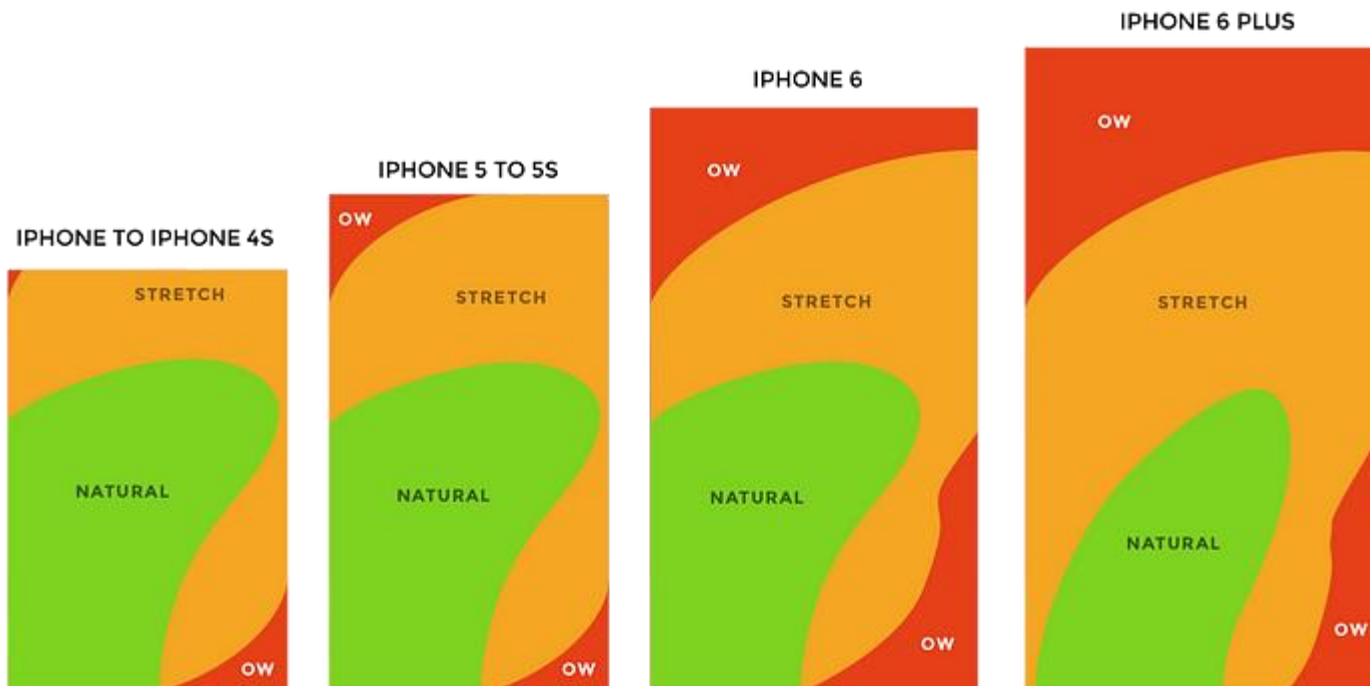 - Hamburger Icon Navigation.
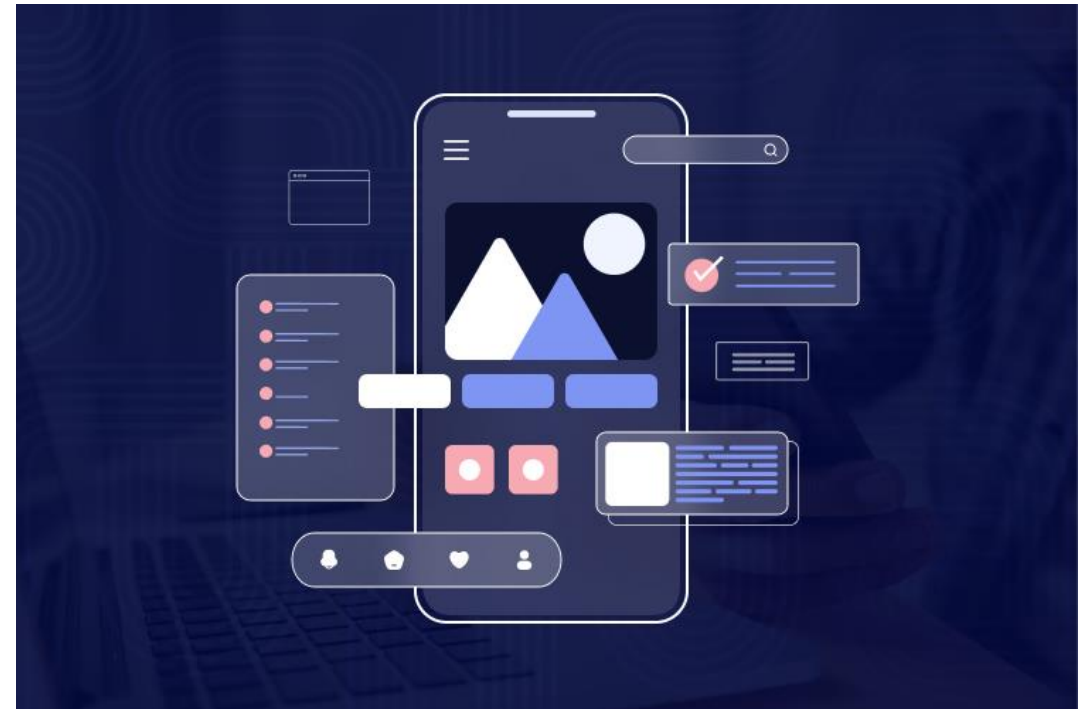
Tab Bar Navigation

- Good for small number of sub-pages.

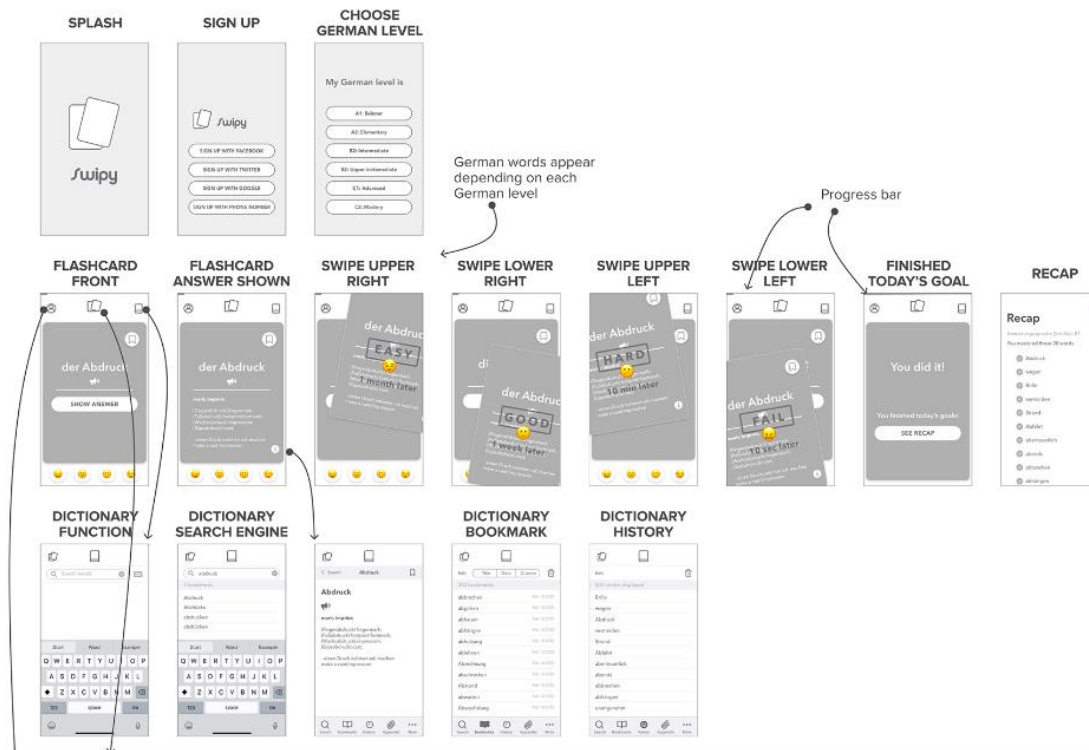- Always visible.

- Easy to switch between pages.
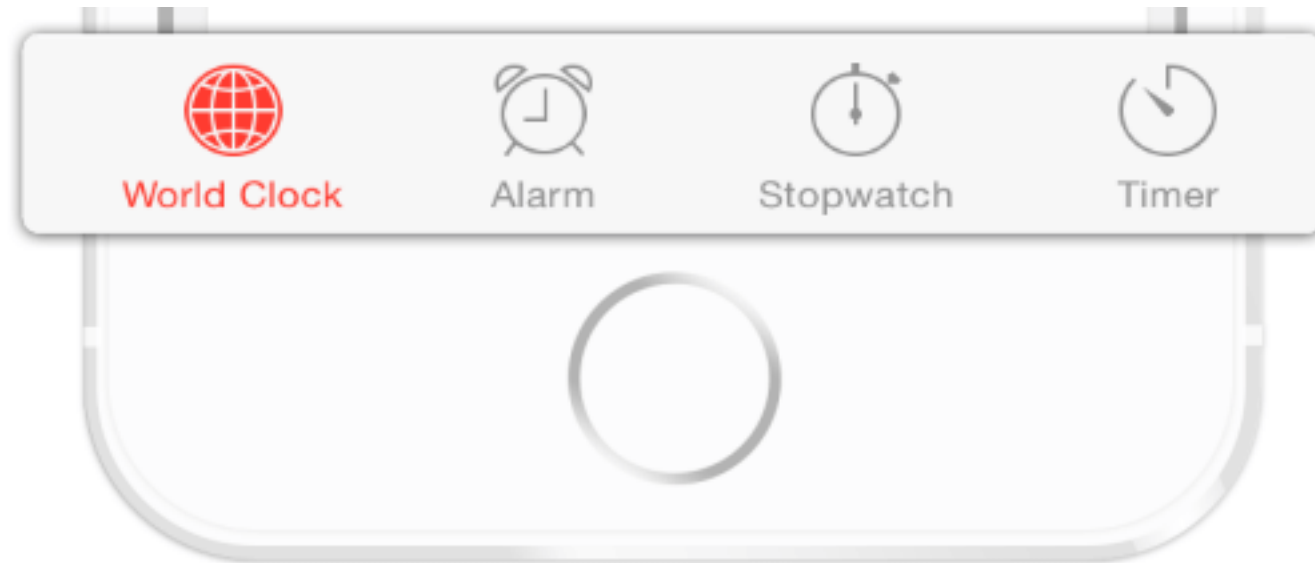
Hamburger Icon Navigation

- For application that has many sub-pages.

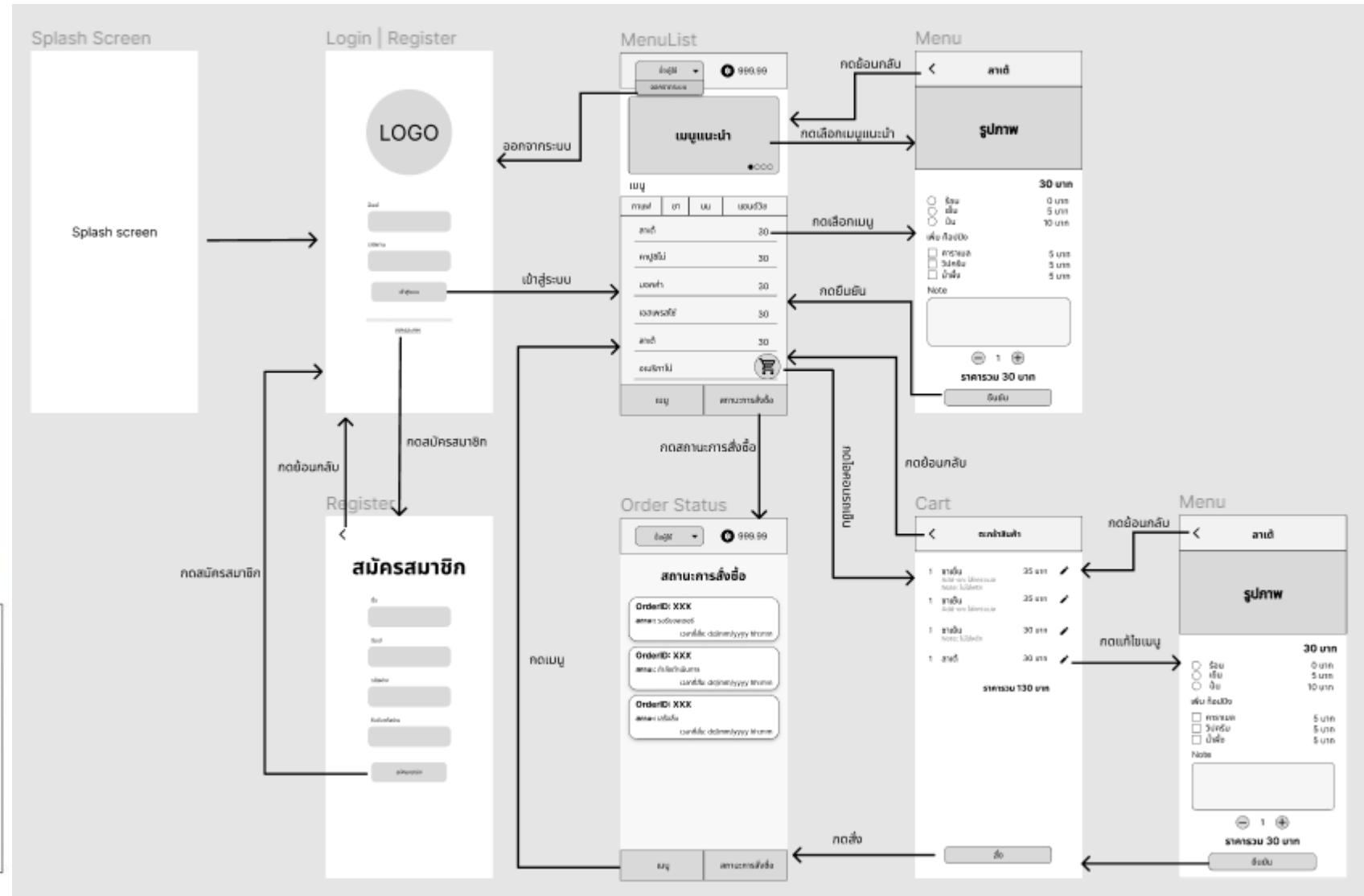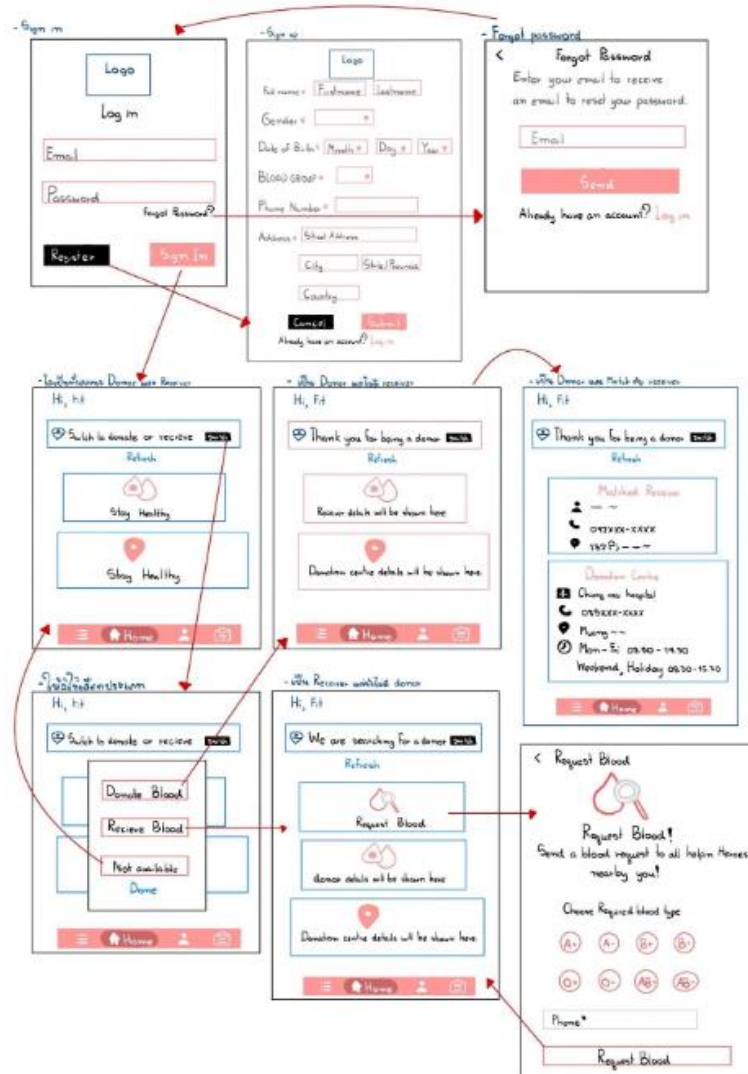- Typical seen in e-commerce site.

- The location is very important.

Mixed Style

- You can mix User Flow and Wireframes to make the most descriptive blueprint of your app.

- When you write an app, always refer to this blueprint.

Examples from Last Year

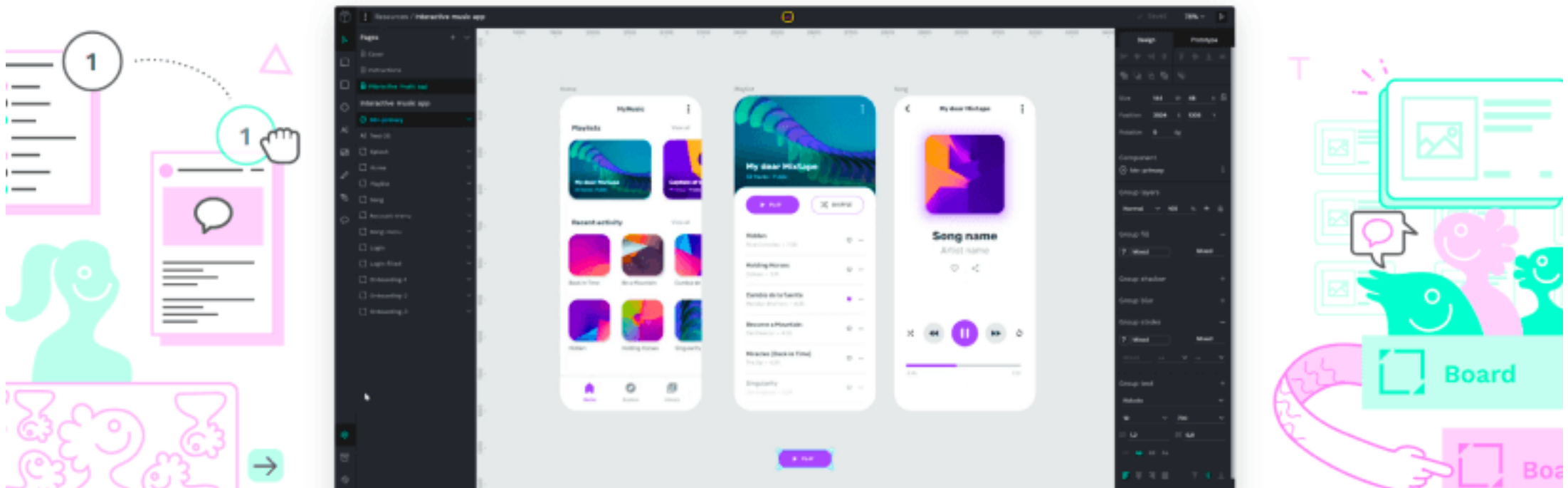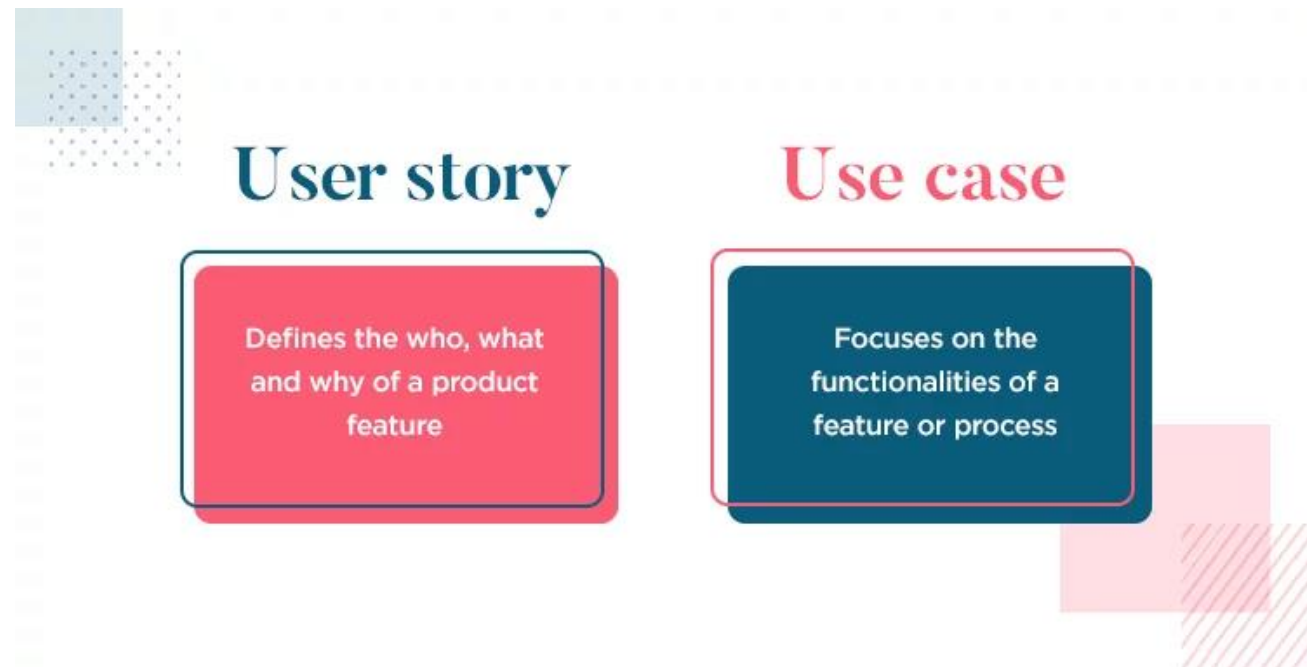# Recommended Tool

- Figma is a great tool for UX/UI design.

User Stories and Use Cases

- Develop user personas.
  - Same personas used in business model.
- Writing user stories and defining use cases.
  - These use cases will become file/folder in your project.

User story

Defines the who, what and why of a product feature

Use case

Focuses on the functionalities of a feature or process

Development Methodology

- Agile is an iterative and flexible software development methodology that prioritizes collaboration, adaptability to changing requirements, and the delivery of small, incremental releases, fostering continuous improvement through regular feedback loops.

- Waterfall is a traditional linear software development methodology where the project is divided into sequential phases, with each phase dependent on the completion of the previous one, providing a structured and predictable approach to development.

- Hybrid development combines elements of both Agile and Waterfall methodologies, allowing for flexibility in certain phases while maintaining a structured approach in others, offering a balanced and tailored approach to suit project requirements.

Exercise: Hypothetical Mobile App Project

- Suppose we want to write app for taking class attendance.

- Each person write down what the app should achieve, considering both business and user perspectives. (3 – 4 features)

- In group, discuss common and different features.

- List all features in MoSCow Matrix.

- Share results with the class.

References

- https://decode.agency/article/mobile-app-requirement-document/
- https://risanakajima102.myportfolio.com
- https://uxmag.com/articles/user-stories-vs-use-cases-how-they-stack-up
- https://www.figma.com