



Design for Mobile Applications

**IT6306 - Mobile Application
Development**

Level III - Semester 6

Overview

- This lecture will elaborate on the following key points,
 - Introduction to mobile design
 - Elements of mobile design
 - Context, message, look and feel, layout, colour, typography, graphics
 - Popular prototyping platforms

Intended Learning Outcomes

At the end of this lesson, you will be able to;

- Describe the elements in mobile design
- Apply design considerations to different elements in mobile applications
- Select an appropriate prototyping platform for mobile application design

List of sub topics

1.1. Introduction to mobile design

1.2. Elements of mobile design

1.2.1. Context

1.2.2. Message

1.2.3. Look and feel

1.2.4. Layout

1.2.5. Colour

1.2.6. Typography

1.2.7. Graphics

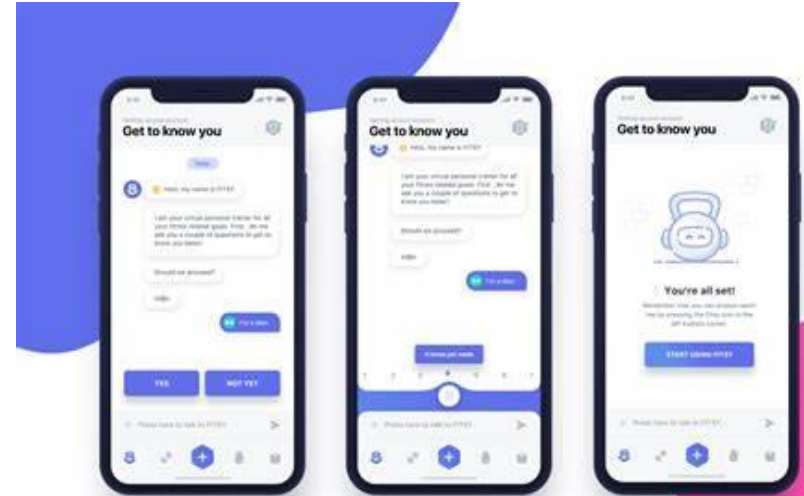
1.3. Prototyping platforms for mobile application design

1.1 Introduction to Mobile Design

Mobile Design

- Mobile design refers to the process of creating and optimizing the visual layout, user interface (UI), and user experience (UX) of websites, applications, and other digital content specifically for mobile devices

- The goal of mobile design is to provide users with a seamless, intuitive, and enjoyable experience on their mobile devices



Importance of Mobile Design

- **Adapting to new technologies:**
 - It is crucial for designers to stay up-to-date with the latest technologies and design trends
 - This includes understanding how new devices and platforms impact user behavior and expectations
- **User expectations:**
 - Mobile users have high expectations for the quality and performance of apps.
 - A good mobile design should prioritize meeting and exceeding these expectations by providing a seamless, intuitive, and enjoyable experience.

Importance of Mobile Design contd..

- **User-centric experiences:**
 - Successful mobile designs put the user at the center of the experience (understanding user needs, preferences, and behaviors)
 - Doing this, designers can create solutions that provide value and enhance the overall user experience
- **Importance of first impressions:**
 - The visual design of a mobile experience sets the tone for user expectations
 - A high-quality design can instill trust and encourage users to engage with the content, while a poor design may lead to lower engagement and lost opportunities

Importance of Mobile Design contd..

- **Creativity and limitations:**
 - Mobile design requires a balance between creativity and understanding the limitations of various devices and platforms
 - Designers must find ways to create the best possible experience within these constraints
 - Meantime, maintaining a visually appealing and functional design is important

1.2 Elements of Mobile Design

**Context, Message, Look and feel, Layout,
Colour, Typography, Graphics**

Context

What is Meant by Context?

- The environment, circumstances, and conditions surrounding users when they interact with a mobile app or website



Why the Context Matters?

- Influences user behavior, preferences, and expectations
- Affects usability, engagement, and satisfaction
- Tailors design to meet user needs and enhance their experience

Key Aspects to Consider in Context

- Physical environment (location, noise, lighting, etc.)
- Device characteristics (screen size, input methods, network speed, etc.)
- User's goals, motivations, and emotional state
- Socio-cultural factors (language, cultural norms, accessibility needs, etc.)

Key Questions to Pay Attention

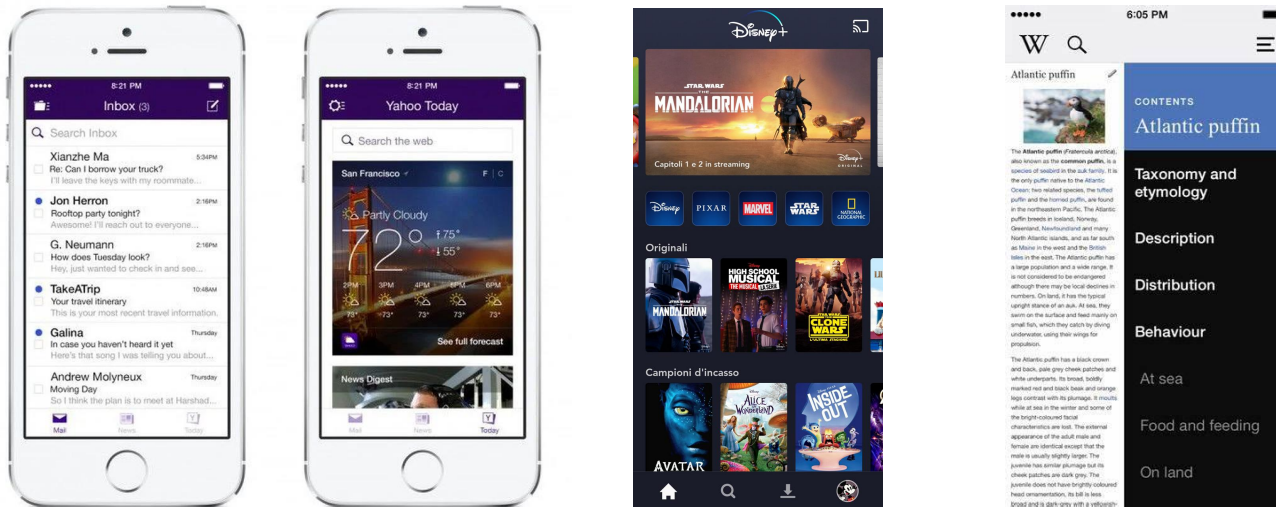
- Who are the users? Understand their behavior and assumptions
- What is happening? Consider the circumstances for content absorption
- When will they interact? Identify the users' available timeframes
- Where are the users? Determine public/private spaces and indoor/outdoor settings
- Why will they use your app? Identify the value they gain in their current situation
- How are they using their mobile device? Consider device position and orientation

Message

Message

– Main point:

- Message is the overall impression you create through visual design
- In mobile design, the opportunities for branding are limited, but the need for messaging is great



Designs convey different messages

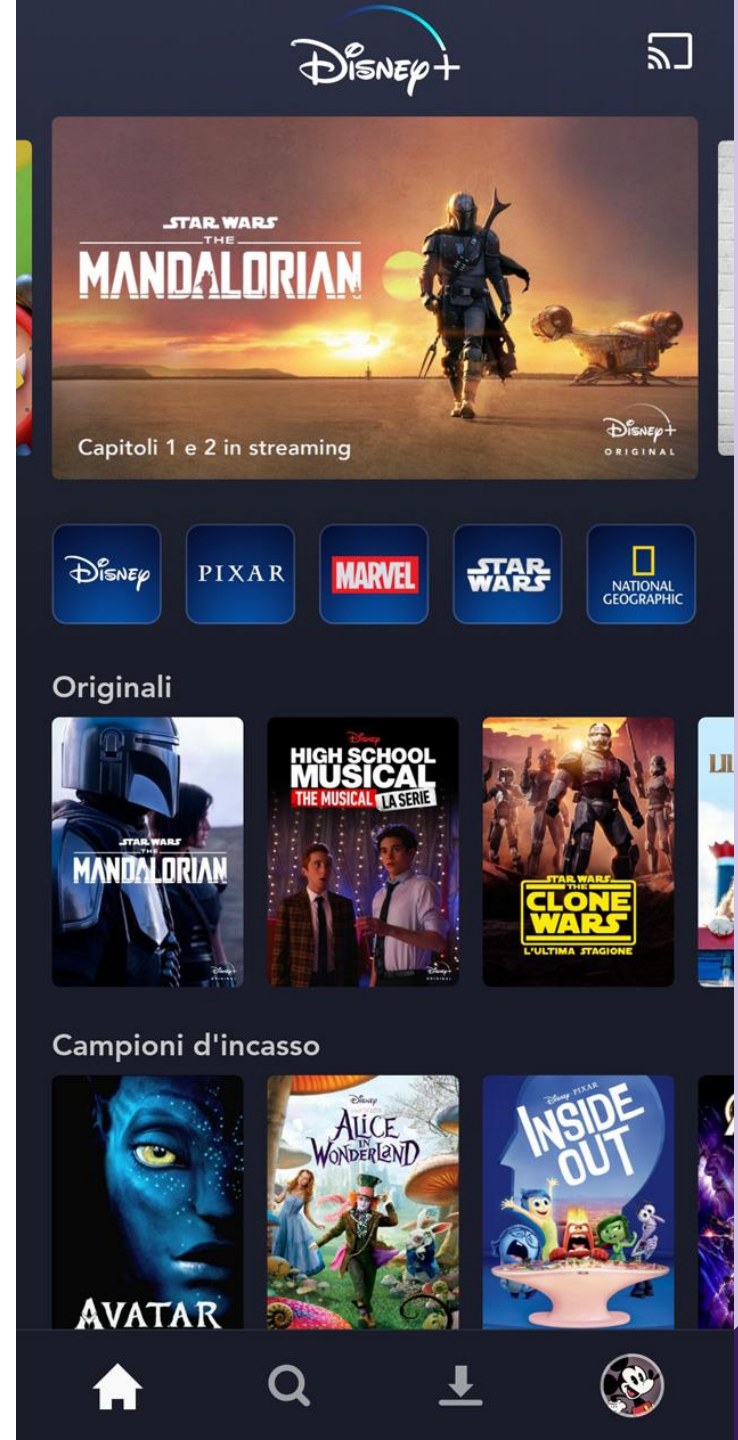
Yahoo: Mobile design and message

- The app provides a clean interface, putting a focus on search and location, using color to separate it from the news content
- The message is crisp, clean, and sharp



Disney: Mobile design and message

- The design gives you a lot to look at
- Clearly tries to say that the company is about characters for a younger audience
- Words you might use to describe the message: bold, busy, and disorienting



Wikipedia: Mobile design and message

- The design clearly establishes a message
- With a prominent search and text-heavy layout featuring an article, you know what you are getting with this design
- Words you might use to describe the message: clean, minimal, and text-heavy



Amazon: Mobile design and message

- The design is mostly about products
- Words you might use to describe the message: minimal but messy, product-heavy, and disorienting



Message (Summary)

- The important thing is not the designer's opinion
- It is the opinion of the user
- The design should convey the right message to the user in the right context

Look and Feel

Look and Feel

- Look and feel refers to the appearance and style of a design
- It can be used to describe how a design looks and feels to users, such as being clean, modern, or usable
- Look and feel can be a subjective and challenging concept to define in the context of mobile design, as it involves both visual and tactile elements
- Look and feel can have a significant impact on user experience, influencing how users interact with the design and the emotional response it generates

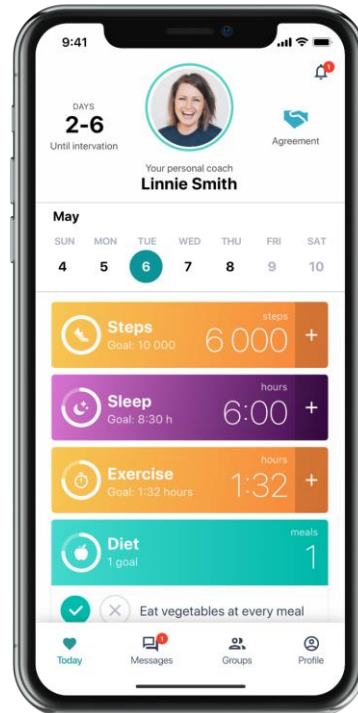
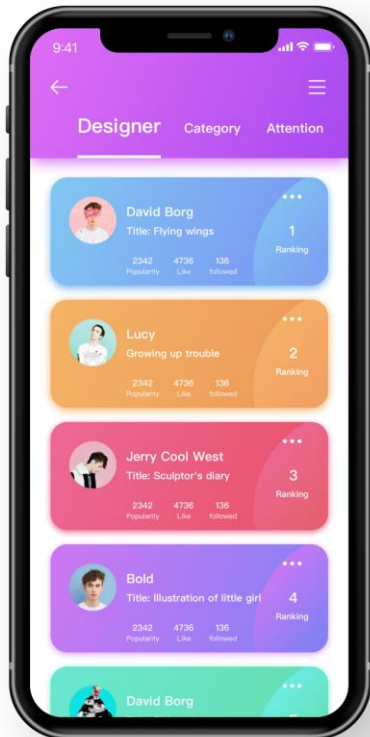
Look and Feel

- Designers can establish a clear and consistent look and feel by providing a rationale for their design decisions
- By explaining why certain design elements were chosen, designers can ensure that their designs are grounded in user needs and preferences
- Design patterns and style guides can provide designers with inspiration and guidance on how to create a consistent and effective look and feel for their designs
- Style guides can serve as a reference point for designers and stakeholders to ensure that the design remains consistent and aligned with the overall design goals

Layout

Layout

- Layout plays a crucial role in how users perceive and process the content on screen
- It can affect readability, hierarchy, and overall user experience



Importance of Layouts

- **Addressing subjective nature of design:**
 - Design is a subjective issue, and there may be multiple opinions on what looks best
- Defining layout elements prior to applying the look and feel can help separate discussions and reduce confusion
- **Avoiding unnecessary layout changes due to feedback:**
 - By defining layout elements early on, designers can avoid unnecessary changes to the layout that are not based on actual design issues

Different Layouts for Different Devices

- Different devices have different screen sizes and navigation methods
- Layouts need to be adapted accordingly to maintain consistency
- Touch navigation involves users physically touching the screen to navigate
- Scroll navigation uses a device's D-pad to go left, right, up, or down

Touch Navigation

- Most primary actions or navigation areas in touch navigation layouts are located at the bottom of the screen, while secondary actions are at the top
- The content area is located between the primary and secondary actions
- Placing the content in between primary and secondary navigation, allows easy navigation and interaction with content

Scroll Navigation

- The choice between horizontal and vertical navigation depends on the design and usability considerations
- Example:
 - Horizontal navigation may make more sense visually but it can be cumbersome for users to navigate

Fixed Layouts versus Fluid Layouts

- Adapting to device orientation: As mobile devices can be used in both portrait and landscape mode, layouts need to adapt to these orientations
- Fixed layouts have a set number of pixels
- Fluid layouts can scale to the full width of the screen regardless of the orientation

Color

Color

- Color is crucial in mobile design
- Mobile screens were once limited to black and white, but we now have nearly the entire spectrum of colors to choose from
- Color depth is an important factor to consider when designing for different mobile devices

Color Depth

- Color depth refers to the number of bits representing the color of a single pixel in a digital image
- Greater color depth means more colors, making an image more vivid and accurate
- Many devices offer standard bit depths:
 - 1 bit- $2^1 = 2$ shades (black and white)
 - 2 bits- $2^2 = 4$ shades (shades of gray)
 - 8 bits- $2^8 = 256$ shades
 - 10 bits- $2^{10} = 1024$ shades
 - 12 bits- $2^{12} = 4096$ shades
 - 24 bits- $2^{24} = 16,777,216$ shades
- Required color depth depends on specific needs and uses

Color Depth Contd..

- Different devices have different color depths, which affect the quality of displayed images
- Designers must consider the color depth of the target device when designing mobile apps
- Testing on multiple devices with varying color depths can help ensure the quality of the app on different screens

Color Depth Contd..

Benefits of high depth

- High color bit depth improves the quality of an image
- It results in better precision and smooth color transitions
- The ideal color depth depends on the data storage on the device and the internet bandwidth

Color Depth Contd..

Limitations of high depth

- Images with high color depth need more space and bandwidth
- They often require compression to reduce file size
- Video files with 10-bit and 12-bit recording provide better image quality, but they need more space
- The ideal color depth depends on specific needs and limitations of the device

Psychology Behind Color in Mobile Design

- People respond to different colors in different ways
- Understanding the emotions that different colors evoke in people is essential in mobile design
- Colors can be used to deliver the right message and set expectations
- The color you use can have opposing meanings in different cultures
- There it is crucial to consider the cultural context when designing for global audiences

Color Palettes

- Defining color palettes is important for maintaining a consistent use of color in your mobile design
- Color palettes consist of a predefined number of colors to use throughout the design
- There are three basic ways to define a color palette:
 - Sequential
 - Adaptive
 - Inspired
- Selecting colors for your palette varies from designer to designer, with each having their own techniques and strategies

Sequential Color Palette

- Sequential palettes consist of primary, secondary, and tertiary colors
- The primary color is often reserved as the "brand" color or the color that most closely resembles the brand's meaning
- The secondary and tertiary colors are complementary colors selected using a color wheel
- A sequential palette is useful for maintaining consistency throughout the design

Adaptive Color Palette

- An adaptive palette leverages the most common colors present in a supporting graphic or image
- It is used when creating a design that is meant to look native on the device to ensure that the colors are consistent with the target mobile platform
- Adaptive palettes are useful for creating designs that blend seamlessly with the user interface of the device

Inspired Color Palette

- An inspired palette is created from the colors found in great pieces of design, both online and offline
- The colors are extracted from the source image or object, but the source material should never be used in a design
- Inspired palettes are useful for creating unique and visually appealing designs that are not limited to the traditional color schemes

Color - Short Summary

- Understanding the psychology of color is essential for effective mobile design
- Color palettes help maintain consistency and create visually appealing designs
- Sequential, adaptive, and inspired palettes are three different techniques for selecting colors
- The cultural context should always be considered when selecting colors for a global audience

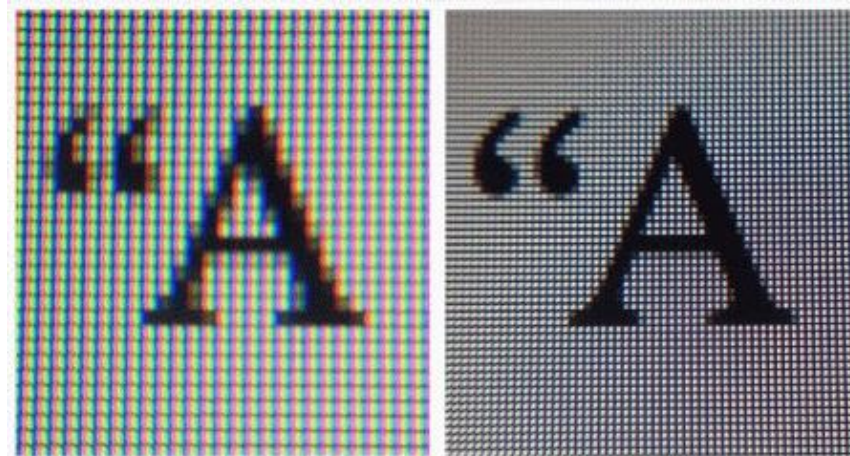
Typography

Typography

- Typography is the technique of arranging type to make written language legible, readable and appealing when displayed
- Earlier, designers were limited to using only one typeface on mobile devices
- Higher-resolution screens have allowed for a more robust catalog of fonts than just the device font
- Typography plays a crucial role in the legibility and overall visual appeal of mobile design

Typography (Sub pixels and Pixel Density)

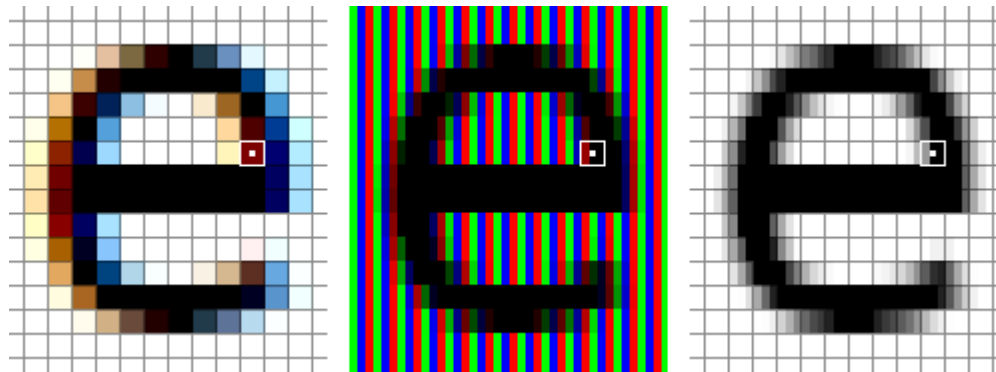
- There are two basic approaches to how type is rendered on mobile screens: using subpixel-based screens or having a greater pixel density or pixels per inch (PPI)
- Pixel density is determined by dividing the width of the display area in pixels by the width of the display area in inches



Different pixel densities

Typography (Sub pixels and Pixel Density)

- Subpixels are the division of each pixel into a red, green, and blue (RGB) unit at a microscopic level, allowing for a greater level of antialiasing for each font character or glyph
- Microsoft Windows Mobile platform uses the subpixel technique



Using sub pixel technique

Typography (Importance of pixel density)

- The higher the density of pixels, the sharper the screen appears to the naked eye, especially when it comes to text
- Anti-aliased text on a screen with a high density of tiny pixels appears sharper to the eye
- Some mobile screens have both a high PPI and subpixel technology, though these are unnecessary together

Typography (Best practices)

- Use legible fonts that are easy to read on small screens
- Choose fonts that are appropriate for the content and tone of the application
- Use font sizes that are large enough to be read comfortably on the device
- Ensure that the contrast between the text and the background is sufficient

Typography (Readability)

- The most important role of typography in mobile design is to provide excellent readability
- Use a high-contrast typeface and the right typeface
- Provide decent leading or line spacing and leave space on the right and left of each line; do not crowd the screen
- Generously utilize headings and use short paragraphs

Typography (High-contrast typeface)

- Having a high-contrast typeface with regard to the background increases visibility and readability
- Mobile devices are often used outside, making high-contrast typefaces essential

Typography (Choosing the right typeface)

- The type of typeface used tells the user what to expect
- Sans-serif fonts are common in navigation or compact areas, whereas serif typefaces come in handy for lengthy or dense content areas.

graceful **DARING** informal
wistful contemporary
hand- **authoritative**
crafted
friendly **PLAYFUL** *personal*
trustworthy neutral **STRONG**

Typography (Decent Leading or Line Spacing)

- Mobile screens are often held 10–12" away from the eye
- This distance makes the reader difficult to track each line
- Increase the leading to avoid having the users lose their place

Typography (Leave Space on the Screen)

- Provide some spacing between the right and left side of the screen's edge and the text
- Generously utilize headings to break the content up in the screen.
- Use short paragraphs, using no more than two to three sentences per paragraph

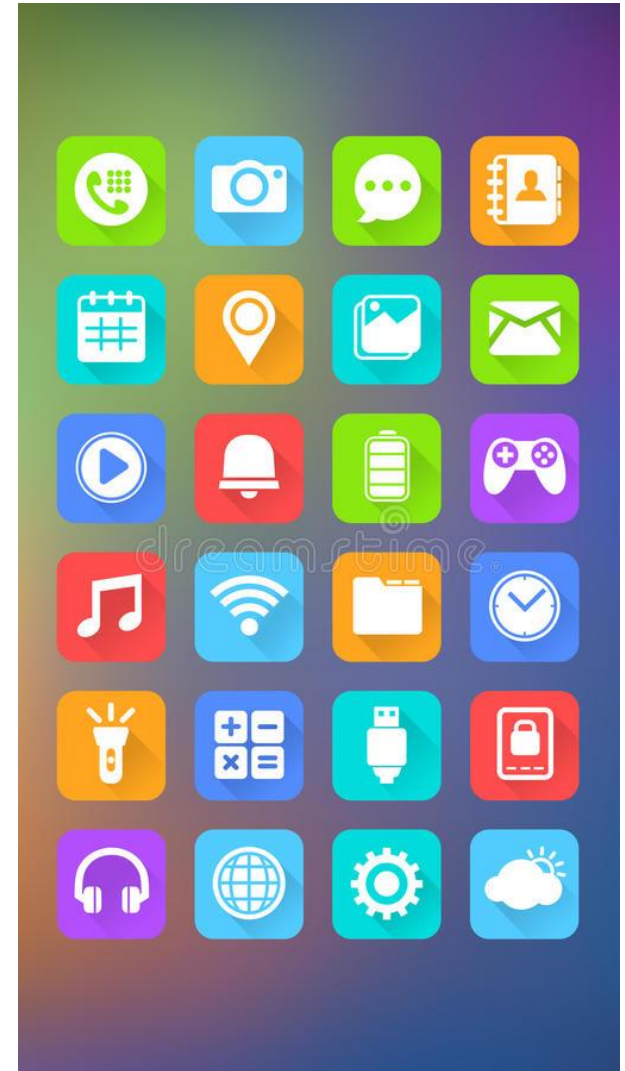
Graphics

Graphics

- Graphics are used to establish or aid a visual experience in mobile design
- Graphics can supplement the look and feel or be displayed as content inline with the text
- Iconography is the most common form of graphics used in mobile design to communicate ideas and actions to users in a constrained visual space
- The challenge is to ensure that the meaning of the icon is clear to the user

Graphics – (Iconography)

- Icons should be clear and easy to understand
- Using recognizable symbols and metaphors can make the meaning of the icon clear to the user



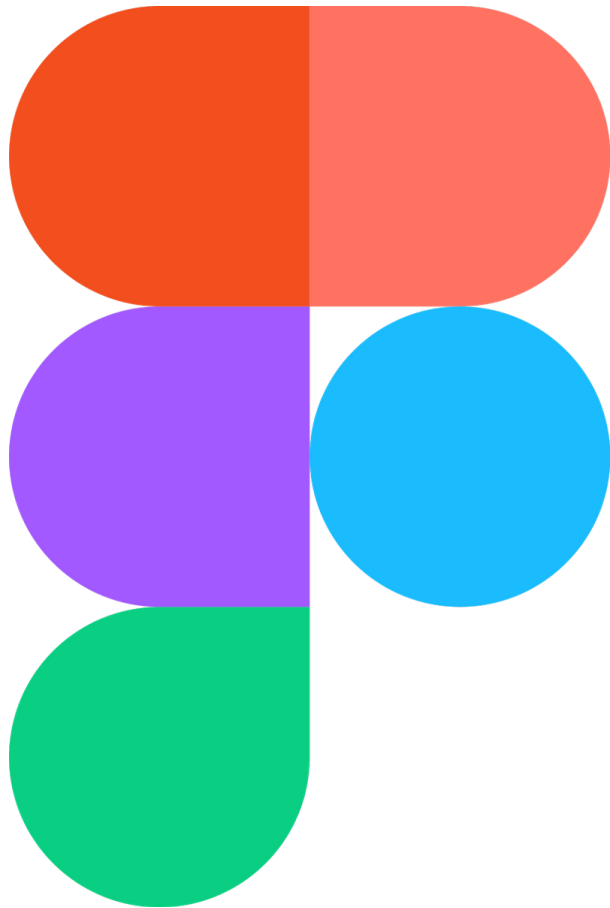
Graphics - (Photos and Images)

- Photos and images add meaning to content or design in mobile applications
- Resizing images to fit the appropriate device size can be challenging and can affect performance
- Using graphics to add meaning to a design can be a useful visual aid
- Graphics can also encounter issues regarding how the image will display in a particular User Interface (UI)
- Eg: How an image is displayed with the change in orientation of the device?

Graphics (Best Practices)

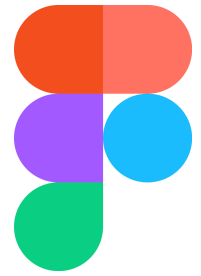
- Use graphics adequately to avoid overwhelming the user with too much visual information
- Keep graphics simple and easy to understand to ensure that the meaning is clear to the user
- Test graphics on different devices to ensure that they display correctly and maintain their intended meaning
- Optimize graphics to ensure that they load quickly and do not affect the overall performance of the application

1.3 Prototyping Platforms for Mobile Application Design

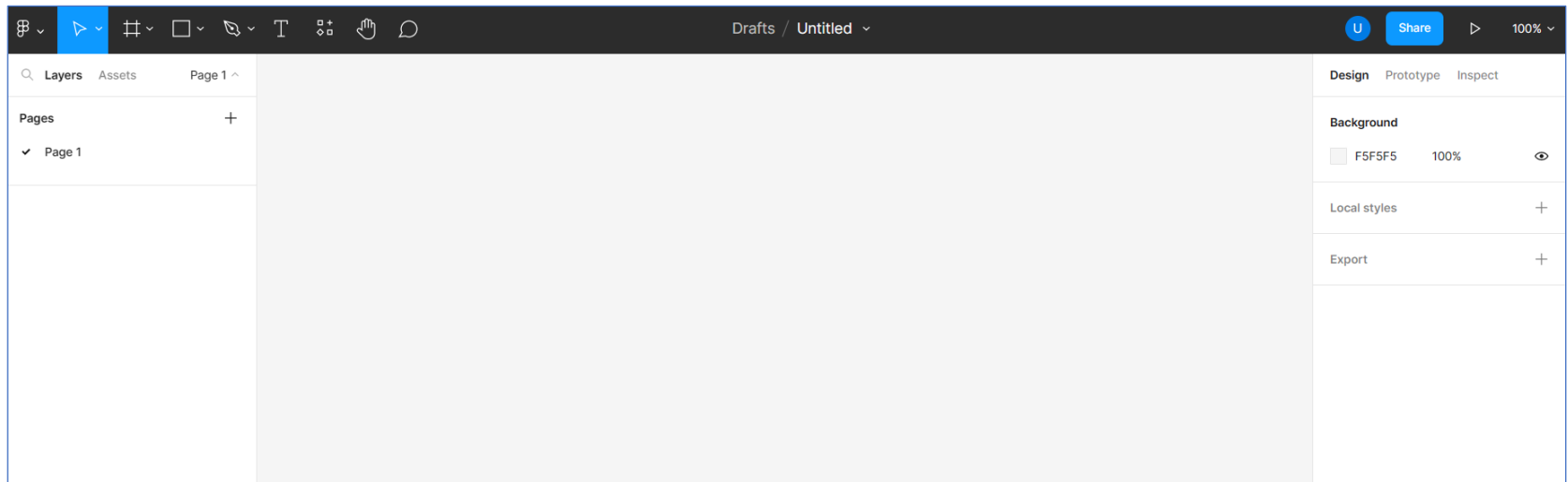


Figma

Figma

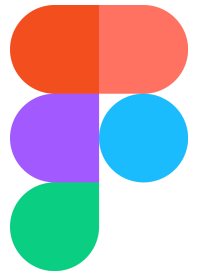


- Figma is a digital design and prototyping tool
- It is a UI and UX design application
- Figma is a vector design tool that runs on the browser
- It allows to iterate on designs, create prototypes, and get feedback at any stage of the design process
- Figma allows real-time collaboration on the same file



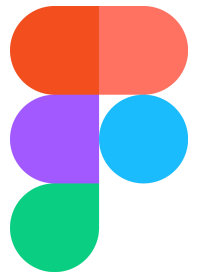
Figma workspace

Figma (Key features)



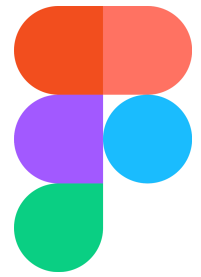
- Key features of Figma
 - Real-time collaboration
 - Vector editing
 - Prototyping
 - Design components
 - Version history
- Platform agnostic (Works on any device with a web browser)

Collaboration Capabilities in Figma



- Real-time collaboration (Work simultaneously with your team, regardless of location)
- Design handoff (Easily share projects with developers and stakeholders)
- Version control (Keep track of design changes and revert to previous versions when needed)
- Feedback and annotations (Add comments directly on designs for effective communication)

Figma Documentation



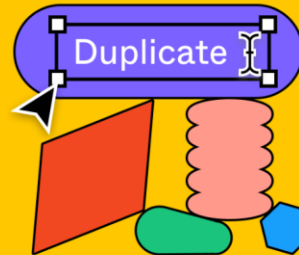
- Visit *"help.figma.com"*
- You will see a rich set of supportive material available for beginners



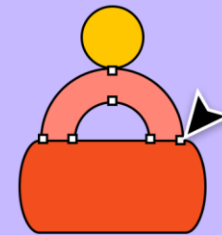
Getting started



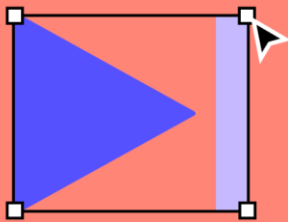
Figma Organization



Community



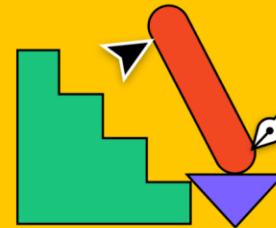
Administration



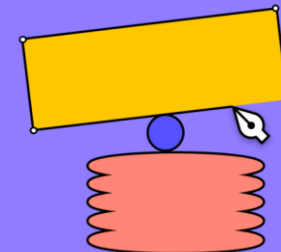
Video Tutorials



Components



Downloads



Blog



Proto.io

- Proto.io is a powerful prototyping tool for mobile app designers
- **Key features**
 - Interactive prototypes, user testing, collaboration, customizable UI components
- **Platform compatibility**
 - iOS, Android, web

- Sketch your idea (Create wireframes, add UI elements)
- Animate and interact (Define transitions, gestures, and animations)
- Share and collaborate (Invite team members, get feedback, iterate)
- User testing (Gather insights, analyze, and optimize)

Importance of using Tools for Design

- Speed up the design process (Quickly create and modify prototypes)
- Improve collaboration (Real-time sharing, commenting, and version control)
- Enhance user experience (Refine designs based on user feedback)
- Cost-effective (Save time and resources by iterating before development)
- Easy learning curve (Intuitive interface, tutorials, and community support)

Summary

Mobile Design

Mobile design refers to the process of creating and optimizing the visual layout, user interface (UI), and user experience (UX) specifically for mobile devices

Elements of Mobile Design

Describing the components of mobile design to understand the importance of each component in designing mobile applications

Prototyping Tools

Brief introduction to the popular tools for mobile design (Proto.io and Figma)