ELSEWEDY UNIVERSITY OF TECHNOLOGY
- POLYTECHNIC OF EGYPT -

UI / UX Principles

Lecture 9: High-Fidelity Prototyping (High-fidelity prototypes and Testing)

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UI Design

Android vs iOS

Android vs iOS

Design Rules

MATERIAL DESIGN Vs Human Interface guidelines

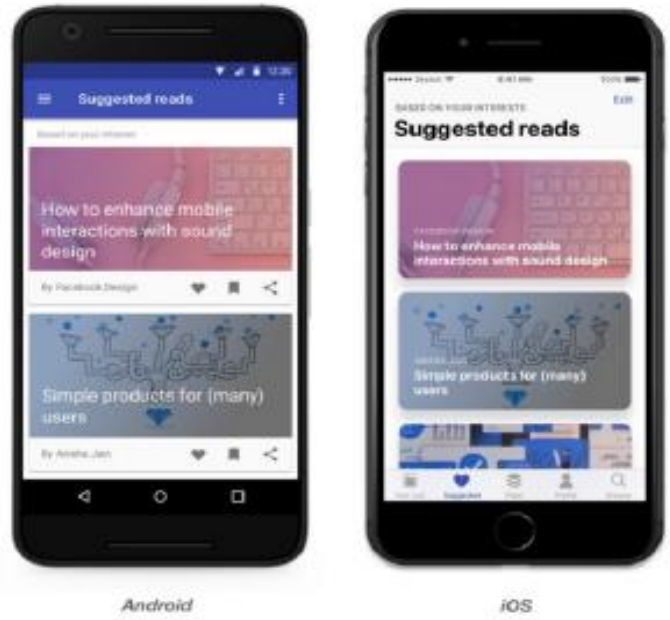
- Material Design **focuses a lot on shadows and motions** for elements to make navigation easier for the users.

- On the other hand, Apple guidelines mostly use **flat design with less shadowing** which gives elements a layer feeling on top of each other.

Android vs iOS

Methods of Navigation

- Android devices have usually 3 buttons (**back, home, and overview**) which enable users to do most things on the phone.
- iPhone has **no navigation button** on their new generations (older generations use to have one home button).
- Lack of home button makes **iOS designers to ensure a proper navigation within the design of the application** because **there is no back button on iPhones**.



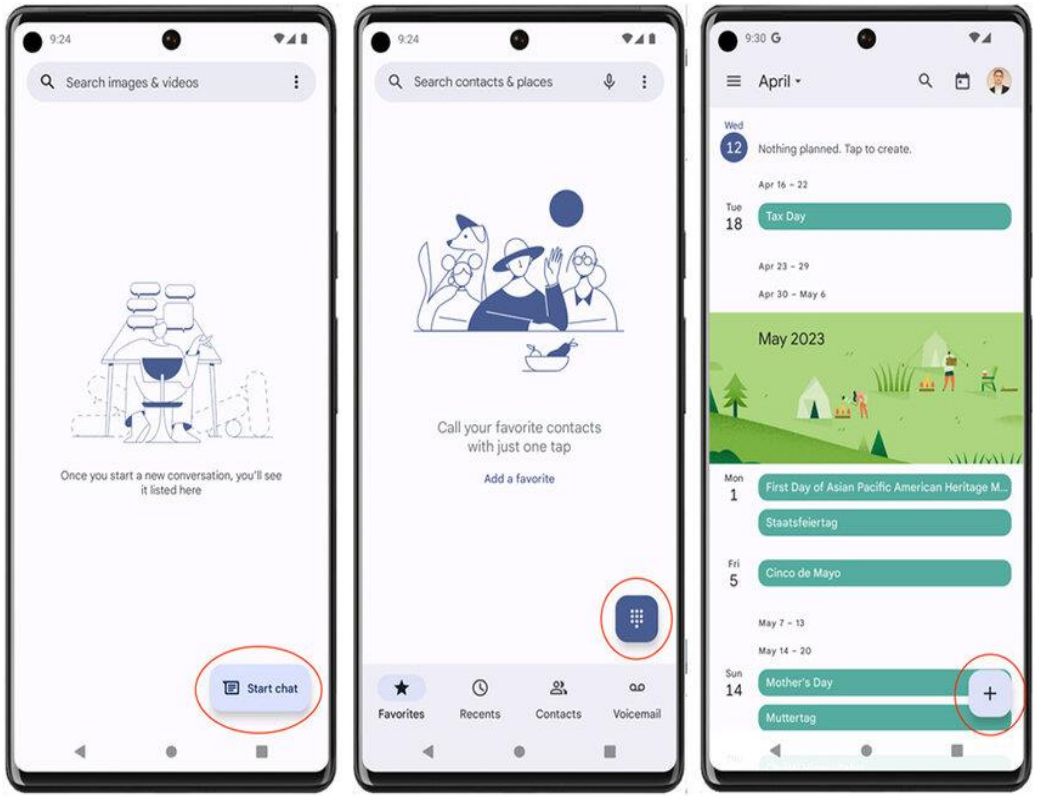
Android iOS

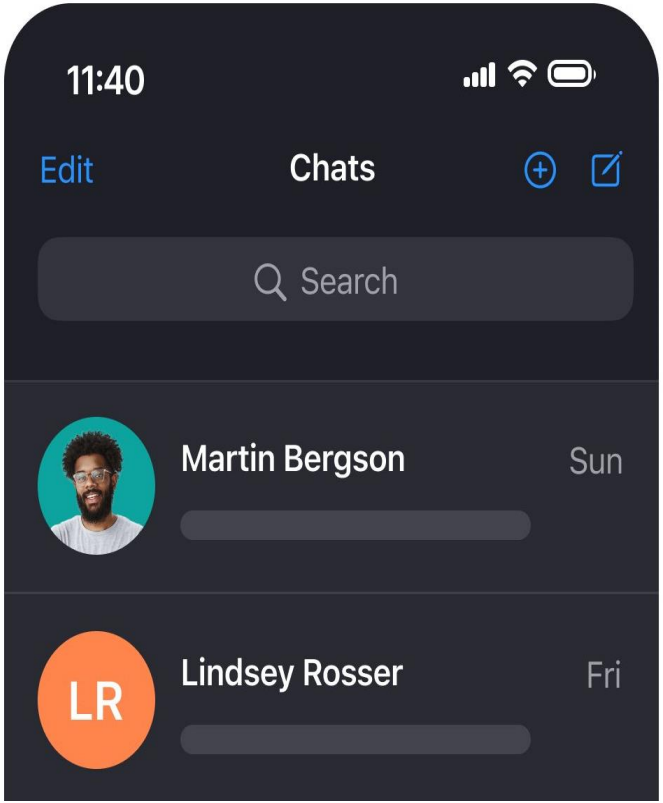
Android vs iOS

Floating Action Button (FAB)

- Is a highly recognizable component of Android.
- It is **used to display the most commonly used options** on the certain screens and thanks to its location, can be used in different parts of the interface.
- The equivalent of the FAB button for iOS is just another '**Call To Action**' button which simply allows the user to take some action.

Android vs iOS





Android vs iOS

Typography

- Both systems recommend using their own system fonts, **Roboto** for Android and **San Francisco** for iOS.
- The basic sizes of the text are similar, but Material Design uses a larger **difference in font sizes** and their layout, while iOS builds the **text hierarchy mainly by using bold type.**

Android vs iOS

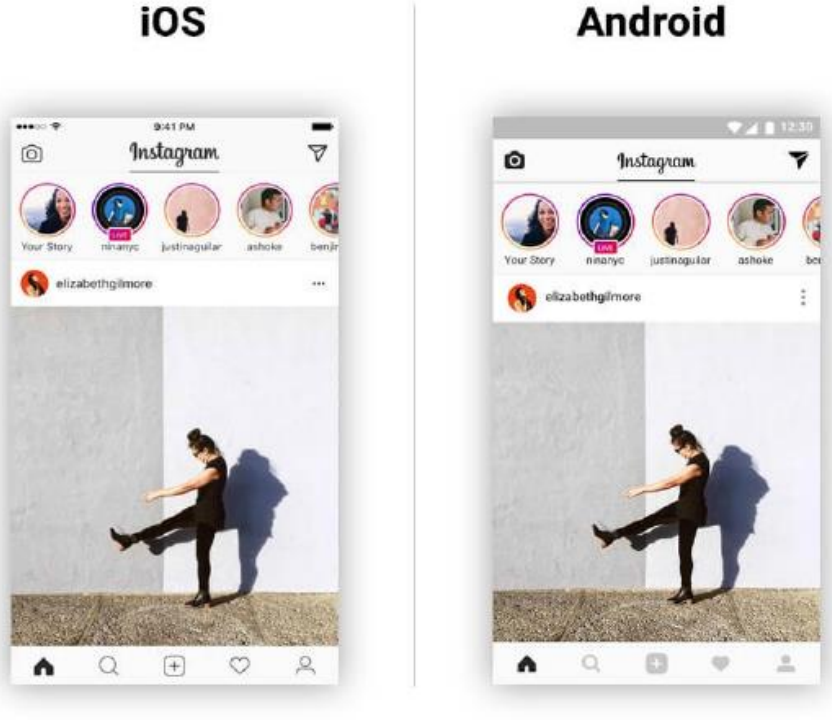
Checkbox

One other elements that we see is different between the two platforms is the style of checkbox (in the image you could see the difference).

Android vs iOS

Icons

Android uses filled icons, while iOS icons are created from a single line which are unfilled. Recent trends, however, show that these rules are often overlooked on both platforms.



Android vs iOS

Hamburger Menu Vs Bottom Tab

Android design tend to use more Hamburger Menu in their interface design while iOS use Bottom Tab Approach (this difference is less seen recently **both designers been using similar navigation elements to make the job for the users easier).**

Android vs iOS

Final tip

The simple truth is design of interface should be **user-centered design** there is **no right or wrong design guidelines**, you should always keep in mind the user you are designing for.

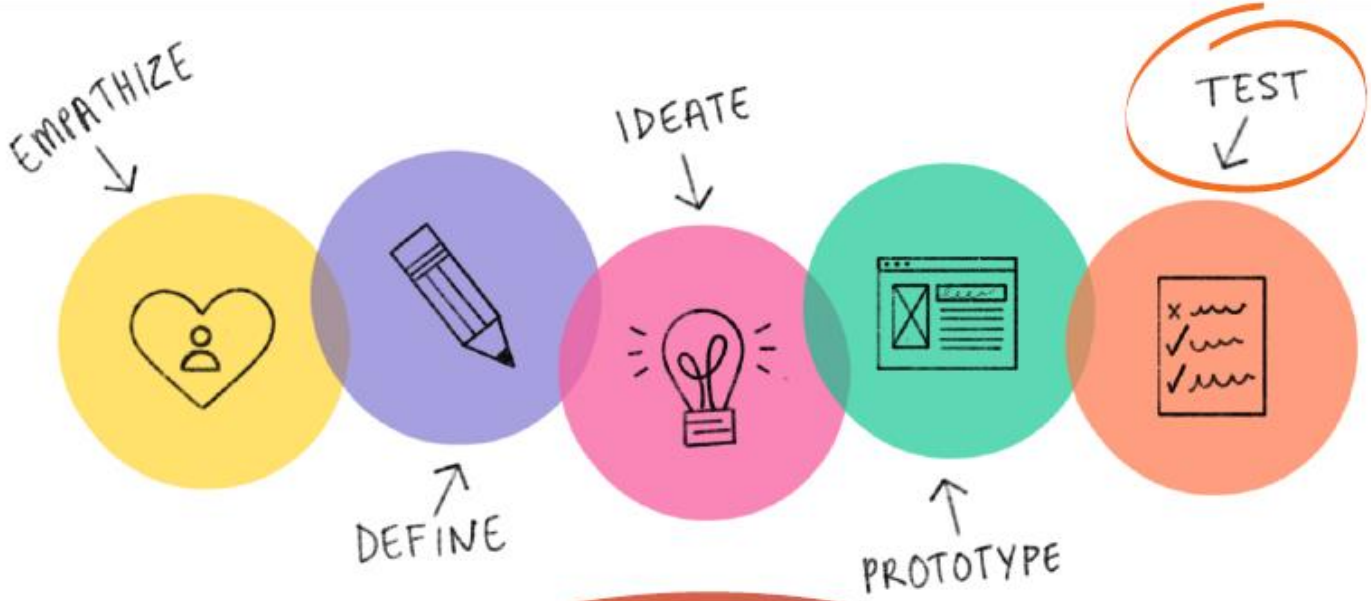
High-fidelity prototypes

High-Fidelity Prototypes

- A high-fidelity prototype **must have these three pieces:**
  - **Visual elements** like color, images, icons, and typography;
  - **Navigation** to help users move between screens; and
  - **Interaction**, like gestures and motion, which make the prototype function.

5th stage

Test



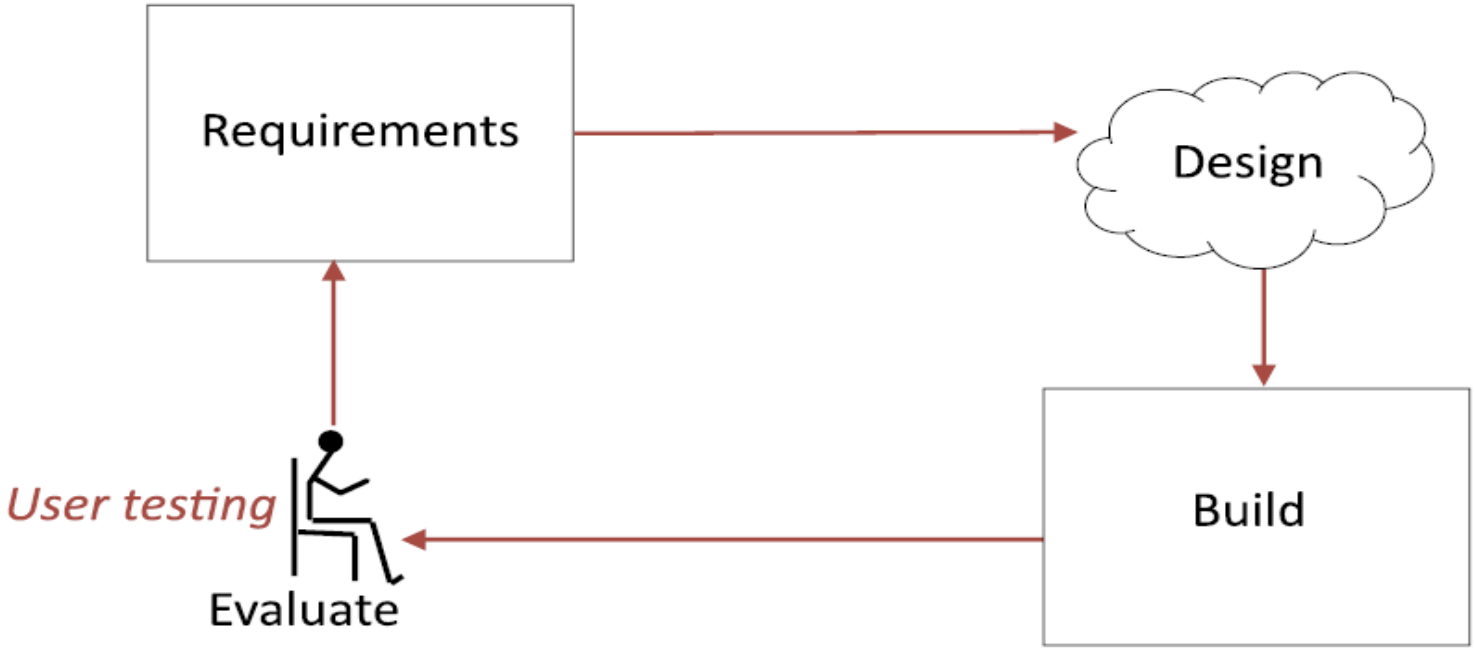
Test

During the test phase, users provide feedback about your designs, before the product is built by engineers and launched to the public

Evaluation and User Testing

Evaluation and User Testing

Analyze/design/build/evaluate loop



Evaluation

- Design and evaluation should be done by different people.
- Schedule must include time to conduct tests and make changes.
- Evaluation should be ongoing:
  - Iterative refinements during development
  - Quality assurance before deployment
  - Improvements after launch

Evaluation

- **Methods of evaluation**
  - User testing
  - Quantitative (measurements on operational systems)
  - Analytical (sans users)

How to test your Prototype?

1) Usability Testing

Usability Testing

Usability

Usability is a **measure of how** well a specific **user** in a specific context **can use a product/design to achieve** a defined **goal effectively, efficiently**

Usability Testing

Is a **research method**, that **helps us in testing how easy a design is to use with a group of users**. It usually involves users **completing tasks** and can be done for different types of designs.

Usability Testing

Why?

Usability Testing

When?

Wireframes

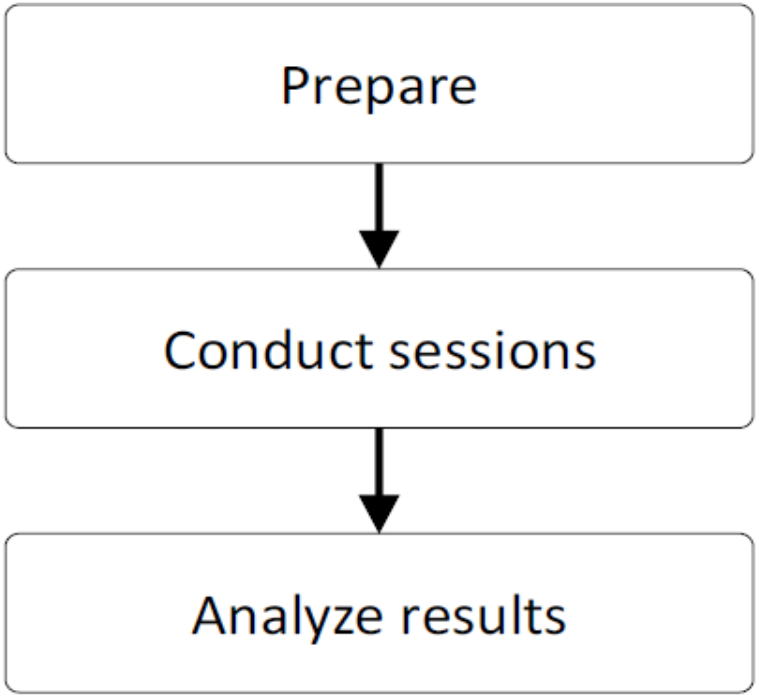
Visual design

Standards for Usability

- **Effectiveness**
  - The accuracy and completeness with which users achieve certain goals
  - Measures: quality of solution, error rates
- **Efficiency**
  - Means getting the best results using the least amount of time, effort, or resources
  - Measures: task completion time, learning time, number of clicks
- **Satisfaction**
  - The users' comfort with and positive attitudes towards the use of the system
  - Measures: attitude rating scales

User Testing Stages

- User testing is time-consuming, expensive, and *critical*



Preparation

- **Determine goals of usability testing**
  - *"Can a user find the required information in no more than two minutes?“.*
- **Write the user tasks**
  - *"Given a new customer application form, add a new customer to the customer database“.*
- **Recruit participants** تجنيد المشاركين
  - Use the descriptions of users from the requirements phase to determine categories of potential users and user tasks.

Participants

- **Don't need many (per feature)**
  - Look for diversity (age, experience, ability)
- **Combine structured tests with free-form interviews**
- **Have at least two evaluators per test**
  - Should *not* include designers

Conducting Sessions

- **Environment**
  - Informal
  - Simulated work environment
  - Usability lab
- **Give the user their task**
- **Observe the user**
  - Human observer(s)
  - Recording (with permission)
- **Query satisfaction**

مراقبة المستخدم
○ مراقبون بشريون
○ (التسجيل (بإذن
● تلبية الاستفسارات

Analyzing Results

- **Test the system, not the users**
  - Respect the data and the user's responses
  - Do not make excuses for designs that failed
- **Pay close attention to instances where users:**
  - Were disappointed
  - Took a long time
  - Could not complete tasks
- **Also note aspects of the design that *did* work**
  - Make sure the things that worked well stay the same and don’t get worse in the final version

How to test your Prototype?

2) 10 Usability Heuristics

10 Usability Heuristics

Visibility of System Status

1

Match Between System & Real World

2

User Control And Freedom

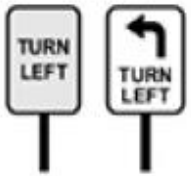
3

Consistency And Standards

4

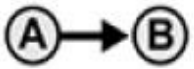
Error Prevention

5



Recognition Rather Than Recall

6



Flexibility And Efficiency of Use

7

Aesthetic And Minimalistic Design

8

Help Users With Errors

9

Help And Documentation

10

Design
Hand-off

Hand-off

What?

Design handoff is the process of handing over a finished design for implementation.

End of Chapter 5