Mobile Application Development

Mobile Application Development fundamentals

Introduction to the module

✓ Student Centered Learning module

- Module Code: IT2010

- Credit Value: 4

- Method of Delivery
    - Lectures – 1 hour/week
    - Tutorials (practical) – 2 hours/week
    - Labs - 2 hours/week

- Courseweb Enrollment Key: IT2010

Lecture Plan

- Mobile Application Development fundamentals

- Mobile Platforms

- Introduction to Android Operating System

- Main Components of Android Application

- Android Interface Design Concepts

- Data handling in Mobile App Development

- Sensors and Media Handling in Android Applications

- Kotlin Language to develop Android Mobile Apps

- Android Application Testing and security aspects

Assessment Criteria

Continuous Assessments (This could be changed due to the current situation of the country)

- Midterm Examination (MCQ) - 20 %

- Mini Project (Group Project) - 30 %

    1. Project Phase 1 – 10%

    2. Project Phase 2 – 20%

End Semester Examination

- Final Examination (Online) - 50 %

Lecturer Panel

- Lecturer in-charge of the module

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- Malabe

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  Mr. S.M.B. Harshanath (harshanath.s@sliit.lk)

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- Matara

  Ms.Suriyaa Kumari (suriyaa.k@sliit.lk)

Learning Outcomes of the Lecture

At the end of this Lecture students will be able to:

- Understand the fundamentals of mobile Application
  Development

Why a Mobile App?

- Mobile phones are no longer the ordinary communication device. It has various incredible features and opportunities offered to the users.

- The number of smartphone users is growing up day by day. (In 2020, it's 3.5 billions)

- Business organizations are more like to have mobile applications for their business instead of investing in a mobile friendly version of their websites.

- Good mobile application will add value to the business.

Smartphone users growth around the world

Reference: https://www.statista.com/statistics/330695/number-of-smartphone-users-worldwide/
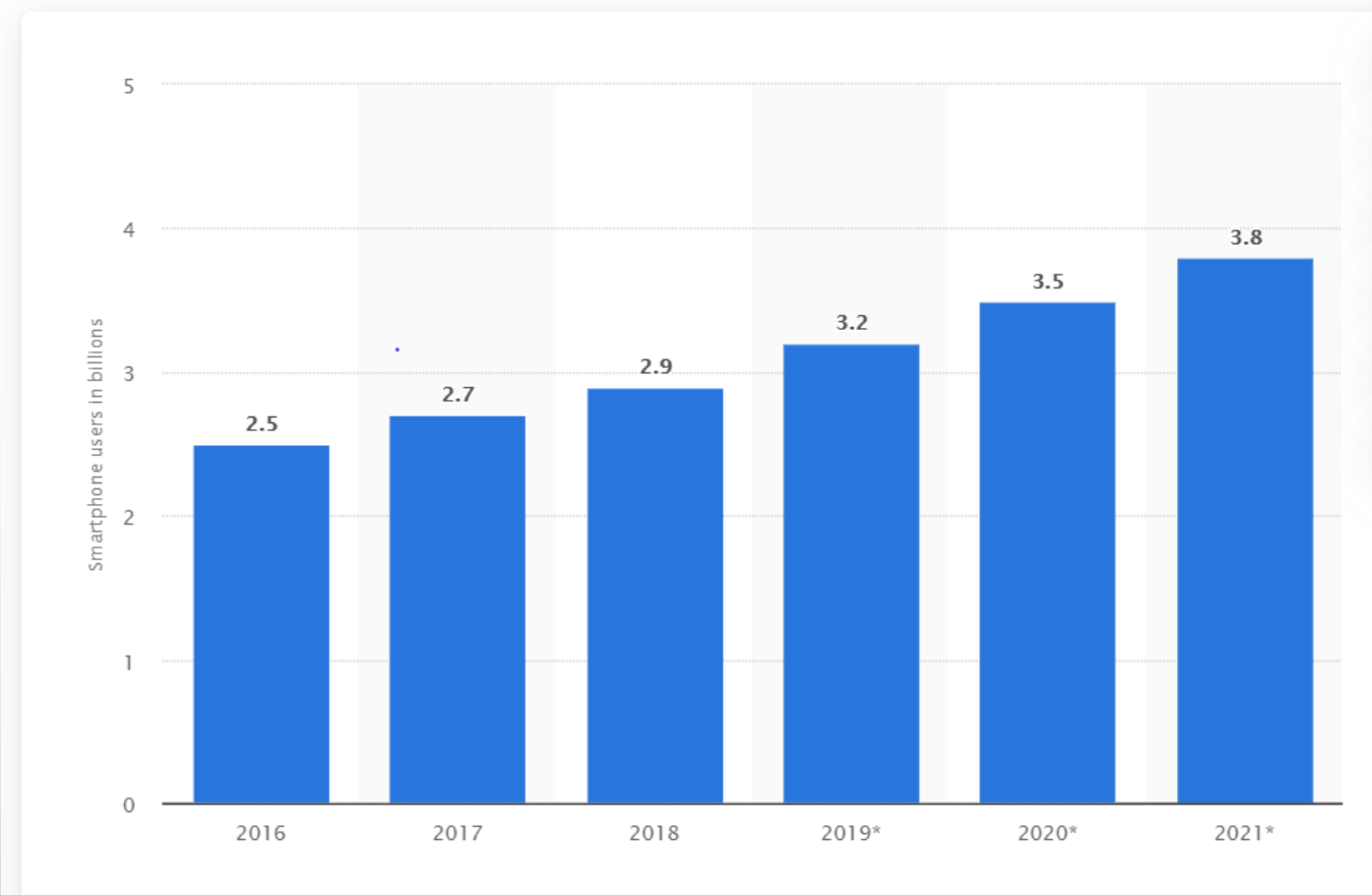
Mobile Application Development

- Mobile application development refers to the creation of apps for use on devices such as tablets, smartphones, automobiles and watches.

- Mobile development often incorporates features of mobile devices that may not be available on desktop devices.

  An example of this is the ability to operate a device or play a game simply by moving the smartphone around in space.

Key Features of Mobile Applications

- Great UI (User Interface)

- Fast loading time and high performance

- Extremely helpful user support

- Adapts to a user's needs

- Compatible with a mobile platform
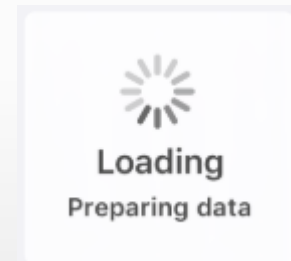
Reasons for Mobile App failures

- The app doesn't have a market
- The app does not have adequate security
- The app does not perform quickly enough
- The app does not fully consider UX/UI
- The app's listing in the marketplace is not persuasive
- Hard to adjust web version to the smartphone screen
- Due to limited functions

Fundamentals of Mobile Application Development

Choice of Technology

- In advance to choosing any technology platform, one must ensure it is feasible in every way possible.

- Most appearing platforms are Android, iOS and Windows, and they are evolving rapidly with frequent handy updates. These platforms make it practically possible for developers to build unique features and impressive interface to deliver outstanding user experience.

- Choosing the right platform means your apps will be supported by numerous devices used by customers.

Fundamentals of Mobile Application Development

Clear recognition of requirements

- Define and set your final goals where you want to reach so that you can make a clear strategy and avoid confusion down the path of development.

- Knowing your goals enrich your vision and helps you develop apps that hit the precise pain point.

- Detailed analysis of the product and target audience helps to build an effective app

Fundamentals of Mobile Application Development

Dynamic Functionalities

- Mobile application users like to explore a heterogeneous set of interactive functionalities such as GPS, transactions, messages, responsiveness, sensors, and even audio/video.

- Most application use these interactive functionalities to attract users.

Fundamentals of Mobile Application Development

Security and Speed Efficiency

- Security problems are potential threats to customers who will become the end users of the app. Choose a reliable, secure, authentic resources and industry-standard processes to build the app to ensure its highly secure.

- A mobile app should respond instantly to process customer requests in time. Ensure that the application is effective normal internet environment.

Fundamentals of Mobile Application Development

Testing Quality and Consistency

- Testing the app is a crucial stage for any developer as it confirms whether or not the app is ready to deploy.

- An ideal app testing method must include testing on different devices of varied screen sizes in order to measure its performance and view its compatibility.

- Developer must also necessarily maintain the consistency while coding the app to make sure the entire mobile app development process, along with its documentation and program updates and interface, is genuine, consistent and clear.

Fundamentals of Mobile Application Development

Introduce a Pilot Version

- Once the development team is confident that they have built a well-tested, mature and fully functional app, they can go for launching the pilot product.

- The course of ideal mobile app development must end with the launch of pilot version.

- It helps developers receive the feedback and responses from the users and judge the success of the app.

Mobile Application Design Tools (Prototyping tools)

"If a picture is worth a thousand words, a prototype is worth a 1000 meetings"

Mobile Application Design Tools (Prototyping tools)

- Invision
- UXPin
- Sketch
- Slicy
- Skala Preview
- PlaceIt
- AdobeColor
- FontFace Ninja
- Illustrator & Photoshop
- Omnigraffle

- Proto.io
- After Effects
- Fluid UI

Groups formation to the project

- Register your 4 member groups into given links in courseweb.

- First phase Evaluation –> 15th – 20th August (Report submission on 15th August)

- Final Evaluation -> 27th September – 2nd October (Report submission on 26th September)

NOTE: The above dates are fixed. No extensions will be given.

Thank You