# Lecture 1 – Introduction to Mobile Application

Mr. Yousif Garabet Arshak

Computer Science Department

University of Zakho

yousif.arshak@uoz.edu.krd

# Outlines

- Prerequisite course
- Assessment plan
- Market Share iOS/Android
- Introduction to Mobile Application
- Designing Mobile Application Contents
- Creating project
- Lab Exercises
- Mini Projects
- Any Questions?

# Prerequisite Course

Object Oriented Programming

Web Engineering

Data Base Design

Mobile

Application

Development
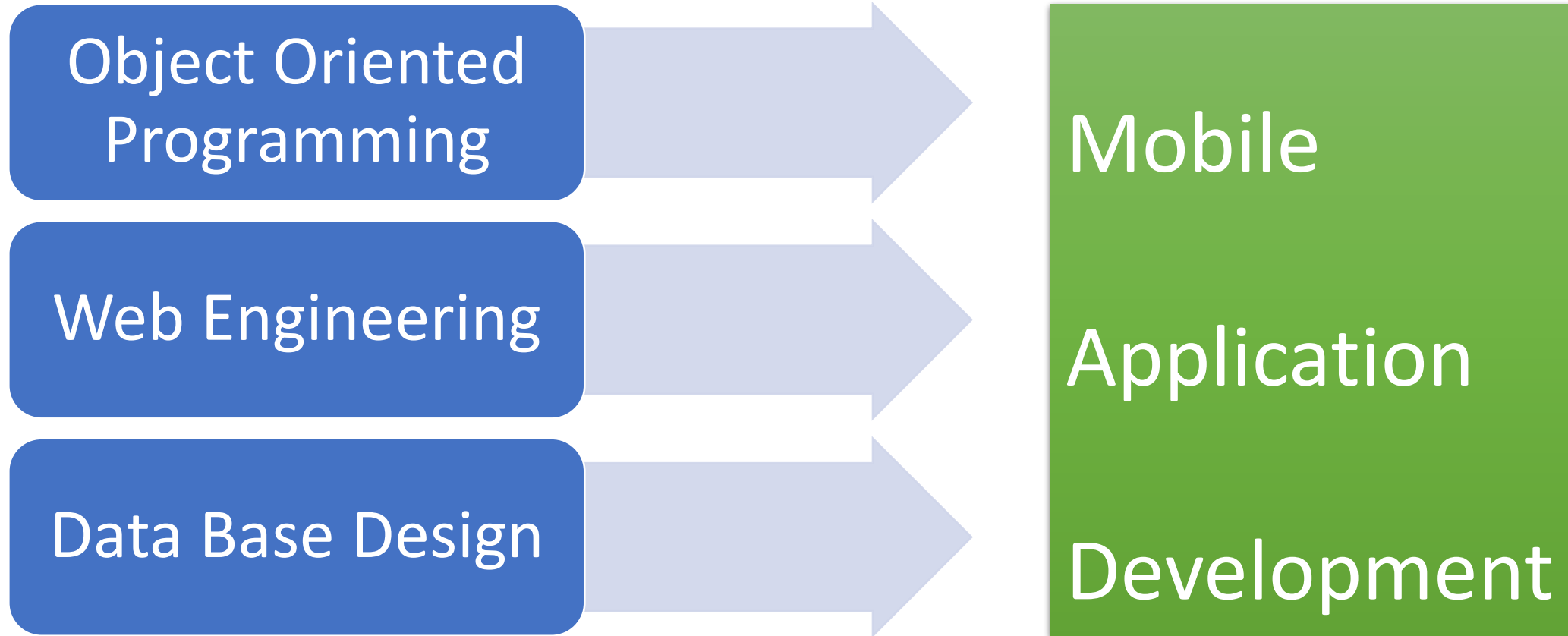
# Assessment plan

| Activities | Mid-Term | | Final | |
|---|---|---|---|---|
| 30% | 20% | | 50% | |
| Assignments, Quizzes, Reports, Projects & Presentations | Theory | Practical | Theory | Practical |
| 30% | 10% | 10% | 30% | 20% |

# Introduction to Mobile Application



IN THE BEGINNING
MOTOROLA DYNATAC 8000X

# EARLY SMART PHONES



IBM Simon

Nokia 9000 Series

# WHAT IS A "SMARTPHONE"

- Semi-Smart: Phone that offers features beyond making calls

1. E-mail

2. Take pictures

3. Plays mp3

4. …

- Phone that runs a complete Operating System
  - Offers a standardized platform for development
  - Able to execute arbitrary 3rd party applications

# QUICK FACTS

- Today
  - Cell phones in use today ~ 7.95 billion
  - Smartphones account for 14% ~ 170 Million

# MOBILE DEVELOPMENT SOLUTIONS

- Java ME
- Symbian
- UIQ
- S60
- Android
- BlackBerry
- OVI
- Windows Mobile

- iPhone
- LiMo
- Ångström distribution
- Adobe Flash Light
- BREW
- OpenMoko
- Palm OS (Garnet OS, Cobalt OS)
- Palm webOS Mojo

# COMMON PROBLEM: ABSTRACTION

- Interface / GUI
  - How does the developer create an interface
    - Different interaction techniques
    - Graphical capabilities of the phone

- Phone Services and Security
  - What resources are available to your program
  - What types of boundaries or constraints are put on applications
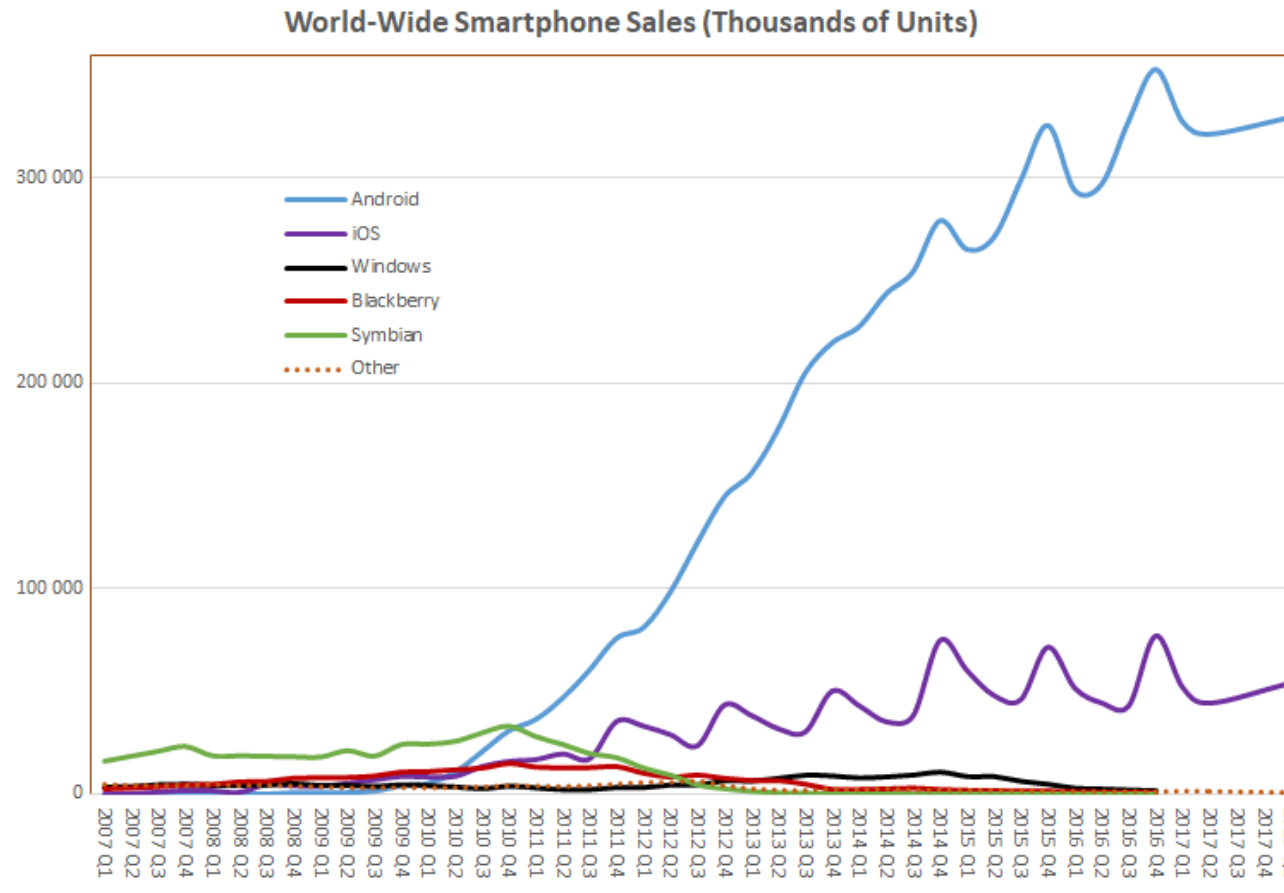  - How can code be considered "safe"

# THREE TIERED SOLUTION

- Virtual Environment
  - Java ME
  - BREW *
- Core Operating System
  - Symbian
  - LiMo
- Rich Operating System
  - Android
  - iOS

# Smartphone Sales



World-Wide Smartphone Sales (Thousands of Units)

Source : https://en.wikipedia.org/wiki/Mobile_operating_system

# Android vs iOS

- iOS 28.26%
- Android 71.24%
- Other 0.5

# Market Share iOS/Android
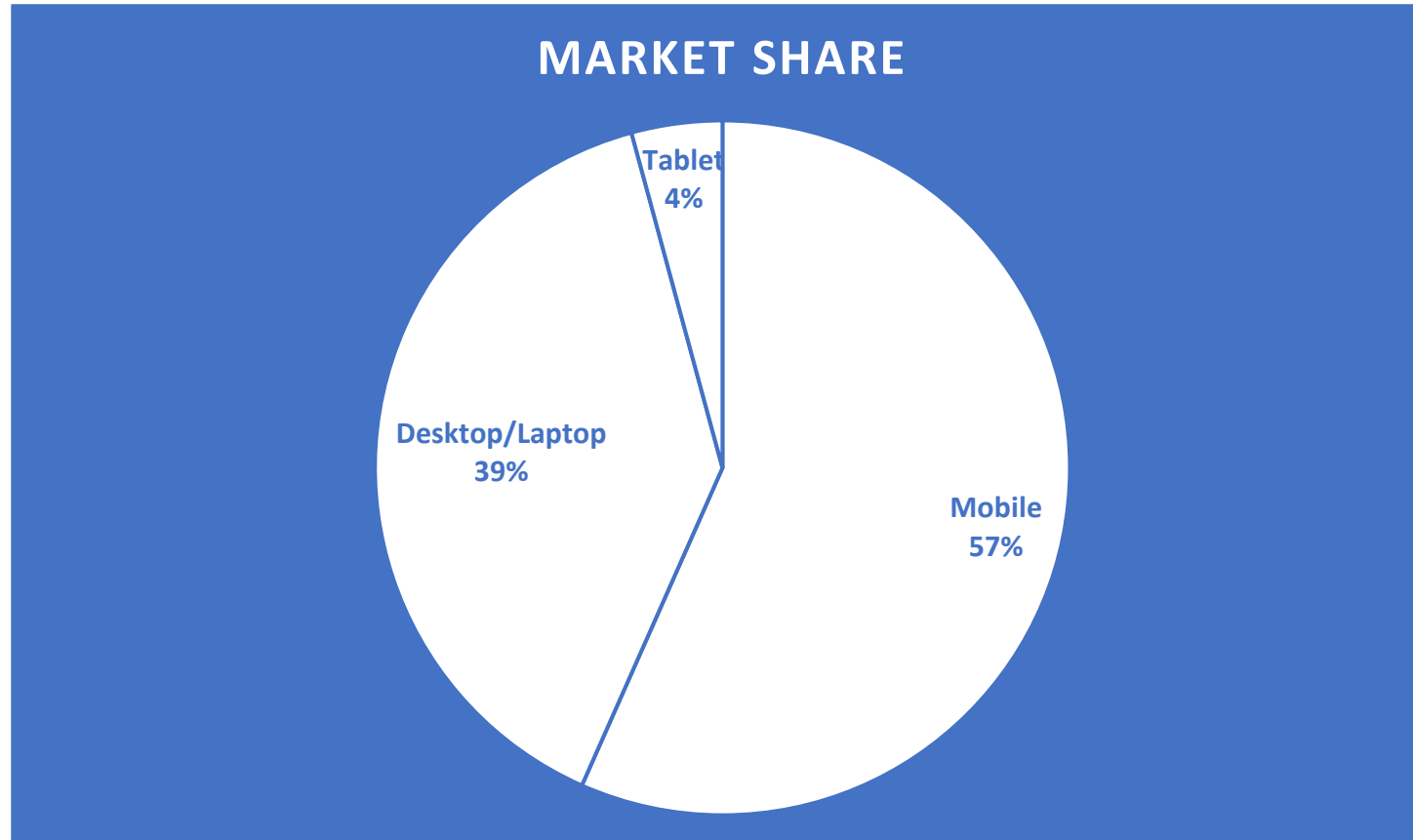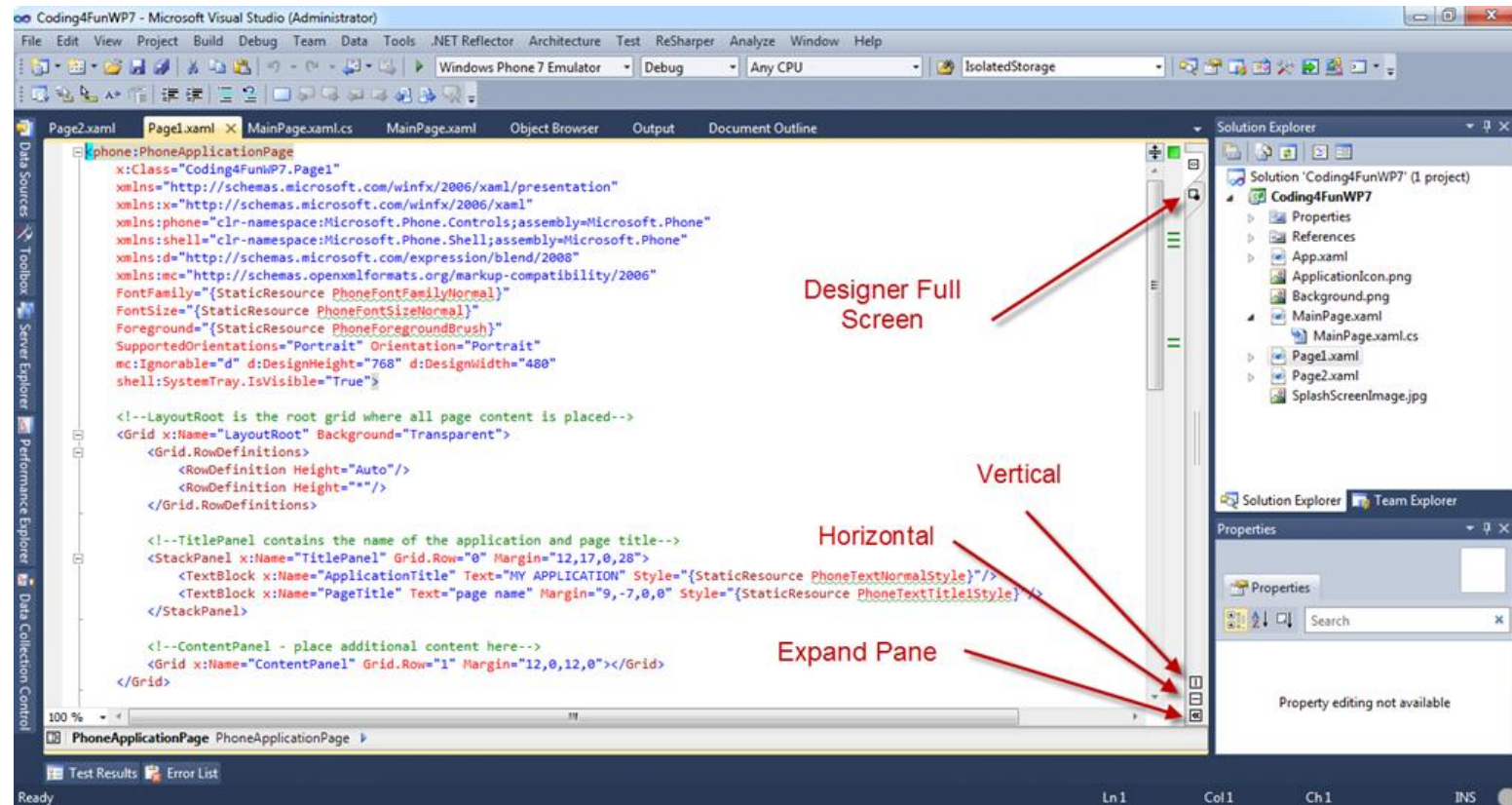


Android
iOS

Source : https://lvivity.com/android-vs-ios-app-development-platform

# Device Types



**MARKET SHARE**

Tablet 4%

Desktop/Laptop 39%
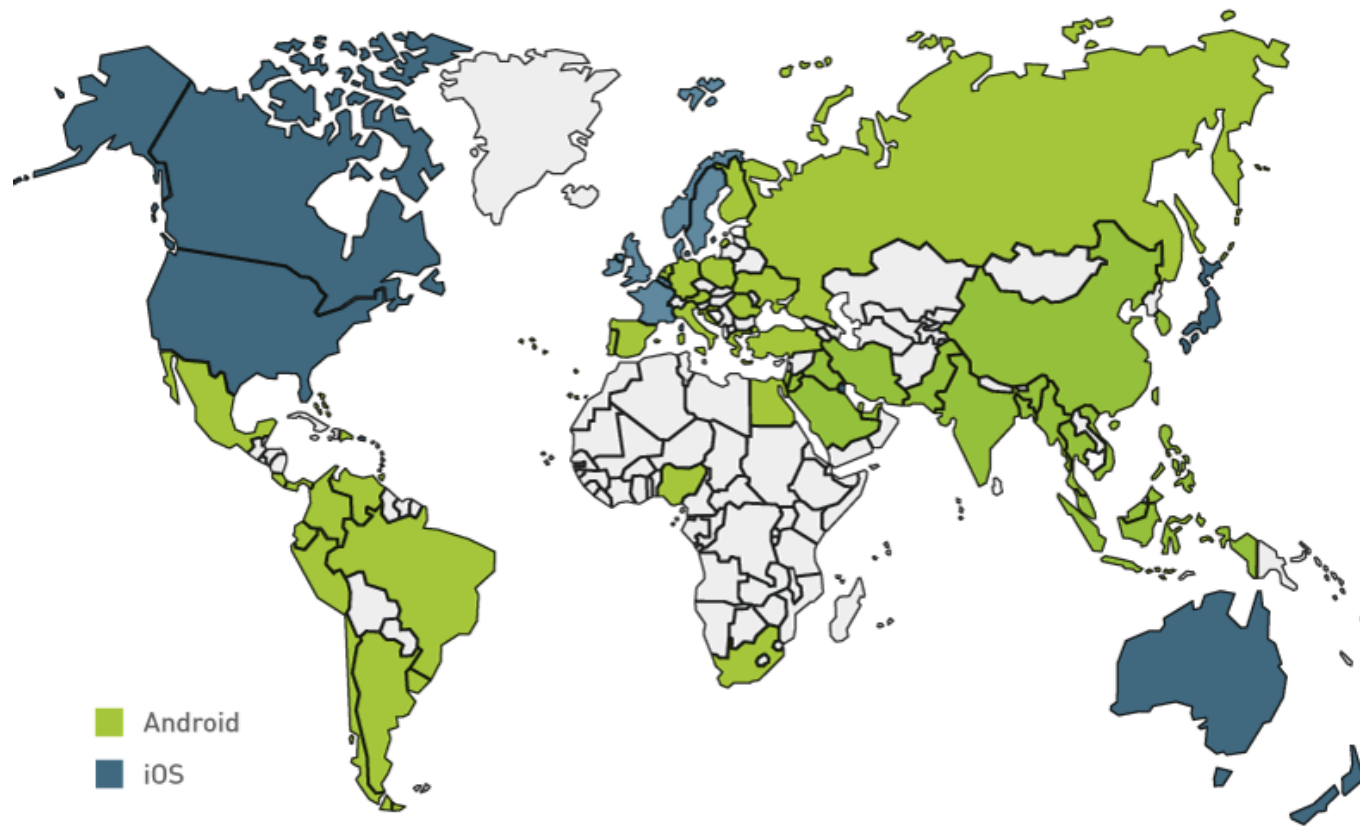
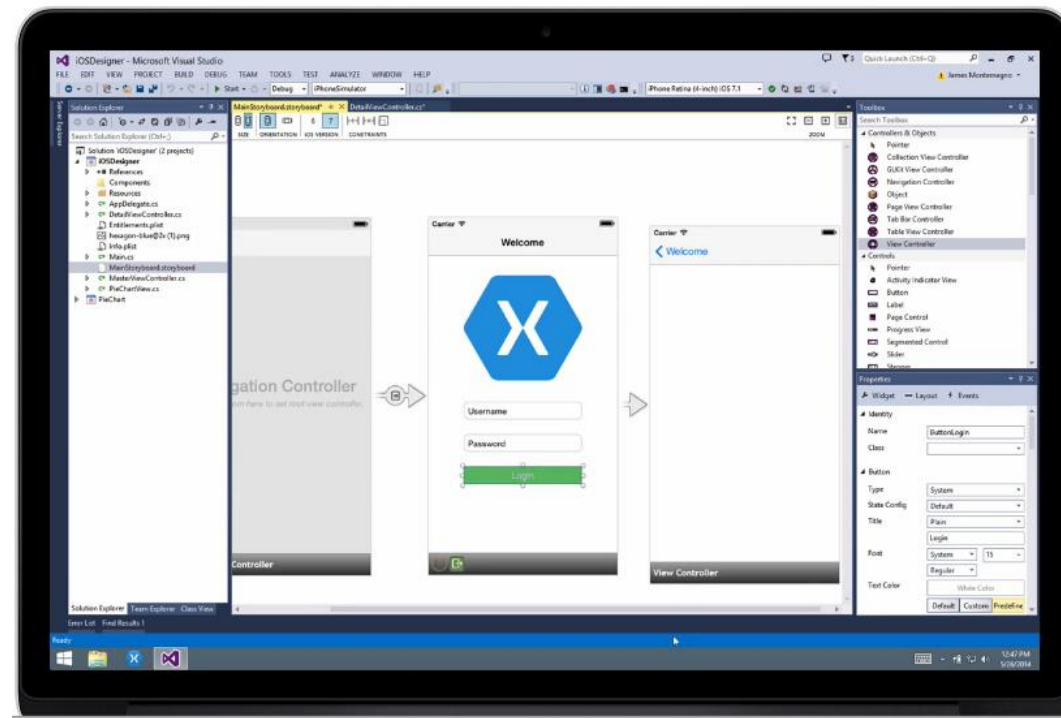Mobile 57%

- Source: netmarketshare

# Designing Mobile Application Contents

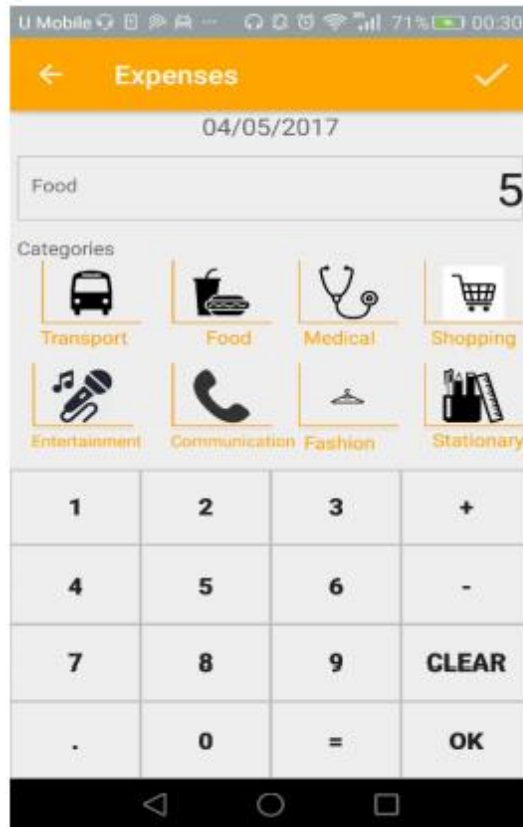- Aim: To learn how to designing a mobile application contents using XAML.

# Creating project

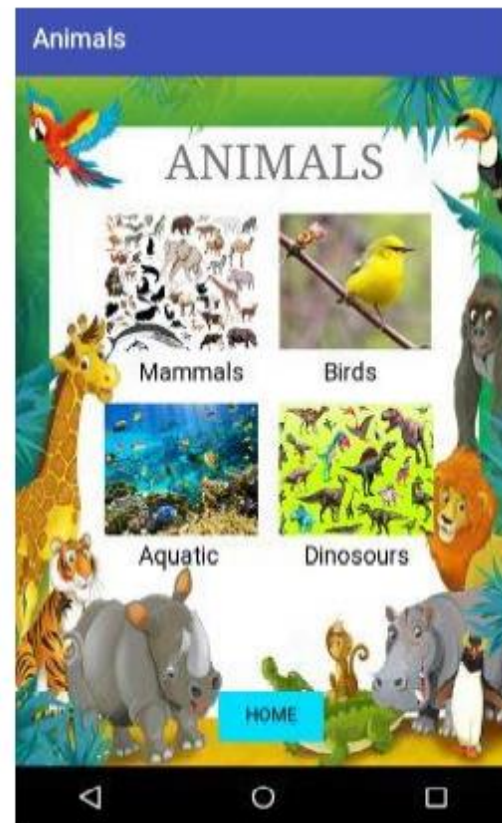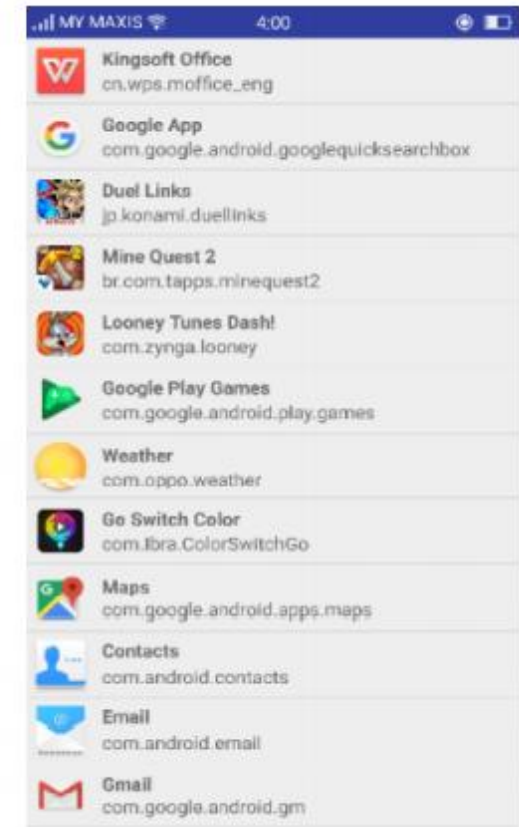- We will use Visual Studio (Xamarin.Forms) to create Android/ IOS applications

# Lab Exercises

# Mini Projects

# Any Questions?