



Mobile Development 7-9 Syllabus

Course Goals

1 Software Engineering

Students use critical thinking techniques to grow accustomed to creating software solutions on their own.

2 Computer Science Concepts

Students are exposed to high-level computing concepts and terminology to lay a foundation for future studies in programming.

3 Advanced Components

Students apply advanced components such as QR-code scanners and accelerometers in order to enhance their app-development capabilities.

Course Topics

1 Integrated Development Environments

Students learn about IDEs and learn to navigate the Thinkable interface.

2 Computing Concepts

Students learn universal computing concepts that they then apply in Thinkable, such as if/then statements and classes.

3 Basic Components

Students learn to apply basic components to their applications, such as buttons and labels.

4 Advanced Components

Students use components that involve more complex planning and programming and allow students to accomplish more with their apps.

5 User Interface and Experience

Students learn what makes for good and bad app design.

6 Back-End Development

Students use mini-databases to store data in their apps.

7 Cumulative Project

Students apply all of the components and programming concepts they have used in the course to create a final app.

Course Schedule

Day 1

Course Introduction

Students introduce themselves and engage in a discussion on what programming is. Students go over the main rules of Fairfax Collegiate, as well as the rules with respect to working with the laptops and tablets.

Introduction to Thinkable

Students are introduced to the Thinkable design-side interface by creating some example apps.

Day 2

Variables, Getters, and Setters

Students learn about variables, getters, and setters. Students build an app that counts people coming in and out of a park in order to apply these skills.

Classes and Objects

Students discuss objects and classes in computer science and then apply objects and classes to their AppWorld project.

Day 3

If/Then Statements

Students use a hypothetical problem-solving scenario in order to learn about if/then statements. Students apply the if/then statements to enhance their AppWorld apps.

Day 4

Multi-Screen Apps

Students start a pictictionary game app by setting up a multi-screen framework. Students practice planning multi-screen interactions for implementing multiple screens.

Canvas

Students begin learning about canvases in app development. Students implement a canvas in their pictictionary game.

Day 5

Clocks

Students add a clock to their pictictionary game and get more practice with advanced Thinkable development tools.

Accelerometer

Students learn the science behind how accelerometers work and integrate them into their Pictionary app.

Day 6

Data Storage

Students use databases and textboxes to store long-term data.

QR Code Scavenger Hunt

Students use QR code scanners to create an app that takes the user through a scavenger hunt or puzzle.

Day 7

QR Code Scavenger Hunt

Students use QR code scanners to create an app that takes the user through a scavenger hunt or puzzle.

User Interface and Experience

Students learn about User Interface and User Experience and improve their own previous apps.

Day 8

Catching Up

Students have designated time to catch up on projects or learn supplemental material on using imagesprites to create animations.

Day 9

Final Project

Students draw upon all the tools previously discussed to create a cumulative application that solves a problem in their lives or communities.

Day 10

Final Project: Part 2

Students continue development on their cumulative app project.

Course Wrap-Up

Students download their apps to their flash drives and discuss what they have learned throughout the session.

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Updated on 4/3/2022