

Mobile App Development Project 4

Overview:

You will be assigned to a group of students. The goal is to produce an android phone-based app to help high school students in school. The students may be athletes, incoming freshmen, club members – any group you wish or all groups together. *Use the sheets that follow to guide you.*

Your app must:

1. **Produce the location of the school**
2. **Provide a school bell schedule**
3. **Connect you with**
 - a. **school administration**
 - b. **special programs**
 - c. **school news**

Programming:

We will be using **MIT's App Inventor 2**¹. Follow the instructions to the right to get the compiler to work. Google will give you a built-in place to save. App Inventor 2 has the ability to run as an interpreter² and to produce both **aia** and an **apk** files.

An **aia** file contains the source code³. This is the program you see on the screen. You can use this file to combine work from other students in your group with your own work. It is a requirement for your grade and the contest. Email it as an attachment to anyone who needs your on-going work.

An **apk** file is a compressed binary executable⁴ for android phones. If you send the **apk** to anyone's phone, it will they will have your program as a full running app. They will not need App Inventor 2. This file is also a requirement for your grade and for the contest.

How to Run MIT's App Inventor 2

1. **Make an account with Google, if you do not have one, and sign in.**
2. **If you have an android phone, go to play store and install MIT AI2 Companion.**
3. **On your computer, go to <http://ai2.appinventor.mit.edu>**
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.

Special thanks to D. Lugo, IT specialist, for assistance in preparing this section.

¹ MIT App Inventor 2 is provide free of charge by MIT, software and support licensed under a Creative Commons Attribution-ShareAlike 3.0 Unported License © 2012-2013 Massachusetts Institute of Technology

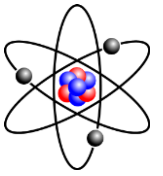
² Remember, intepreters execute programs line by line, so they must be present while the program is running, and they will run programs slowly. Compilers translate the whole program at once to executable code. Compilers take a long time to make the translation, but once made, the code is fast and will run without the compiler present.

³ Source code is the program you write or edit, the one you see on your screen when you are programming. Source codes have different extensions for example, C is .c; Python is .py.

⁴ An executable is machine code that runs the computer or device. If you look at it, it will look like gibberish. Executables on a PC end with .com, or .exe, but on an android, they end with .apk.

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Student Teams:

Group 1:

- Giovanni Carter *
- Rony Sanchez

Group 2:

- Hector Erazo *
- Lanyah Leon
- Jose Marrero

Group 3:

- Angel Mendoza *
- Yander Diaz
- Alexander Vega-Heredia

Group 4:

- Justin Jova *
- Kinsley Lafrance
- Demetrius Flores

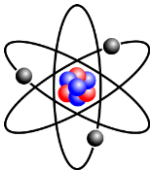
Group 5:

- Imanol Ordaz-Paiz *
- Victor Aguiar
- Adrian Roldan

* Students with an asterisk after their names are group leaders. They **assign** tasks, **check** work coming in and see to it that the project is **complete**. Part of their grade is determined by how effectively the student in their teams contribute to the final project. They are the people who put the whole thing together. Team members report to them.

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INNOV@TE CTE CHALLENGE MOBILE APPLICATION DEVELOPMENT Notes for The Video Presentation (3 min)

Directions: Fill in the information below, proof it, read it aloud and write a video script from it, then have the instructor check your work. Erase all directions when you finish. They are green.

How we designed the app:

Who we aimed the app at:

Examples: Students coming in from middle school, students new to the area, freshmen, seniors, athletes, magnet students

How the program will help them:

Visual effects:

Audio effects:

Unique form:

Unique Functions:

Coding language and why:

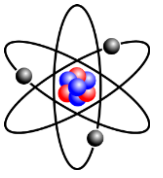
MIT's App Inventor 2

program abstraction, access to sensors, pre-programed objects, easy packaging and deployment, zero cost, and minimal installation requirements

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INNOV@TE CTE CHALLENGE
MOBILE APPLICATION DEVELOPMENT
Oral Presentation Text (5-7 min)

Directions: (All directions are in green. Be sure to erase them). Make a five to seven minute oral presentation on:

- 1. WHAT THE PROGRAM DOES – WHY IT IS NEEDED.**
- 2. HOW THE PROGRAM WAS DEVELOPED – WHY THAT IS THE BEST WAY.**
- 3. SOFTWARE USED – WHY IT IS RESPECTED.**
- 4. HOW THE PROGRAM WORKS.**
- 5. COPYRIGHTS AND COPYRIGHT LAW.**

Visual aids: phone, pictures, projections.

Standard Outline:

- I. **Introduction catch phrase:** “Have you ever...”, “Did you know... “
- II. **Initial summary paragraph:** “There are three things ...”, “To be successful in this life ...”
- III. **Body:**
 - a. “XYZ meets these needs by ...”
 - b. “XYZ was developed using ... specifically so ... and therefore it never ... and it always ...”
 - c. “XYZ was produced by ... with ... all rights are reserved ... side effects include ...”
- IV. **Conclusion:** “Use XYZ for your ..., ..., and ... and you will be surprised that [amazing thing].”

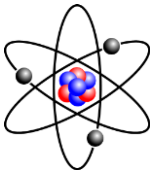
Be ready for questions like the samples below.

Write out questions and answers, and quiz each other.

- 1. How did you make ...?**
- 2. What problems did you run into, how did you solve them?**
- 3. What was your biggest challenge?**
- 4. Where did you get ...?**

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Erase this box and
replace it with a QR
for the program on-
line. Use
[https://www.the-
qrcode-
generator.com/](https://www.the-
qrcode-
generator.com/)

INNOV@TE CTE CHALLENGE MOBILE APPLICATION DEVELOPMENT File Submission

Directions: Fill in the information required by Innov@te by editing this sheet. Write your answers in paragraph form. Take it to your instructor and read it aloud, edit it and fix all grammar and spelling until it sounds intelligent and it flows, then turn it into a script for the video. When you finish, erase all the directions. They are green text.

App Name:

Description:

Features:

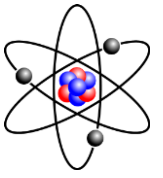
Development:

Copyrights:

Erase this box and
place one or more
phone shaped
pictures of the app
doing its best, most
visually impressive
work here. Wrap
text using the square
option around all
pictures.

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**INNOV@TE CTE CHALLENGE
MOBILE APPLICATION DEVELOPMENT
Contest Check-Off List**

Prepared:

- App written, named and tested
- App bug free
- App has
 - school location
 - bell schedule
 - administration contact info
 - school special programs
 - school organizations,
 - school news
- App states license for use and terms of use
- There is a QR and picture of the GUI⁵ on the file submission page
- Team Registered – App name, members, school, grade
- Transportation arranged.

Contest Date: Saturday, 12/1/19
Contest Location:
Miami Dade College Wolfson Campus
300 NE 2nd Ave, Miami, FL 33132

Packaged and ready the day before:

- Video presentation USB
- Tested laptop computer, charger, extension cord
- Tested demonstration phone
- Code in file format on USB (aia) and printed
- Stand-alone program on USB (apk)
- Written & practiced oral presentation timed to 5-7 min.
- File submission form on USB (pdf)
- File submission form printed

⁵ GUI stands for Graphical User Interface, or what people see. Put in a picture of your program at its best.