

## APPS FOR MOBILE DEVICES

<b>THEME</b>	Calculating BMI
<b>FORMAT</b>	Individual, pairs or small groups
<b>PREPARATION TIME</b>	1 hour
<b>ACTIVITY LENGTH</b>	1h30
<b>DIFFICULTY LEVEL</b>	Easy - average

### PEDAGOGICAL GOALS

- Continue to familiarize yourself with the AppInventor environment
- Work on implementing a new application
- Practice testing applications via emulator
- Expand the possibilities offered by a calculus application

### NECESSARY MATERIALS

Computer room with computers connected to the Internet

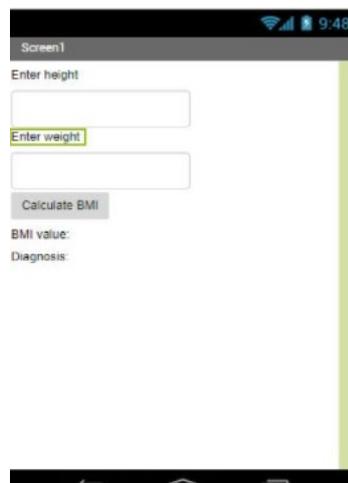
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### Preparation:

- Ensure that the computers used already have aiStarter installed, and that there is already an App Inventor account available for use.
- For more information on how to do this, check out the Week 1 Lesson Plan.
- Study the application's interface and programming implementation through the Code IoT platform.

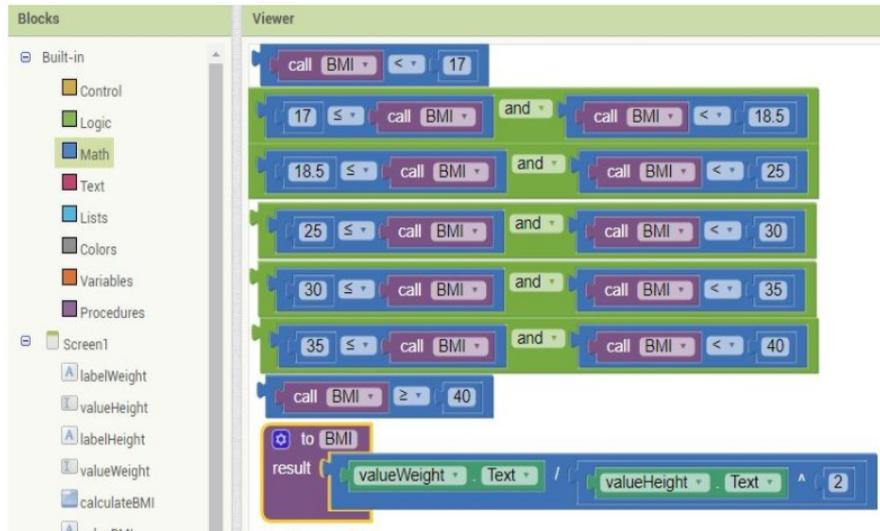
### Conducting the activity:

- Divide the class into pairs or trios depending on the number of computers available at your school.
- Ask the class what BMI is and how it is calculated. Supplement with the necessary and correct information.
- Ask students what information an application that calculates BMI needs to have and what operations it needs to do, and write the answers on the board.
- Choose a student or use your own data to do a BMI calculation as an example.
- Ask students to access the App Inventor website at the link <http://appinventor.mit.edu/explore/>
- Ask them to click “**Create apps**”, then in “**Start New Project**”, naming the project “IMC – Student Name”.
- Guide students on which interface components they will need to implement the app:
  - One label “Entry weight” for weight input and rename it to "labelWeight";
  - One label “Entry height” for height input and rename it to "labelHeight";
  - One textbox for weight input and rename it to "valueWeight";
  - One textbox for height input and rename it to "valueHeight";
  - One button to calculate the BMI value and rename it to "calculateBMI";
  - One label “BMI value” to display the BMI value and rename it to "valueBMI";
  - One label “Diagnosis” to display the diagnosis and rename it to "diagnosis".
- Guide students on how to arrange components on the screen:



- Now, ask students to enter the programming tab by clicking on “Blocks”.
- Teach students the functions of the different blocks needed to implement the app. In the end, each group or student should have been able to assemble the following programming:

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- Now ask the students to test the app with the emulator, the aiStarter program. Keep its window open.
- As students have already done this process in the previous class, encourage them to do it without guidance.
- Ask students who are able to do it to help those who can't.

### Discussion and reflection:

After completing the activity, discuss with your students the concepts covered in this class. See examples of some questions that can be used to start the discussion.

- What other things can we calculate through an app?
- What was the hardest part of the activity?
- And the easiest one?
- How important is it to know the BMI?

### Tip and extra activity:

- If you like, ask students to share the apps with you. In this way, it is possible to verify which students and/or groups had more difficulties and in which part of the development these difficulties occurred.
- If time permits, ask students to try to develop an application that calculates other values. Students can choose what to calculate, and this activity can be submitted as homework. The goal is not for them to create a perfect application, but for them to explore the possibilities that have been learned so far, use creativity, and that you can, through these activities, diagnose the reception and understanding of the class regarding the contents.

### Credits:

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