

APPS FOR MOBILE DEVICES

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| THEME | Web connections |
| FORMAT | Individual, pairs or small groups |
| PREPARATION TIME | 1 hour |
| ACTIVITY LENGTH | 2h – 3h |
| DIFFICULTY LEVEL | Average - Hard |

PEDAGOGICAL GOALS

- Exploring Web Connections as a connectivity feature available for mobile phones
- Develop an app that extracts weather information from a city
- Better understand and reflect on the connectivity process on a device

NECESSARY MATERIALS

Computer room with computers connected to the Internet

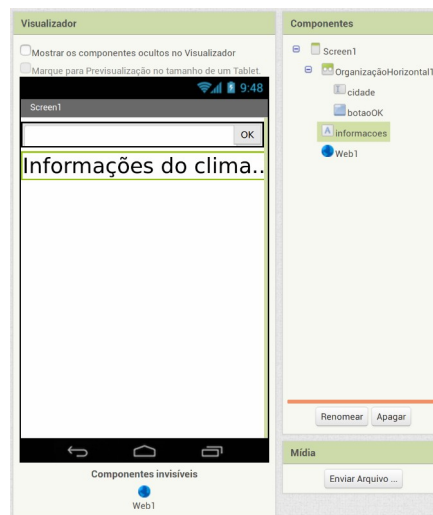
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Preparation:

- 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 the Lesson Plan at the end of Section 1 of the Mobile Apps course.
- 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 connectivity is and what types of connections are possible. In what everyday situations do they use Wifi and in what situations do they use 3G/4G, and how do they think these connections work. Ask which connections they think are faster, which they use the most, and other questions that relate web connections to the everyday life of the class and students.
- Ask students what an app looking for information about a city's weather needs to have and what operations it needs to do, and write the answers on the board.
- Correct any misconceptions about Web connections through a brief theoretical exposition on the subject.
- Ask students to access the App Inventor website at the link <http://appinventor.mit.edu/explore/>
- Ask them to click on "Create apps", then on "Start New Project", naming the project "Weather – Student Name".
- Guide students on which interface components they will need to implement the app. This information can be found within the Code IoT platform.
- Guide students on how to arrange components on the screen, and don't forget to instruct them on invisible components:



- 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 and how they should organize themselves. Don't forget that you will need to guide them on how to get the weather data.

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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 perform the activity 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 information can we receive from the internet through an app?
- What information would you like to receive in real time on your mobile?
- What was the hardest part of the activity?
- And the easiest one?

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 there is time, ask students to try to develop an application that receives other information through connectivity. Students can choose what information to receive, 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, to use creativity, and for you to be able, through these activities, to diagnose the reception and understanding of the class regarding the contents.

Credits:

Ohanna Jade do Amaral (LSITec/USP)

Irene Ficheman (LSITec/USP)