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Why MIT App Inventor?

- **It's Easy!**

MIT App Inventor was designed to make programming accessible to those with absolutely zero previous programming experience. It boasts a straightforward user interface with simple drag and drop options, colorful coding blocks instead of confusing lines of text and the ability to see your edits on the simulator and your android device right away!

- **It's Open Source**

Open source is often considered the path to "democratizing" software development. What this means for the everyday user is that the MIT App Inventor Platform is constantly being improved through a diverse group of developers. A iOS version of the MIT App Inventor Platform is also under development. If you take a deep dive on the program, one day you too could be an open source developer for MIT App Inventor!

- **It's a Numbers Thing**

Registered Users: 6.2 million
Countries: 195
Apps Built: 21 million

It is estimated that by 65% of the world's jobs in 2020 will be ones that do not even exist today. Since these jobs are products of the digital transformation, if you want to prepare your students for the workplace such a computational thinking skill set cannot be ignored.

- **It's a transferrable skill**

Through solving issues like a syntax or logic error students build skills that can enrich their own traditional education. Syntax errors require proper spelling, punctuation and grammar. Logic errors can be opportunities to expand creativity and problem solving skills. The best part is that your lesson plans around MIT App Inventor can truly be customized toward whatever transferrable skill you want to teach or can be added on to your own existing lesson plan!

2. Why a Shift in Mindset?

The shift in mindset is the most critical part of your train-the-trainer experience. Unlike the traditional classroom framework, being a successful teacher doesn't require having to know it all. You should expect, and even encourage, running into errors because the most important skill that you can provide your students with is the analytical tool kit needed to carry on the path of a program learner. Technology is constantly evolving to the point where even experienced developers are required to be constant learners, so give yourself and your students the tools, encouragement and philosophy needed to become lifelong programming students.

“Translate It!” Tutorial Overview

Chapter 1:

- Welcome to participants
- What is MIT App Inventor?
- Setting the trainer's objectives
- Setting the trainer's goals

Chapter 2:

- Lesson plan for a 60 to 90 minutes workshop
- Tutorial to create the "Translate It!" app which allows speech translation from English to any language

Chapter 3:

- Development of the app through block coding through the block editor

Chapter 4:

- Correcting syntax errors and testing the final app

Tips to Troubleshoot Coding Problems

Did you receive an error?
Congratulations! Now you have become a true programmer :) Don’t panic, this is the moment when you begin to learn those important computational thinking skills! Check out some of the quick fixes below:

Step 1: Try to identify the type of error
Syntax Errors
Syntax errors are an extremely common issue in programming. When you’re communicating with a computer, ensuring that your code has proper spelling and punctuation is key. Even misplacing or forgetting a comma can cause an entire program to fail!

How do I find a syntax error?
In MIT App Inventor finding a syntax error means looking at all the areas where you filled in with text. For example, if you named an element “Help” but use “Halp” to call it in another area of your code, the computer will not know that you made a spelling mistake and be unable to provide the “help” element.

Logic Errors (a.k.a. “Bugs”)
Logic errors are a bit more complicated to deal with. Having a logic error means that the program does not produce the expected or desired result, which is caused by the structure of the code not by a small mistake like syntax errors. Luckily, because the MIT App Inventor has a large user base, solving a logic error (more commonly referred to as “debugging”) is not something you need to do alone.

How do I start?
One of the best resources to assist in debugging is Google. By using MIT App Inventor, you’ve joined a community of programmers that, so often, share the debugging experience with you! Begin by searching for your issue on Google, ensuring that you keep your question simple.

Google didn’t work
If you can’t find a debugging answer from another programmer, it’s best to try the MIT App Inventor Troubleshooting page (http://appinventor.mit.edu/explore/ai2/support/troubleshooting.html) first.

The MIT App Inventor Troubleshooting Page didn’t work
Remember to relax and not get frustrated! If you cannot find any pre-made help, it’s best to ask your question on the MIT App Inventor Forum (https://groups.google.com/forum/#!forum/mitappinventortest). Remember to write down the goal of your program, to provide the program and to equip yourself with an attitude open to learning collaboration!

Run-time Error
A run-time error is an issue unrelated to what lies within your code, but comes from issues with the machine you are using. Common run-time errors can be insufficient memory to run your application or that your computer hardware is unable to handle running the application. Look for a run-time error by using the MIT App Inventor Troubleshooting Page (http://appinventor.mit.edu/explore/ai2/support/troubleshooting.html)

Step 2: Keep going!
Remember that programming is a constant process of checking your own logic. No one has perfect logic all the time, so expect to encounter errors on your learning path. The important thing, for yourself and your students, is to view errors as an opportunity to learn and part of the community process! Relax. Stay curious. Keep learning!

Glossary

- **CamelCase** - CamelCase is a naming convention in which a name is formed of multiple words that are joined together as a single word with the first letter of each of the multiple words capitalized so that each word that makes up the name can easily be read. Learn more: http://searchmicroservices.techtarget.com/definition/CamelCase
- **User Interface** - In information technology, the user interface (UI) is everything designed into an information device with which a person may interact. Learn more here: http://searchmicroservices.techtarget.com/definition/user-interface-UI
- **Computational Thinking** - Computational Thinking (CT) is a problem solving process that includes a number of characteristics and dispositions. Learn more here: https://computationalthinkingcourse.withgoogle.com/unit
- **Sensors** - A sensor is a device that detects and responds to some type of input from the physical environment. The specific input could be light, heat, motion, moisture, pressure, or any one of a great number of other environmental phenomena. Learn more: http://whatis.techtarget.com/definition/sensor
- **Minimum Viable Product (MVP)** - Minimum viable product (MVP) is a concept for making a product that fills the perceived needs of a customer or solves a problem adequately enough to expect a sustainable business around it. Learn more here: http://whatis.techtarget.com/definition/minumum-viable-product-MVP
- **Attribute** (sometimes called "properties") - In general, an attribute is a property or characteristic. Color, for example, is an attribute of your hair. In using or programming computers, an attribute is a changeable property or characteristic of some component of a program that can be set to different values. Learn more here: http://searchmicroservices.techtarget.com/definition/attribute
- **Components & Non-visible Components** - In programming and engineering disciplines, a component is an identifiable part of a larger program or construction. Usually, a component provides a particular function or group of related functions. By extension, a **non-visible component,** for example in the *MIT App Inventor Platform on the Designer Editor*, is a component that is active in the program but not visible on the "screen" or user interface. Learn more here: http://whatis.techtarget.com/definition/component
- **Back-end & Front-End** - Front-end and back-end are terms used to characterize program interfaces and services relative to the initial user of these interfaces and services. (The "user" may be a human being or a program. A "front-end" application is one that application users interact with directly. A "back-end" application or program serves indirectly in support of the front-end services, usually by being closer to the required resource or having the capability to communicate with the required resource. Learn more here: http://searchdatacenter.techtarget.com/definition/back-end
- **Variable** - In programming, a variable is a value that can change, depending on conditions or on information passed to the program. Learn more here: http://whatis.techtarget.com/definition/variable
  syntax error -
- **Syntax Error** - Syntax errors are typographical mistakes or improper use of special characters, which are handled by rigorous proofreading. Learn more here: http://searchsoftwarequality.techtarget.com/definition/error-handling

Don't see what you are looking for?
This is a great site to search programming-specific terms: *http://whatis.techtarget.com/search*

MIT App Inventor for Android Resources in Dutch

http://appinventor.informatica.nu/

MIT App Inventor for Android Resources in French

Course

http://www.cristal.univ-lille.fr/~rouillar/cours_app_inventor/app_inventor.html

YouTube Videos

https://www.youtube.com/user/TroncheDeGeek/videos

https://www.youtube.com/channel/UCcfhnYiTl7IA-oBeTfV1DeQ

Coding Groups in Belgium

http://brussels.eventful.com/events/coderdojo-1040-etterbeek-icab-28-may-2016-/E0-001-093571385-2

https://www.meetup.com/OpenTechSchool-Brussels/events/212034192/

MIT App Inventor for Android Resources in Italian

App Inventor per Android
Una guida in italiano su come installare, configurare, programmare con App Inventor (MIT) / A guide in italian on how to install, set up and code by using App Inventor (MIT):
http://www.app-inventor.it

Guida MIT App Inventor:
Una guida in italiano che illustra il funzionamento di MIT App Inventor / A guide in italian on how to use MIT App Inventor
https://www.mrwebmaster.it/android/guide/guida-app-inventor/

Blog Android Apps
Appunti di programmazione, tutorial e guide per il mondo Android usando App Inventor / Notes about coding, tutorials and guidelines on how to use MIT App Inventor

http://seblogapps.blogspot.com.es/p/elenco-tutorial.html

MIT App Inventor in Youtube / on Youtube
Mit App inventor 2 #ITA Introduzione parte 1 / Introduction part 1
https://www.youtube.com/watch?v=3en2REA3qY4
Mit App inventor 2 #ITA Introduzione parte 2 / Introduction part 2
https://www.youtube.com/watch?v=sWj3n7ysASQ
Altre risorse e tutorial MIT App Inventor in italiano / Other resources and tutorials on MIT App Inventor in Italian
https://www.youtube.com/watch?v=Eg5m_-m63wg&list=PLYpA2ciX_qTx7ozrER_MG_rJessK6mVgt

Forum App Inventor
Forum riservati alle discussioni su App Inventor in Italiano / Forums dedicated to discussions on App Inventor in Italian
http://www.androidworld.it/forum/app-inventor-91/
http://seblogapps.blogspot.com.es/p/app-inventor-forum-italia.html
http://appinventor.mit.edu/explore/forums.html

MIT App Inventor for Android Resources in Spanish

Online Resources

https://sites.google.com/site/appinventormegusta/

http://codigo21.educacion.navarra.es/autoaprendizaje/primeros-pasos-con-app-inventor-2/

http://codeweek.eu/resources/spain/guia-iniciacion-app-inventor.pdf

http://webpub.esi.uclm.es/img/upload/plugin/ESI-TechLab-AppInventor2-2015beta.pdf

http://teach.appinventor.mit.edu/app-inventor-resources/spanish-resources/

http://www.appinventors.co/ (Colombia)

http://www.innovagogia.es/2016/download/214.pdf

https://groups.google.com/forum/?hl=en#!forum/app-inventor-instructors

http://www.appinventor.org/ (English) Appinventor.org is a product of the University of San Francisco's Democratize Computing Lab and is funded by the NSF and WM Keck foundation.

Courses

https://www.udemy.com/desarrollo-de-aplicaciones-moviles-con-app-inventor/?couponCode=MASTERTRAINERS

YouTube Videos

https://www.youtube.com/channel/UCTrQFPQYfQNUBxoAPPFUqiw Jose Luis Núñez. MIT

Master Trainer in Mobile Computing with App Inventor

https://www.youtube.com/channel/UCnOfRCCjbfHiEooJR2p5oiQ Appinventor Colombia