

1 INTRODUCTION:**2 =====**

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4 MIT App Inventor is an excellent choice to teach middle and high school students how to code. It is
... a rich and engaging platform for introducing students to programming and app creation. Kids will
... quickly become productive in creating useful applications that work on mobile devices. Due to MIT
... App Inventor's use of an online, visual, and forgiving interface, many pitfalls of text-based coding
... languages can be avoided. While the MIT App Inventor interface is inviting for students, it is also
... rich with access to core mobile device technologies such as Bluetooth, Accelerometers, Geolocation,
... etc.

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6 The presentation will focus on our experience "in the trenches" with MIT App Inventor. We will
... discuss why MIT App Inventor is the best choice for beginning programmers. We will discuss practical
... considerations of setting up a learning environment using MIT App Inventor. If time permits, we will
... do some basic "hands on" work in MIT App Inventor.

10 PRESENTATION OUTLINE:**11 =====****13 Introductions**

- 14 * Dan Eliot, Yorba Linda High School
- 15 * Khanh Tran, PYLUSD District Technology

17 Why MIT App Inventor?

- 18 * Online
- 19 * Visual Interface
- 20 * Intuitive Layout
- 21 * Rapid development process
- 22 * Low barrier to entry
- 23 * Encouraging to all student populations
- 24 * Easier to "debug" than text based coding

26 Visual Coding Interfaces vs. Text Based Interfaces

- 27 * Gives Kinesthetic learners a way in to coding
- 28 * Not as focused on abstract thinking
- 29 * Less abstract, more concrete
- 30 * Code Blocks, Code Backpack, Code connection ideas

32 App Inventor at Zero Cost

- 33 * Google Account / Google Chrome
- 34 * MIT App Inventor 2 website
- 35 * An Android emulator

37 App Inventor With Minimal Cost

- 38 * Google Account / Google Chrome
- 39 * MIT App Inventor 2 website
- 40 * Cheap, refurbished, donated Android phones
- 41 * Shared student devices

43 App Inventor With Full Hardware Devices

- 44 * Google Account / Google Chrome
- 45 * MIT App Inventor 2 website
- 46 * New Android phones or tablets
- 47 * One student, one device
- 48 * Grant monies?

50 Android Emulators vs. Phones or Tablets

- 51 * Many Android emulators are available
- 52 * APK files created in App Inventor import into emulators
- 53 * Well known emulators are fully functional devices, but on a computer
- 54 * BlueStacks, Andy, Genymotion, Nox

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56 Cheap Devices That Work With App Inventor

- 57 * Motorola G
- 58 * <https://goo.gl/R20Iwz>
- 59 * Blu HD 5.0 Advance
- 60 * <https://goo.gl/zm75hT>

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62 Submitting Apps to the App Inventor Gallery

- 63 * <http://gallery.appinventor.mit.edu/>

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65 Submitting Apps To The Google Play Store

- 66 * <https://play.google.com/store?hl=en>

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68 Importing/Exporting App Inventor AIA Files

- 69 * <http://appinventor.mit.edu/explore/ai2/share.html>
- 70 * AIA file storage on local computer
- 71 * AIA file storage via Gmail

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73 Backing Up App Inventor APK files

- 74 * Creating APK files in App Inventor
- 75 * APK storage on local computer
- 76 * APK installation on mobile devices

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78 Example Apps Created By Our Students

- 79 * Link to our App Inventor Gallery
- 80 * Link to our Google Play Store

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82 Hands On Introduction To MIT App Inventor

- 83 * Basic introduction to the graphical interface
- 84 * Discussion of Design area vs. Block Coding area
- 85 * Discussion of screens and screen layout
- 86 * Simple code example, "Hello CUE" app

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88 Functional Questions

- 89 * Grading App Inventor Assignments
- 90 * Charging and securing 36 cell phones
- 91 * Student Mobile App Agreements
- 92 * Limits to App Inventor design interface

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94 Questions, Comments, Suggestions, Wrap Up