INTRODUCTION TO ANDROID APPS USING MIT APP INVENTOR & IOT

MAY 2016 - D.INGRAM RAPTORS IRRATIONAL INVENTIONS

SESSION PLAN

- INTRO
- SLIDES
- šššš
- PROFIT

WHAT IS THE MIT APP INVENTOR

HTTP://AI2.APPINVENTOR.MIT.EDU/

APP INVENTOR FOR ANDROID IS AN OPEN-SOURCE WEB APPLICATION ORIGINALLY PROVIDED BY GOOGLE, AND NOW MAINTAINED BY THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT).

THE ANDROID OPERATING SYSTEM (OS). IT USES A GRAPHICAL INTERFACE, VERY SIMILAR TO SCRATCH AND THE STARLOGO ING USER INTERFACE, WHICH ALLOWS USERS TO DRAG-AND-DROP VISUAL OBJECTS TO CREATE AN APPLICATION THAT CAN RUN ON ANDROID DEVICES. IN CREATING APP INVENTOR, GOOGLE DREW UPON SIGNIFICANT PRIOR RESEARCH IN EDUCATIONAL COMPUTING, AS WELL AS WORK DONE WITHIN GOOGLE ON ONLINE DEVELOPMENT ENVIRONMENTS.[1]

APP INVENTOR AND THE PROJECTS ON WHICH IT IS BASED ARE INFORMED BY CONSTRUCTIONIST LEARNING THEORIES, WHICH EMPHASIZES THAT PROGRAMMING CAN BE A VEHICLE FOR ENGAGING POWERFUL IDEAS THROUGH ACTIVE LEARNING. AS SUCH, IT IS PART OF AN ONGOING MOVEMENT IN COMPUTERS AND EDUCATION THAT BEGAN WITH THE WORK OF SEYMOUR PAPERT AND THE MIT LOGO GROUP IN THE 1960S AND HAS ALSO MANIFESTED ITSELF WITH MITCHEL RESNICK'S WORK ON LEGO MINDSTORMS AND STARLOGO

ADD GUI

Yay buttons

https://play.google.com/store/apps/details
?id=appinventor.ai raptordemon.HSC demo



ADD LOGIC

If button pressed then launch rocket

```
initialize global ServerAddress∀ar to 📜 📲 📑
 initialize global OutputPin to 🎏 📑 "
 when Screen1 . Initialize
 do set global ServerAddressVar to call TinyDB1 .GetValue
                                                         tag ( "ServerAddress "
                                           valuelfTagNotThere [ " ] "
     set global OutputPin to call TinyDB1 .GetValue
                                                                                when OutputPin . AfterPicking
                                                         OutputPin
                                                                                    set OutputPin ▼ . Text ▼ to 🚺 🧿 join
                                     valuelfTagNotThere |
                                                        " 13 °
                                                                                                                          OutputPin - Selection -
     set addressbox . Text to get global ServerAddressVar
     set OutputPin . Selection to get global OutputPin .
     set OutputPin . Text to 6 join 6 Pin: "
                                                                                    when Setup .Click
                                            get global OutputPin •
                                                                                      set Settings . Visible to true
     set webenable . Checked to call TinyDB1 .GetValue
                                                               " WebOutput "
                                                                                   when MissleButton .Click
                                             valuelfTagNotThere | false •
                                                                                   do call GROUNDCONTROL -
when Save . Click
do call TinyDB1 . StoreValue
                                                                                 to GROUNDCONTROL
                                ServerAddress "
                                                                                do call Notifier1 .ShowAlert
                valueToStore
                               addressbox • Text •
                                                                                                               Ground Control to Major Tom. Prepare to launch
    call TinyDB1 ▼ .StoreValue
                                                                                     o if ( webenable + . Checked +
                                " WebOutput "
                                                                                     then set Web1 . Url to ( 0 join )
                                                                                                                             get global ServerAddress∀ar ▼
                               webenable . Checked .
                valueToStore
                                                                                                                              · [/?] ·
    call TinyDB1 ▼ .StoreValue
                                                                                                                             get global OutputPin •
                               " OutputPin "
                                                                                                                             " 📵 "
                valueToStore |
                              OutputPin • . Selection •
                                                                                                                             ? "1"
   call Notifier1 . ShowAlert
                                         Server Address Saved:
                                                                                          call Web1 .Get
                                         ServerAddress
    set global ServerAddressVar v to | call TinyDB1 v .GetValue
                                                             " ServerAddress "
                                          valuelfTagNotThere " " " "
                                                                          when NearField1 .TagRead
    set global OutputPin . to ( call TinyDB1 . GetValue
                                                                            message
                                                       " OutputPin "
                                                                             set NFC_Number • . Text • to NearField1 • . LastMessage •
                                   valuelfTagNotThere (
    set OutputPin . Text to 0 join
                                           " (Pin: ) "
                                                                           when CloseSettings . Click
                                           get [global OutputPin -
                                                                              set Settings . Visible to (false to
    set Settings . Visible to false
```

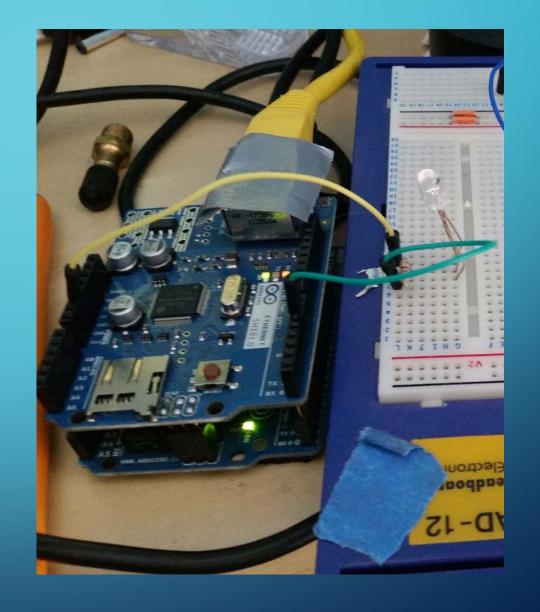
ADD ARDUINO

This example uses an Arduino uno and

The Ethernet shield. Some leds and some relays

Code is here:

https://github.com/raptordemon/AppInvento r_Arduino_demo



THANK YOU - LIVE DEMO TIME

Code is here: https://github.com/raptordemon/Applnventor Arduino demo

App is here: https://play.google.com/store/apps/details?id=appinventor.ai raptordemon.HSC demo

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