Building Mobile Apps

UON Computer Science 4 Schools

Introduction to Coding and Computational Thinking Workshop

Presented by Daniel Hickmott

Session Plan

— Presentation: Overview of Mobile Apps & AppInventor (~15 minutes)

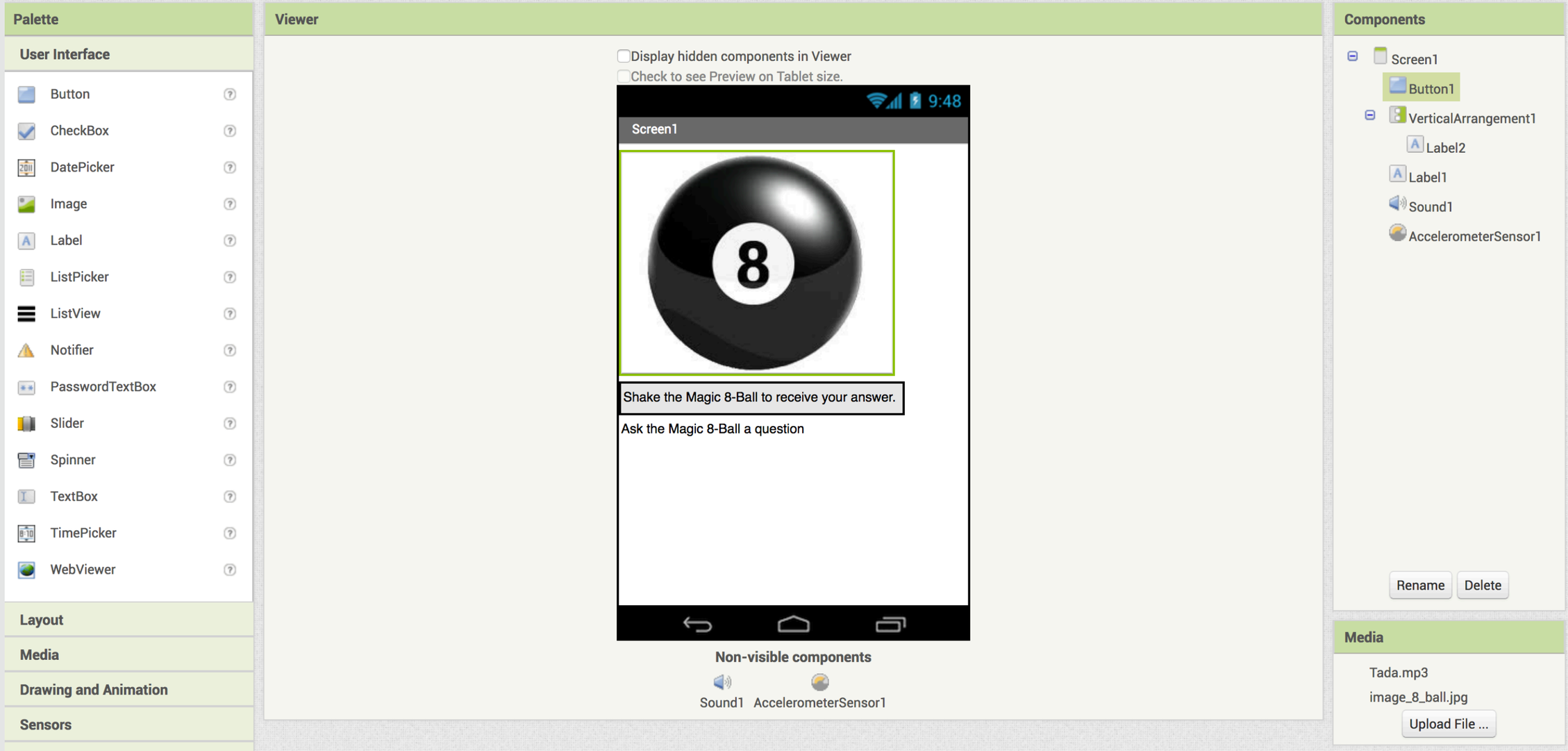
— Hands-On Activities (~1.5 hours)

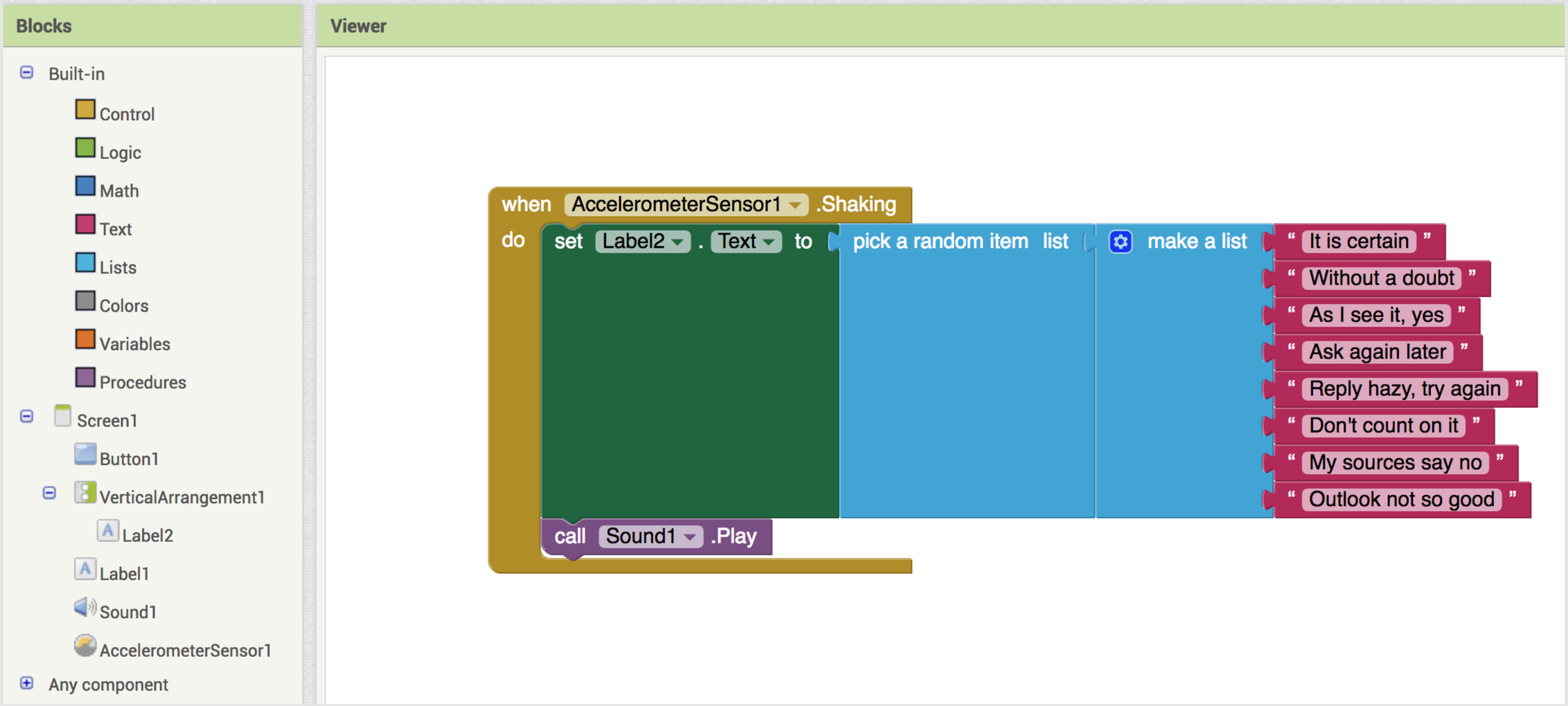
Presentation Contents

— What is AppInventor?
— How is AppInventor Used in Education?
— What Can You Create with AppInventor?
— Alternatives to AppInventor
— Activities

What is AppInventor?

- A Blocks language (like Scratch) that can be used to create Android apps
- Allows you to interact with phones' and tablets':
  - Accelerometer sensor
  - GPS
- All you need is a Google account – you don't even need a mobile or tablet!


Palette
User Interface
Button
CheckBox
DatePicker
Image
Label
ListPicker
ListView
Notifier
PasswordTextBox
Slider
Spinner
TextBox
TimePicker
WebViewer
Layout
Media
Drawing and Animation
Sensors
Viewer
Display hidden components in Viewer
Check to see Preview on Tablet size.
9:48
Screen1
8
Shake the Magic 8-Ball to receive your answer.
Ask the Magic 8-Ball a question
Non-visible components
Sound1
AccelerometerSensor1
Components
Screen1
Button1
VerticalArrangement1
Label2
Label1
Sound1
AccelerometerSensor1
Rename
Delete
Media
Tada.mp3
image_8_ball.jpg
Upload File ...


Blocks
Built-in
Control
Logic
Math
Text
Lists
Colors
Variables
Procedures
Screen1
Button1
VerticalArrangement1
Label2
Label1
Sound1
AccelerometerSensor1
Any component
Viewer
when AccelerometerSensor1 .Shaking
do
set Label2 . Text to
pick a random item list
make a list
" It is certain "
" Without a doubt "
" As I see it, yes "
" Ask again later "
" Reply hazy, try again "
" Don't count on it "
" My sources say no "
" Outlook not so good "
call Sound1 .Play

AppInventor in K - 12

— Introducing students to Coding and Computational Thinking[1]

— App competitions[2]

— Making games to learn different subjects[3]

[1] http://appinventor.mit.edu/explore/stories/girls-code.html

[2] http://appinventor.mit.edu/explore/stories/computer-app.html

[3] http://appinventor.mit.edu/explore/stories/deerfield.html

AppInventor App Examples

— Taking pictures of, and reporting, graffiti in the local area[4]

— Guiding visually impaired students around a school, using voice navigation[5]

— Locating the bus a student is on, so that their parents know they will get home safely[6]

[4] http://appinventor.mit.edu/explore/stories/east-palo-alto-girls-create-app-clean-graffiti-trash.html

[5] http://appinventor.mit.edu/explore/stories/resca-middle.html

[6] http://appinventor.mit.edu/explore/stories/k-8-division-international-app-winner.html

Alternatives to AppInventor

- Desktop / iOS / Android / Windows Phone:
  - TouchDevelop
  - Stencyl
- iOS:
  - Codea
  - Hopscotch

Activities

— Four activities:
    1. Connecting the tablet
    2. HelloPurr
    3. Magic 8-Ball
    4. Making Pong
— Let us know if you have any questions