

Professor Reed  
presents  
to the  
Windows Developer Group  
March 16th, 2015 @1800hrs

***Where we are all headed tonight!***

- Part 1 – Hybrid Mobile Computing
- Part 2 – Drag & Drop Programming
- Finalization for the Future

# Comments on My Bio

To paraphrase Dr. Buser

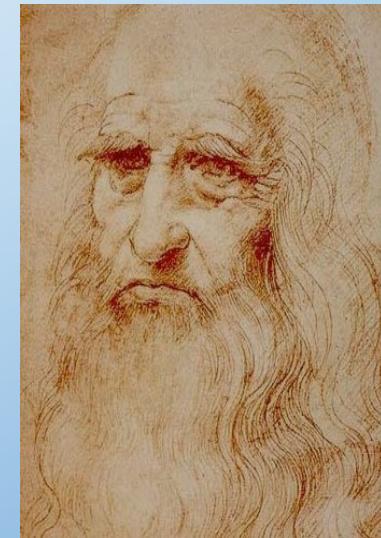
**“...notice all that is the past...”**

Dr. Stephen A. Buser,  
Professor of Finance, Emeritus

And Yes!  
Professor Reed  
OIL Paints TOO!!!

**Things you might not know!**

- TKD
- Scuba
- Radio Op
- USCG Aux



# Demonstrating at OETC 2015

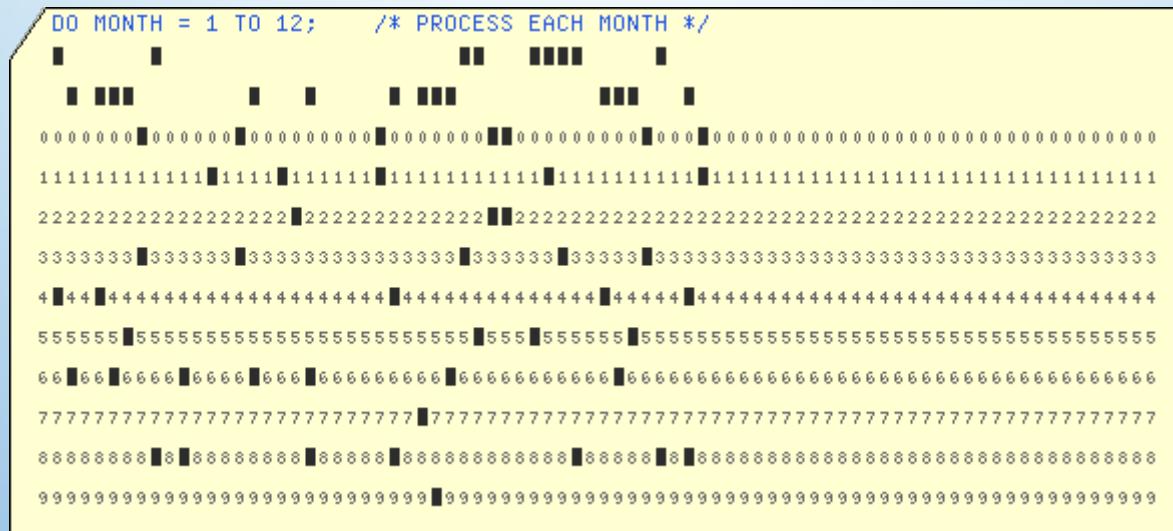


James Reed profjrrr · Feb 10

Demonstrating EV3 Robot at OETC 2015 using C-language (ROBOTC).

But what does he really know  
about “modern”  
Computing???

# IBM Hollerith Punch Card



And yes Virginia  
It's  
**FORTRAN!!!**

# IBM Hollerith Punch Card

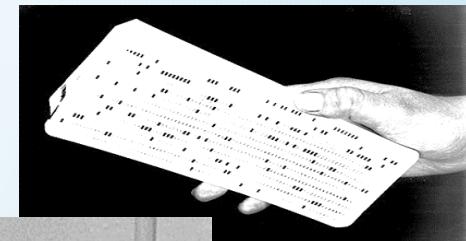
# Early Computing



Baker Systems  
Engineering



**IBM 360 MF**



# Overview of Hybrid Mobile Computing and Development

## Part I

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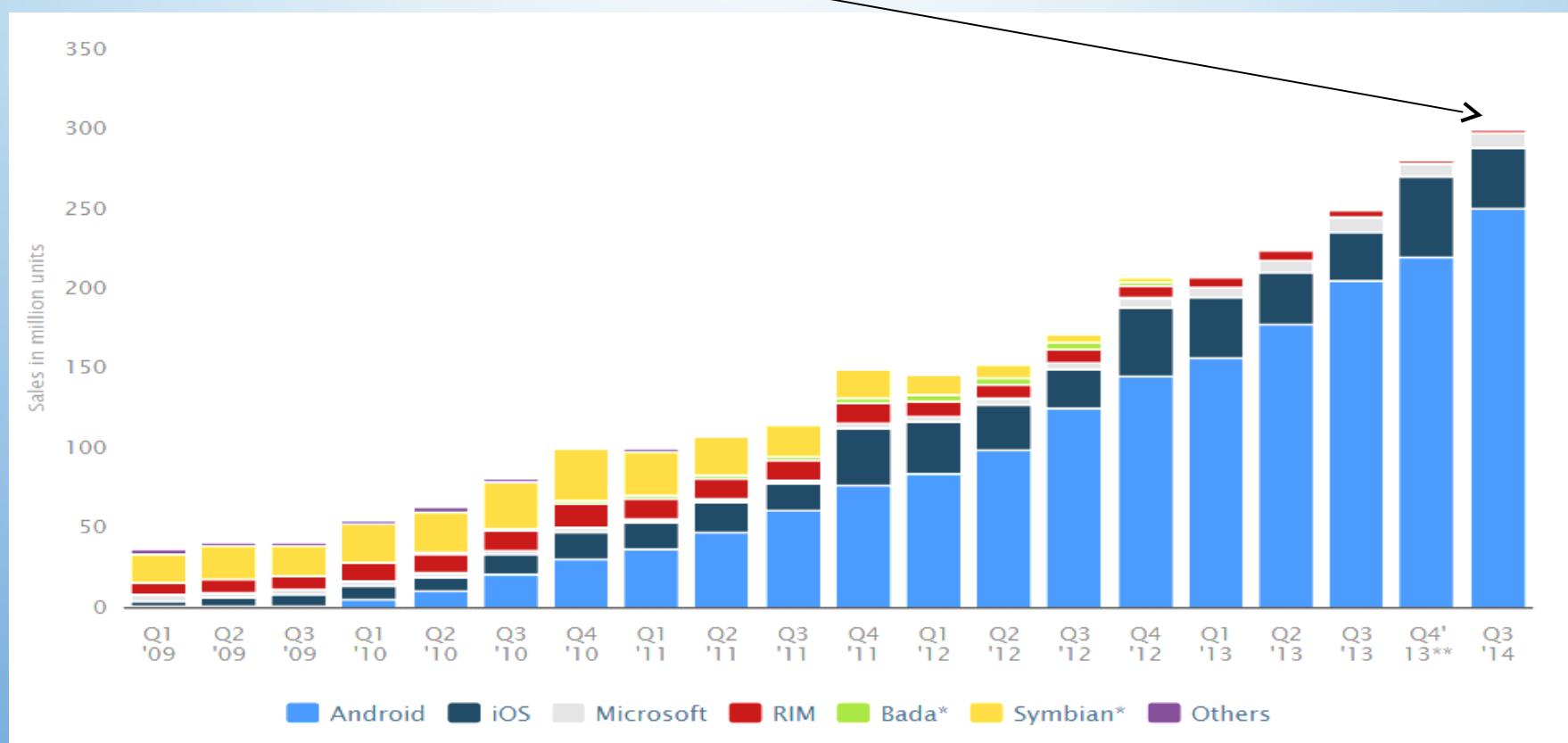
Begin Part 1

# Journey into **Hybrid** Mobile Computing"

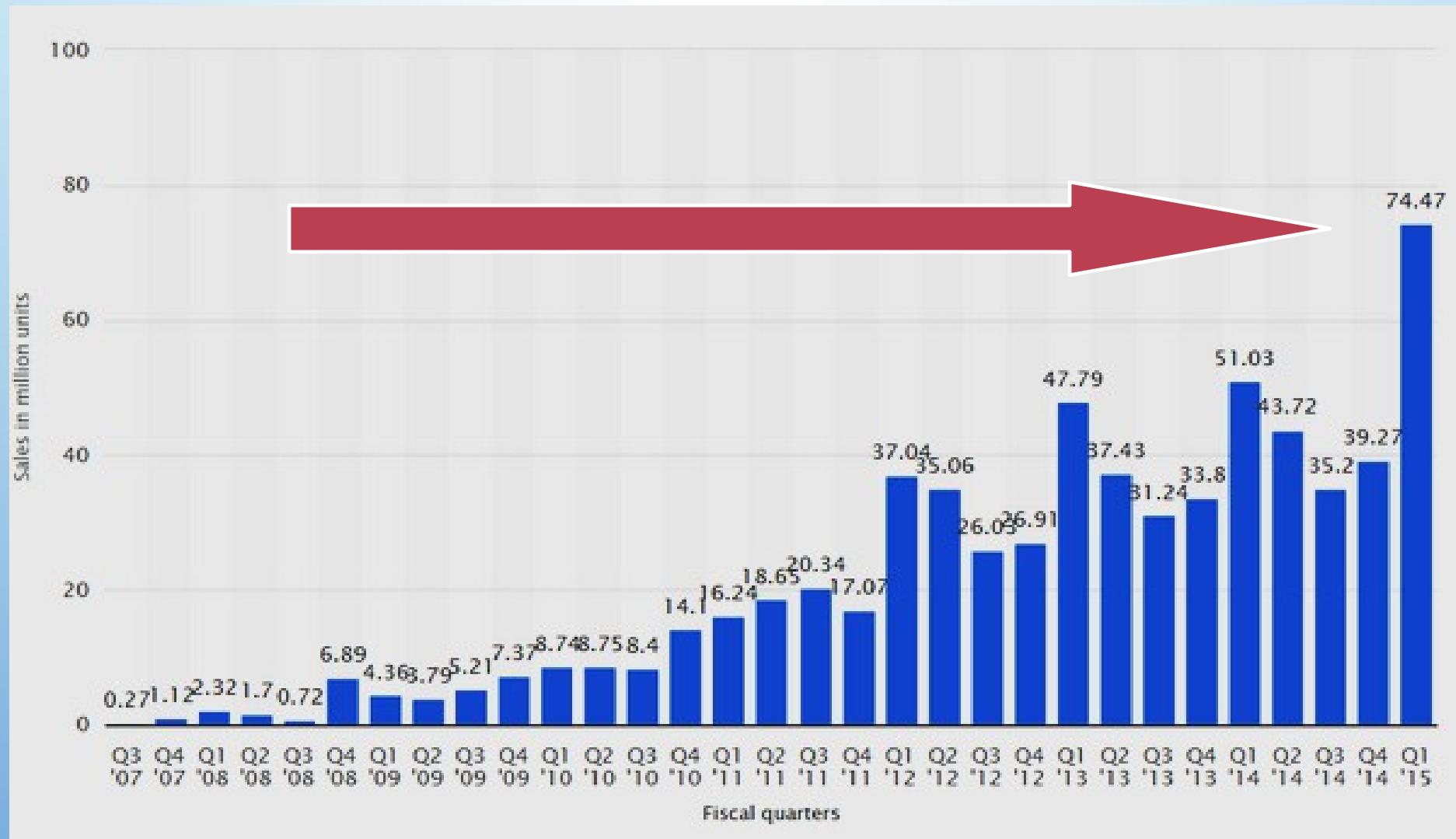


# But We're Windows People???

- Why Hybrid?
- The Market!



# Apple is Racing to the TOP!



# But We Don't have to abandon Windows Just yet!

- Where we've been all along!

- 1) Android
- 2) Windows
- 3) Apple

Apple just moved into second place at the end of 2014

# Mobile Devices

Mobile Devices are the “fastest”  
Growing segment in computing.

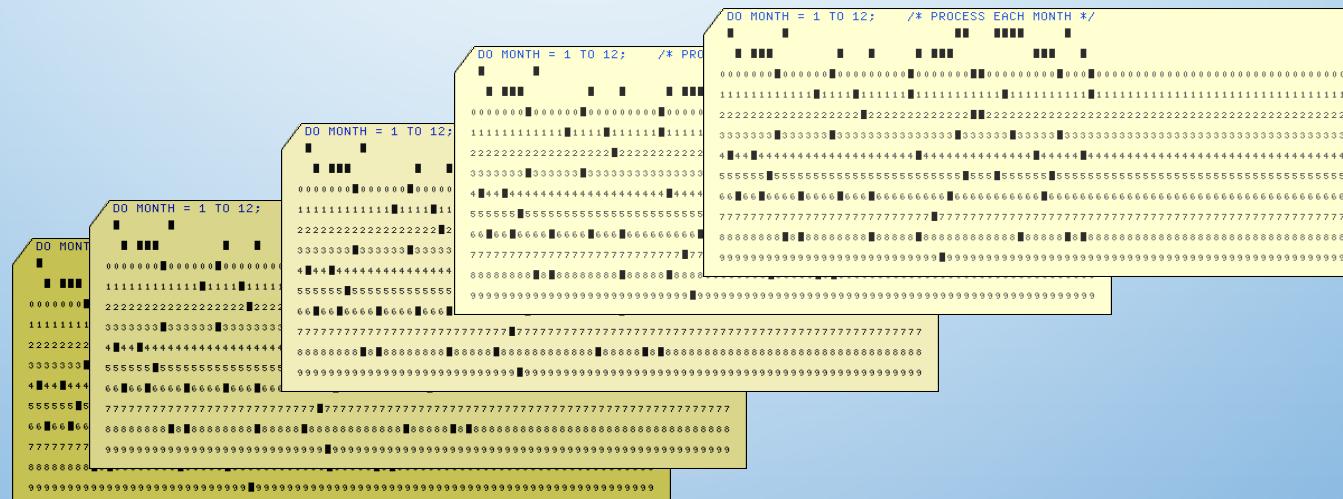
- Gone are “desktops”
- Gone are “laptops”
- Going are “tablets”

Coming are “wrist devices”!



# No Worries Tonight!

I'm not going to be showing a lot of  
Code, but rather the ins & outs of  
Getting your “hybrid app” going!



# So where did the Ideas come from?

UMassAmherst

► Calendar ► Directions ► The University

SEARCH  Go

## UMASS CS

SCHOOL OF COMPUTER SCIENCE

FACULTY + RESEARCH | ADMISSIONS | FOR GRADS | FOR UNDERGRADS | OUTREACH | JOBS | PEOPLE | ABOUT | SUPPORT CS

**Faculty + Research**

Faculty Directory  
Tenure Track and Research Faculty  
Emeriti Faculty  
Lecturers, Research Scientists and Adjunct Professors

Research Clusters  
Research Groups

Faculty Achievements  
Publications  
Software



**UMASS AMHERST FACULTY**  
**Beverly P Woolf**

Position: Research Professor  
Office: CS338  
Phone: (413) 545-4265  
E-mail: [bev@cs.umass.edu](mailto:bev@cs.umass.edu)  
Website: <http://centerforknowledgecommunication.com/05bpwabout.html>

**BIOGRAPHY**

Ph.D., Computer Science, University of Massachusetts, 1984; Ed.D., Education 1990, Massachusetts; M.S. Computer Science, Massachusetts, 1980; B.A. Physics, Smith College; Professor Woolf joined the Department in 1992 and became a Research Professor in 2006. She is the Director of the Center for Knowledge Communication at the University of Massachusetts Amherst.

**RESEARCH**

Beverly Woolf has more than 20 years experience in educational computer science research, production of intelligent tutoring systems and development of multimedia systems. She is author of the 2009 book *Building Intelligent Interactive*

# MyTeachBuddy

## Description

My Teach Buddy is here for Teachers, Educators and Students alike to provide easy access to a wide variety of proven and expertly tested WEB sites for all your educational needs.

These sites have all been extensively tested and are provided at low or no cost for your non-commercial educational use.

# So What Do We Need?



Github

Windows Client for Telerik  
Browser Client for Telerik  
Smartphone for targeted platform

**Note:** Used Telerik AppBuilder Platform on my journey, but would now use the **Windows Universal on Windows** going forward into 21st Hybrid Mobile Computing!



And now we are off to see the...

# NOKIA Lumia 520 running Windows Phone 8.1 update



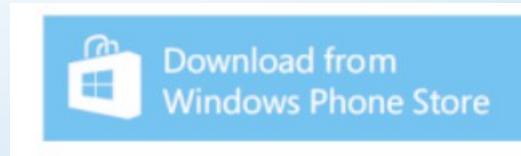
# NOKIA Lumia 520 running Windows Phone 8.1 update



Prof. Yong Zhao

# Repeat After Me!

- Apple – iOS
- Android – Google Play Store
- WindowsPhone



**“...write code once  
deploy App everywhere!!!!!!**

# And now down to the particulars!

- ▀ Getting Started
- ▀ Build and Test in the Emulator
- ▀ Build and Test Local
- ▀ Build and Test as a BETA

# But First the Costs\$\$\$\$

- WindowsPhone Developer License \$19 lifetime
- Android Google Play Store \$25 yearly
- Apple iPhone App Store \$99 yearly

**And don't forget the costs of  
maintaining a TELERIK  
ACCOUNT.  
There is a "free" trial!**

And now down  
to  
even more particulars!

- Deployment #1 – Windows Phone Store
- Deployment #2 – Google Play Store
- Deployment #3 – Apple App Store

In Increasing Difficulty!!!!

# AppBuilder

MyTeachBuddy - Telerik AppBuilder

Welcome, James Reed ▾ ? -

Dashboard Add ▾ Save ▾ Run ▾ Version Control ▾ Publish

Enter a command (Alt+C)

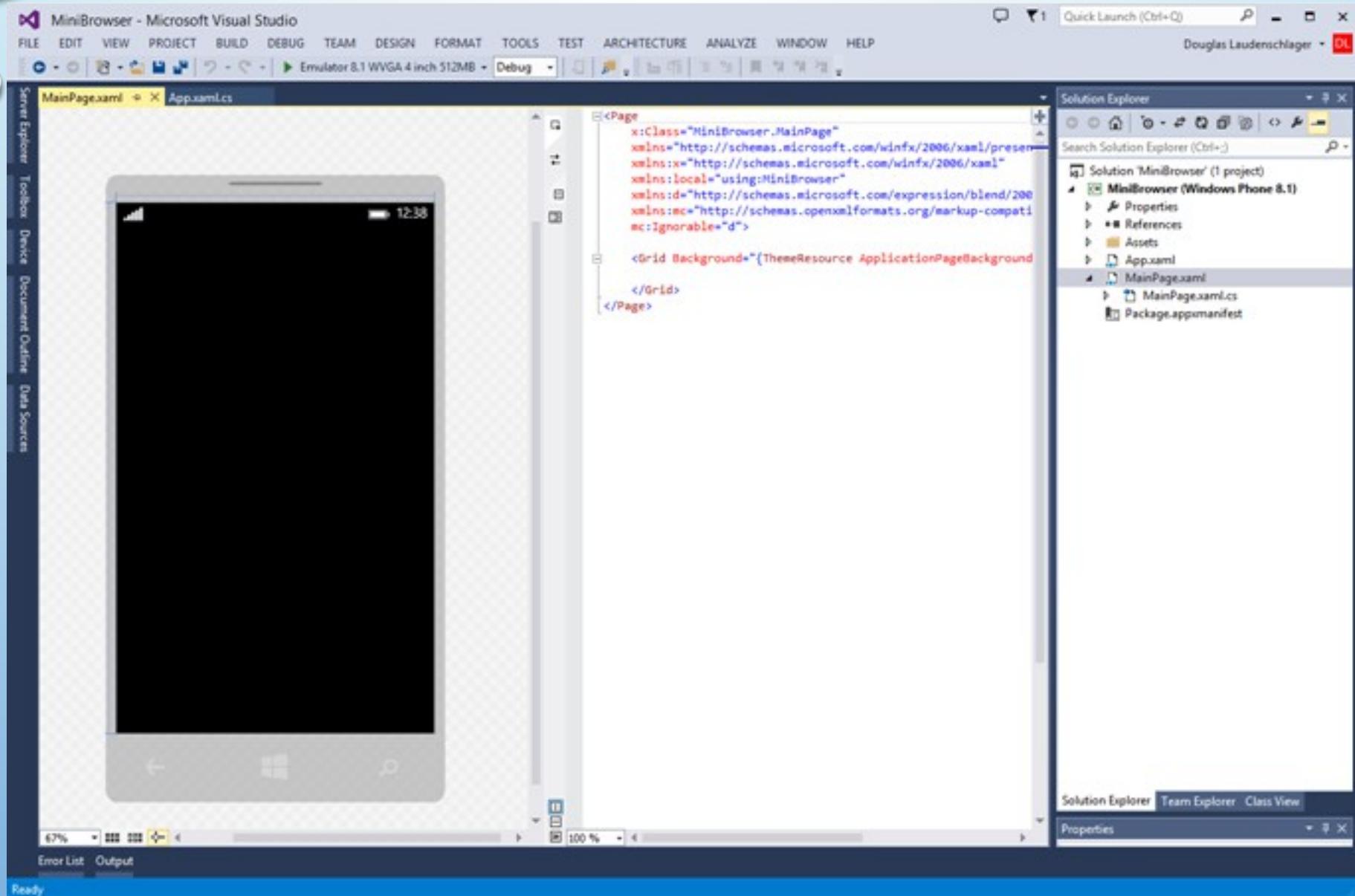
index.html

```
1  <!DOCTYPE html>
2  <html>
3      <head>
4          <title></title>
5          <meta charset="utf-8" />
6          <link href="kendo/styles/kendo.mobile.all.min.css" rel="stylesheet" />
7
8          <script src="cordova.js"></script>
9          <script src="kendo/js/jquery.min.js"></script>
10         <script src="kendo/js/kendo.mobile.min.js"></script>
11
12     </head>
13     <body>
14         <!-- the nerdy jokes -->
15         <div data-role="view" id="nerdy" data-layout="main">
16             <p align="center"; style="font-size:xx-large;">My Teach Buddy</p>
17             <!--
18             <p align="center"></p>
19
20             <p style="font-size:x-large;">My Teach Buddy is here for Teachers,
21                 Educators and Students alike to provide easy access to
22                 a wide variety of proven and expertly tested WEB Sites for all
23                 your educational needs. These sites have all been extensively tested
24                 and are provided at low or no-cost for your non-commercial educational use.
25
26         </p>
27     </div>
28
29         <!-- the explicit jokes -->
30         <div data-role="view" id="explicit" data-layout="main">
31             <!--
32             <p align="left">
33                 
34             </p>
```

Project Navigator

- Solution 'MyTeachBuddy'
  - MyTeachBuddy
    - Plugins
    - Properties
  - App\_Resources
    - Android
    - iOS
    - WP8
      - logo.png
      - mtbLogo.png
      - teachBuddy2.png
      - xteachBuddy2.png
    - kendo
    - obj
  - cordova.js
    - cordova.android.js
    - cordova.ios.js
    - cordova.wp8.js
  - index.html
- MyTeachBuddy.iceproj
- MyTeachBuddy.xap

# Visual Studio Development Platform



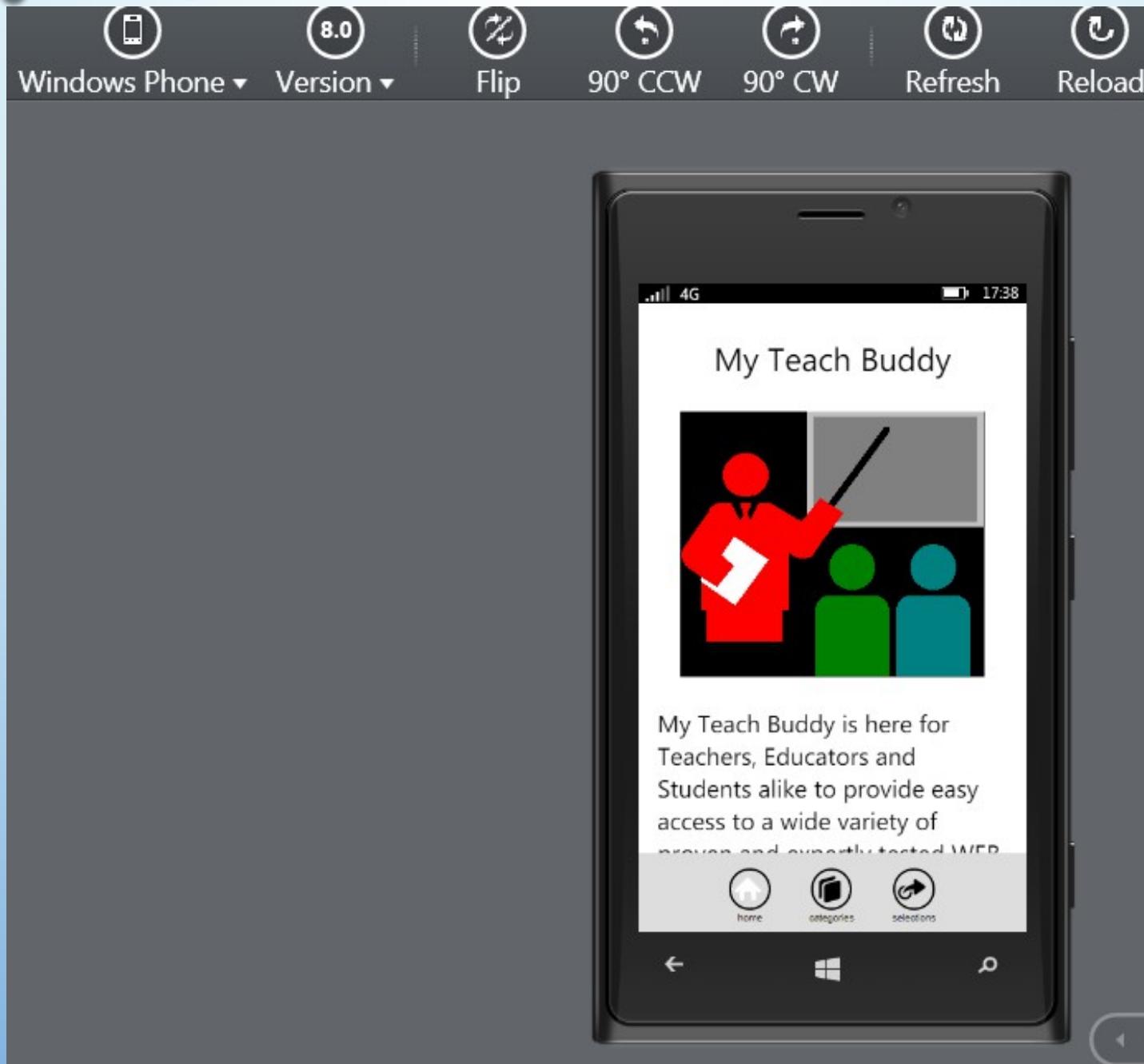
[Submit App](#)

# Apps

[Apps](#)[Reports](#)[Promote your app](#)[All](#) | [In-progress submissions](#) | [Not started](#)[Find my apps](#) [Account](#)[Windows dashboard](#)[Ad mediation](#)

Alias ▾	Last updated	Store	Type
 MyTeachBuddy	2/8/2015	Public	App
 MyTeachBuddybeta	2/7/2015	Beta	App

# WindowsPhone Emulator View



# Closer Look at index.html

MyTeachBuddy - Telerik AppBuilder

Welcome, James Reed ▾ ? -

Dashboard Add ▾ Save ▾ Run ▾ Version Control ▾ Publish

Enter a command (Alt+C)

index.html

```
1  <!DOCTYPE html>
2  <html>
3      <head>
4          <title></title>
5          <meta charset="utf-8" />
6          <link href="kendo/styles/kendo.mobile.all.min.css" rel="stylesheet" />
7
8          <script src="cordova.js"></script>
9          <script src="kendo/js/jquery.min.js"></script>
10         <script src="kendo/js/kendo.mobile.min.js"></script>
11
12     </head>
13     <body>
14         <!-- the nerdy jokes -->
15         <div data-role="view" id="nerdy" data-layout="main">
16             <p align="center"; style="font-size:xx-large;">My Teach Buddy</p>
17             <!---->
18             <p align="center";></p>
19
20             <p style="font-size:x-large;">My Teach Buddy is here for Teachers,
21                 Educators and Students alike to provide easy access to
22                 a wide variety of proven and expertly tested WEB Sites for all
23                 your educational needs. These sites have all been extensively tested
24                 and are provided at low or no-cost for your non-commercial educational use.
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27
28         <!-- the explicit jokes -->
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30             <!---->
31             <p align="left">
32                 
33             </p>

```

Project Navigator

- Solution 'MyTeachBuddy'
  - MyTeachBuddy
    - Plugins
    - Properties
  - App\_Resources
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    - iOS
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    - teachBuddy2.png
    - xteachBuddy2.png
  - kendo
  - obj
- cordova.js
  - cordova.android.js
  - cordova.ios.js
  - cordova.wp8.js
- index.html
- MyTeachBuddy.iceproj
- MyTeachBuddy.xap

# More index.html

```
index.html x
34   <p style="font-size:x-large;">My Teach Buddy Categories:</p>
35   <p align="center"; style="font-size:larger;">Mathematics</p>
36   <p>Math Instructional Sites for Beginner
37       through Advanced Math Learning</p>
38   <p align="center"; style="font-size:larger;">Biological Sciences<
39   <p>Areas Directly related to Biological Study</p>
40   <p align="center"; style="font-size:larger;">Physical Sciences</p>
41   <p>Areas primarily related to Astronomy, Physics
42       and Chemistry</p>
43   <p align="center"; style="font-size:larger;">Computer Science </p>
44   <p>Computer Programming and Related Technologies </p>
45   <p align="center"; style="font-size:larger;">Other Educational Si
46   <p>Educational Sites with focus on STEM and
47       common CORE studies</p>
48   </div>
49
50   <!-- the dashboard -->
51   <div data-role="view" id="dashboard" data-layout="main">
52       <p align="right">
53           
54       </p>
55
56       <!--<p>
57           Add new category or course(s) under here!
58       </p>-->
59
60       <p align="center"; style="font-size: x-large;">Math Topics:</p>
61
62       <a href="http://www.carnegielearning.com/learning-solutions/softw
63           Carnegie Learning Cognitive Tutor on Math (HS Level)
64       </a>
```

# The WindowsPhone App



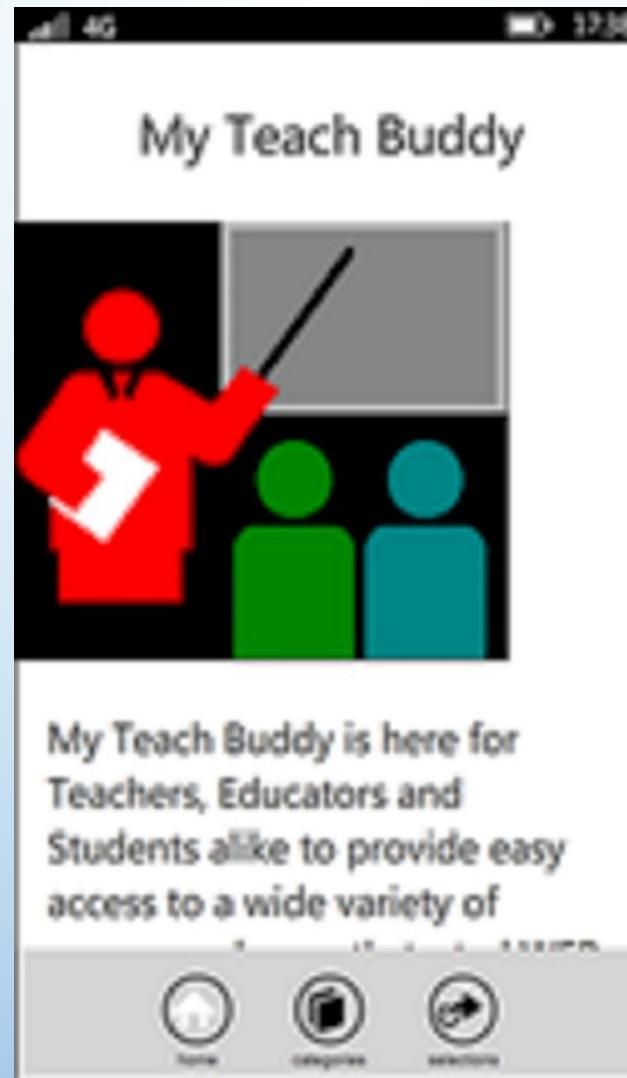
Pick a  
LOGO!

Pick an  
App  
Title!

**MyTeachBuddy**

# The WindowsPhone App

Screen  
#1

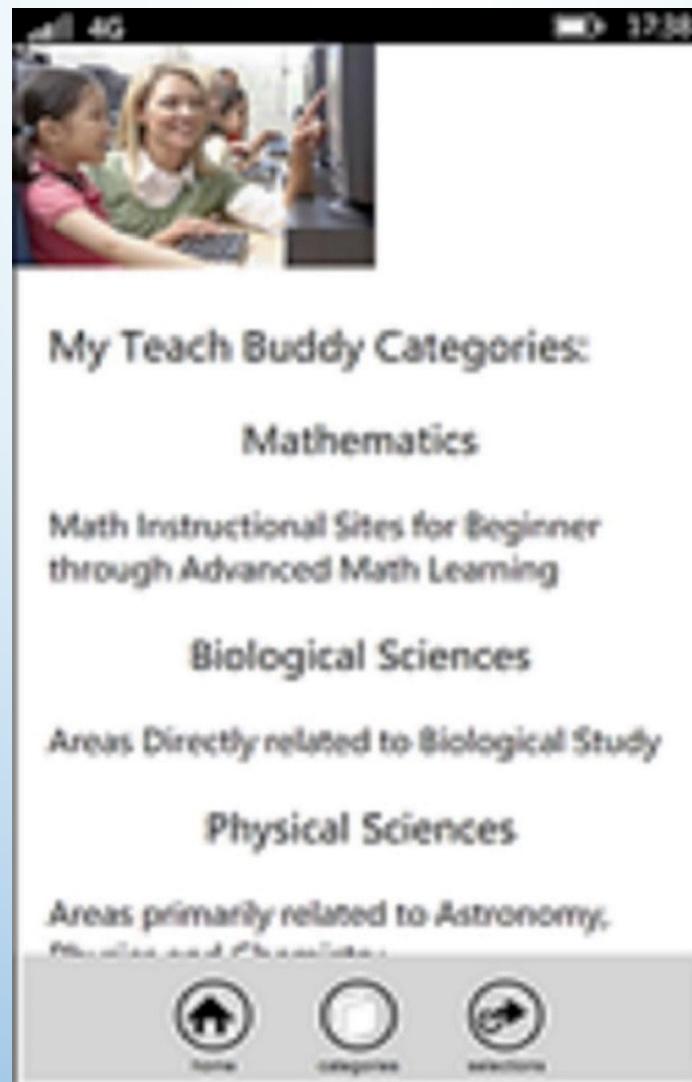


## MyTeachBuddy

Overview

# The WindowsPhone App

Screen  
#2

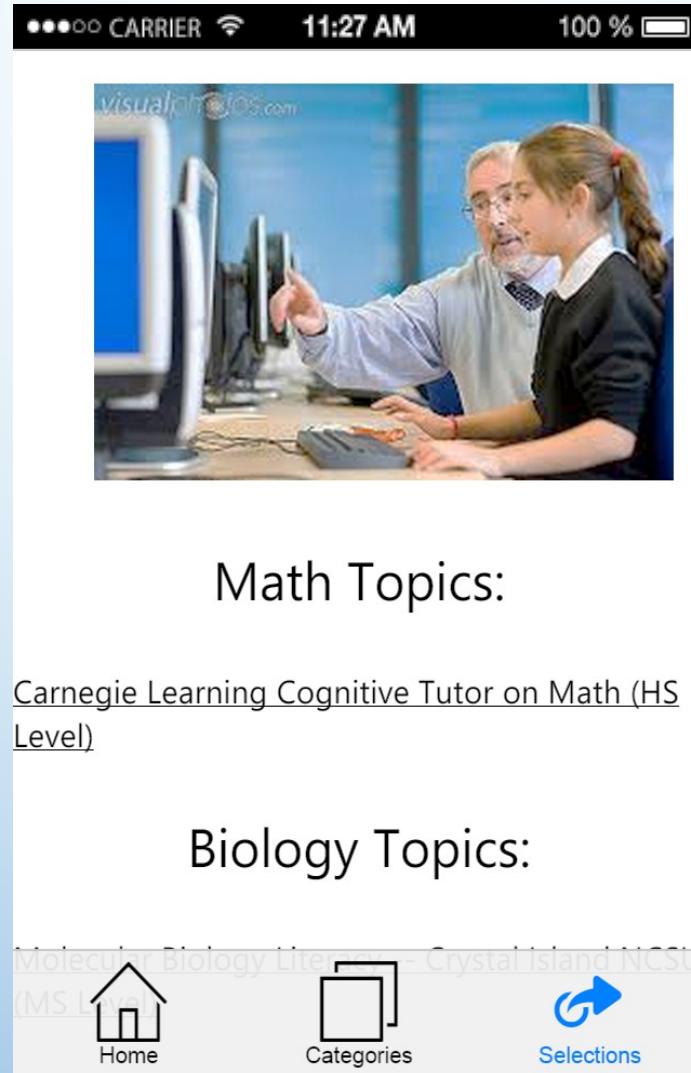


**MyTeachBuddy**

Categories

# The WindowsPhone App

Screen  
#3



*The details  
&  
selections*

## MyTeachBuddy

# Carnegie Learning Cognitive Tutor Software

[Resource Center](#)[Software Login](#) Search[Learning Solutions](#)[Resources & Support](#)[Research & Results](#)[About Us](#)[Contact Us](#)

## Learning Solutions

[Math Worktexts](#)[Web-Based Software](#)[Software Overview](#)[MATHia Software](#)[Cognitive Tutor Software](#)[Curricula](#)

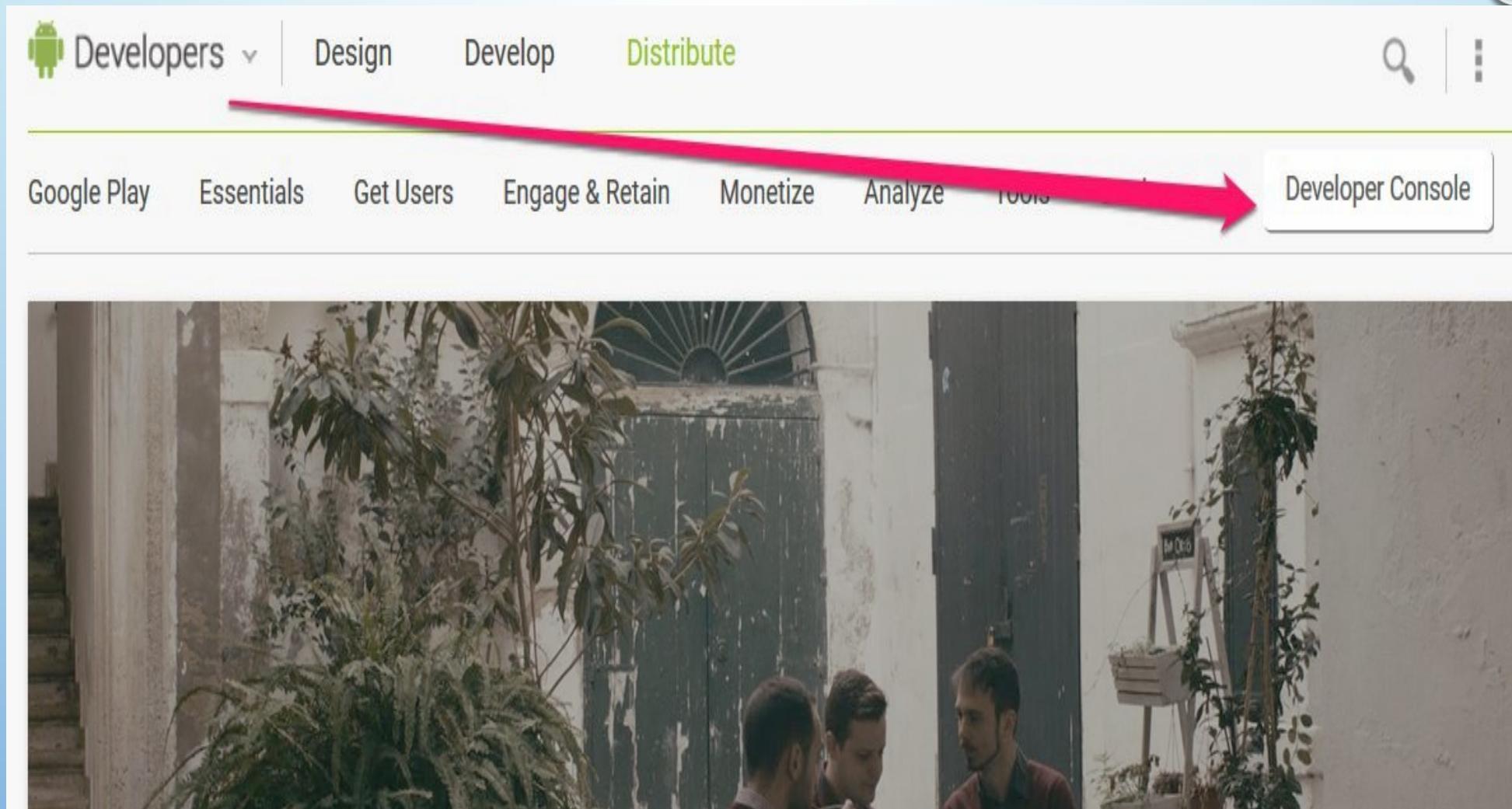
## Cognitive Tutor Software For Students Grades 9-12

Focus on individual students' needs with software that customizes feedback, hints, and prompts within each problem. With Cognitive Tutor® Software, students in grades 9-12 have all the resources they need to succeed.

- **Lesson, key terms, and skills:** Before working on problems, students can review the lesson, read, or look up the applicable key terms, and see the skills for that particular section.

Sample  
Site  
From  
MyTeachBudd

# The Android Phone App



Developers ▾ Design Develop **Distribute** | Search | Help

---

Google Play Essentials Get Users Engage & Retain Monetize Analyze Tools Developer Console

---



## MyTeachBuddy

# Android Phone Emulator



# The Android Phone App

Google play | Developer Console |  profjrr jrreed01@gmail.com Sign in

ALL APPLICATIONS [+ Add new](#)

Filter ▾

APP NAME	PRICE	CURRENT / TOTAL INSTALLS	AVG. RATING / TOTAL #	CRASHES & ANRS	LAST UPDATE	STATUS
 MyTeachBuddy 1.1	Free	1 / 1	—	—	Feb 9, 2015	Published

## MyTeachBuddy

# The Android Phone App

The screenshot shows the Google Play Store interface. The top navigation bar includes the Google play logo, a search bar containing "MyTeachBuddy", and a magnifying glass icon. Below the navigation bar, there are filters for "Search", "Android Apps", "All prices", and "All ratings". On the left, a sidebar has "Apps" selected (indicated by a green background), along with links for "My apps", "Shop", "Games", and "Editors' Choice". The main content area is titled "Apps" and displays the "MyTeachBuddy" app by profjrr. The app's thumbnail shows a red teacher figure pointing at a whiteboard. The app's title is "MyTeachBuddy" and the developer is "profjrr". The description reads: "My Teach Buddy is here for Teachers, Educators and Students alike to provide easy access to a wide variety of proven and expertly tested WEB sites for all your educational needs. These sites have all been extensively reviewed and are safe for use in the classroom." Below the description is a five-star rating icon and the word "FREE".

## MyTeachBuddy

# The Apple iPhone App

Status:	<b>Open</b>	DESK
Response deadline:	<b>48 hours</b>	Client
Last reply date:	<b>23 hours ago</b>	Mobile
Type:	<b>Support</b> ←	Mobile
Product:	<b>AppBuilder</b>	
CC email:	<b>jreed@hotmail.com</b>	

Jim  
CC email: [jreed@hotmail.com](mailto:jreed@hotmail.com)

I'm trying to deploy my hybrid app "MyTeachBuddy" to the Appl

## MyTeachBuddy

# iPhone Emulator



# The Apple iPhone App

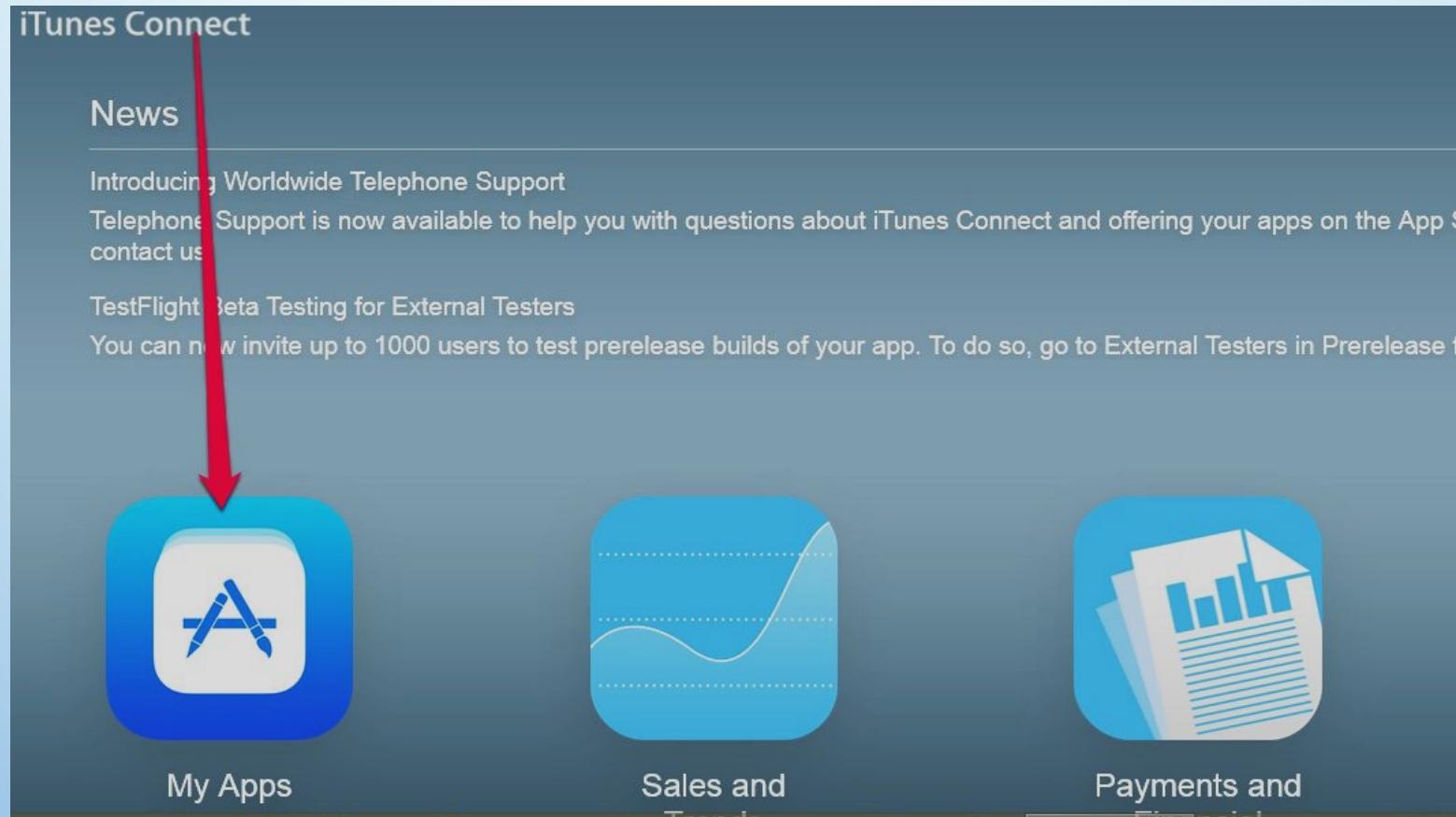
The screenshot shows the Apple Developer website's iOS Dev Center. At the top, there's a navigation bar with links for Technologies, Resources, Programs, Support, Member Center, and a search bar. Below that is a secondary navigation bar with tabs for iOS Dev Center, Mac Dev Center, and Safari Dev Center. On the right, a user profile shows "Hi, James Reed" and links for My Profile and Sign out.

The main content area has several sections:

- Resources for iOS 8**: Includes links for Downloads (with a download icon), iOS Developer Library (with a book icon), Development Videos (with a video camera icon), and iAd JS Developer Library (with a bar chart icon).
- Featured Content**: A list of links including iOS 8 for Developers, What's New in iOS, Adaptive User Interfaces, App Extensions, Apple Pay, CloudKit, Handoff, HealthKit, HomeKit, and 64-Bit Transition Guide.
- iOS Developer Program**: A sidebar with links for Certificates, Identifiers & Profiles, iTunes Connect, Apple Developer Forums, and Developer Support Center.
- App Store Resource Center**: A sidebar with links for Prepare for App Submission, App Store Approval Process, Managing Apps, and Marketing Resources.

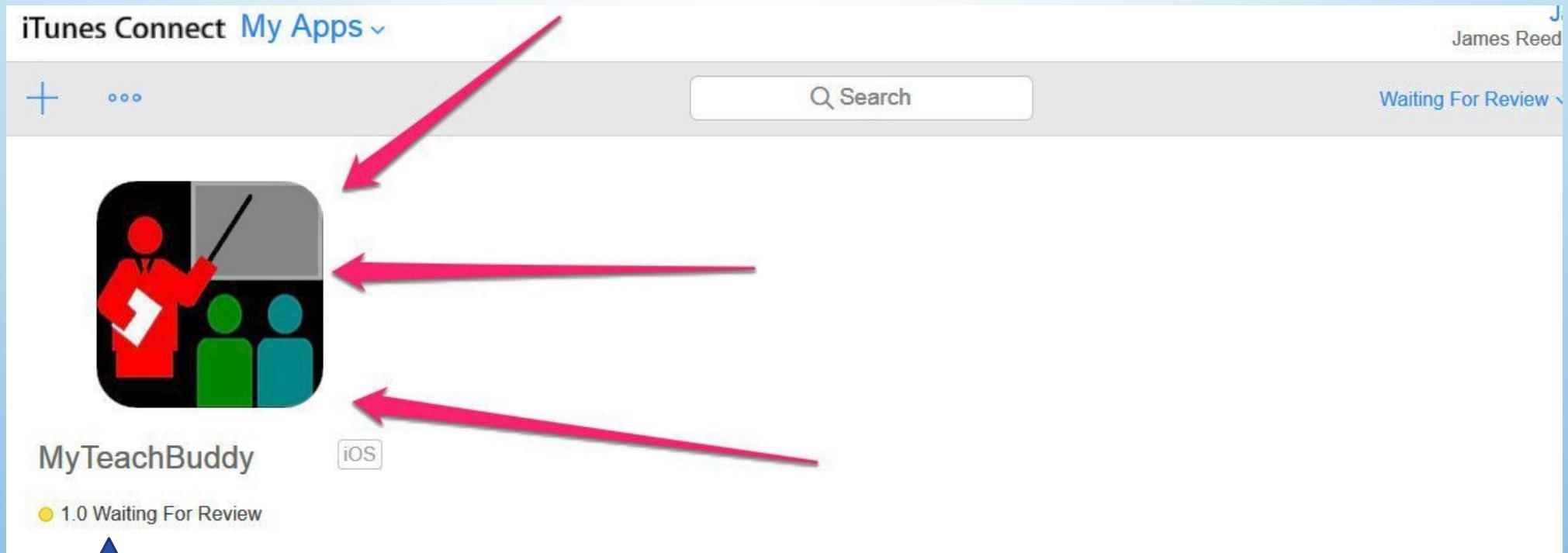
MyTeachBuddy

# The Apple iPhone App



# MyTeachBuddy

# The Apple iPhone App



**MyTeachBuddy**

# The Apple iPhone App

Hello James,

Thank you for contacting us about your app, MyTeachBuddy.

I would like to assure you that your app has not been forgotten and the review process is proceeding as normal. Please understand, due to the many apps and factors involved, review times can vary so it's not possible to predict when the review will start or how long a review will take.

At this time, there is nothing more you need to do. The team is working hard to review all submissions as quickly as possible. As soon as your app review begins and is completed, you will receive an email notifying you of the change of status.

We realize it can be difficult waiting for the results of your review so we appreciate your patience during this process.

Best regards,

Peter

App Store Review

**March 3rd, 2015**

# MyTeachBuddy

# The Apple iPhone App

MyTeachBuddy (1.0) - Status History

Current Status :

App Name : MyTeachBuddy Last Modified : Mar 5, 2015

Date	User	Status
March 05, 2015 05:10	Apple	Ready for Sale
March 05, 2015 05:09	Apple	Processing for App Store
March 05, 2015 05:04	Apple	In Review
February 26, 2015 08:50	cisprofjrr@alumni.ohio.edu	Waiting For Review
February 14, 2015 06:08	cisprofjrr@alumni.ohio.edu	Prepare for Submission

# MyTeachBuddy

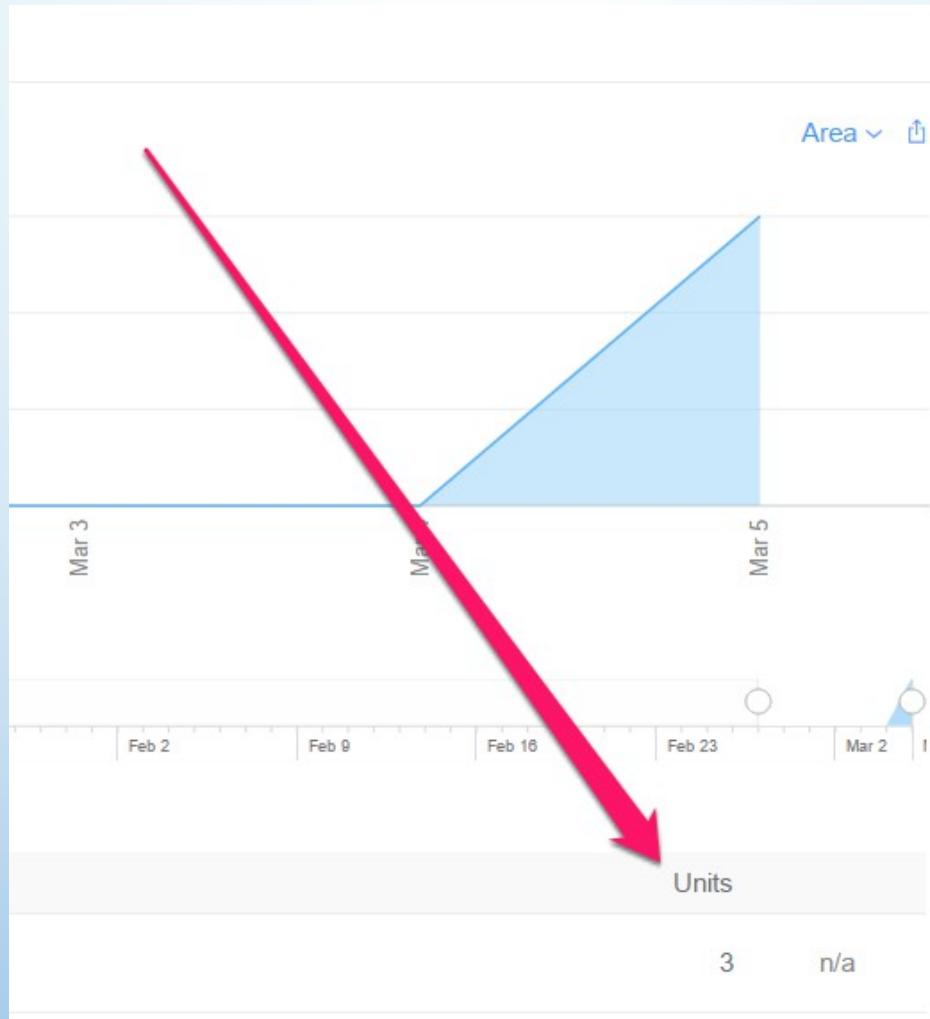
# The Apple iPhone App



**Hooray!**

**MyTeachBuddy**

# The Apple iPhone App



**MyTeachBuddy**

# The Apple iPhone App

MyTeachBuddy (1.0) - Status History

Current Status :

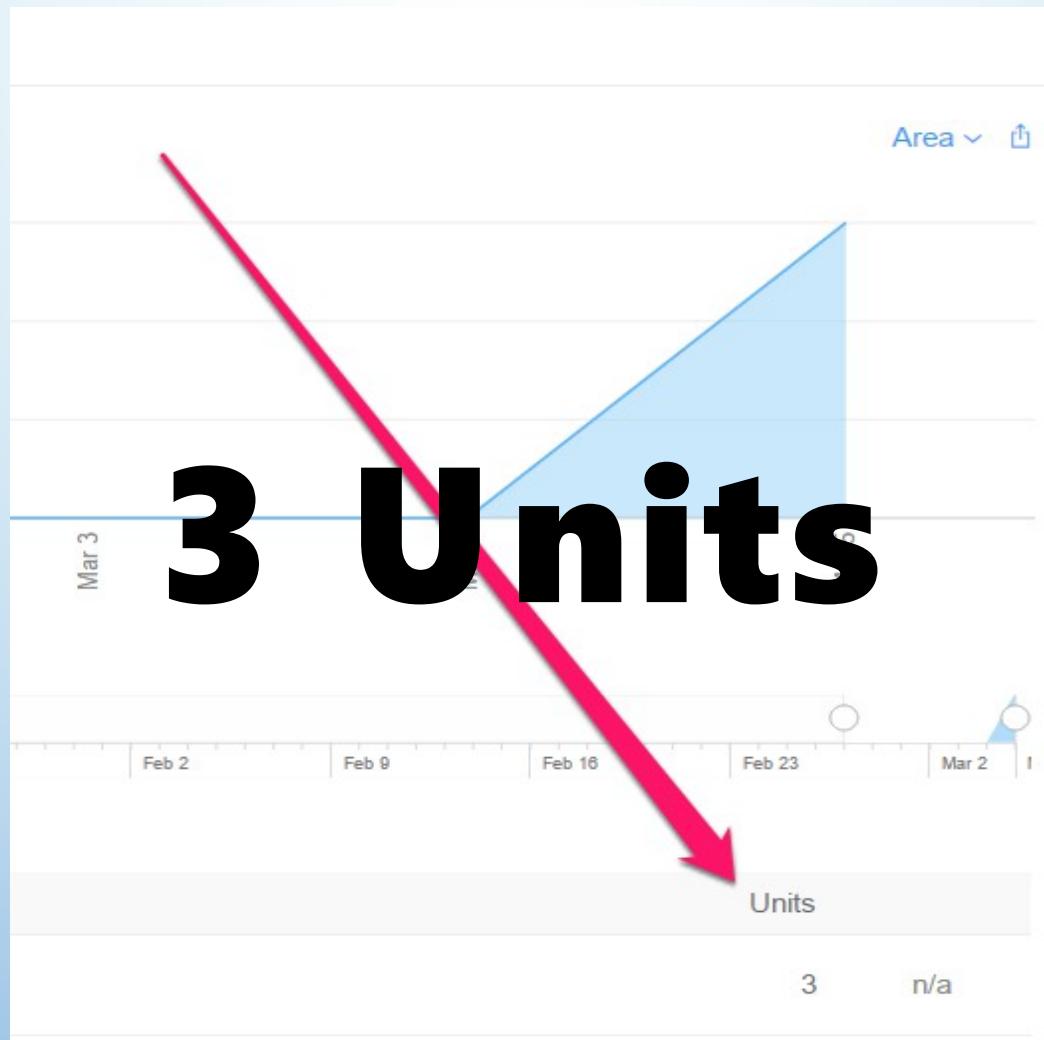
App Name : MyTeachBuddy Last Modified : Mar 5, 2015

Date	User	Status
March 05, 2015 05:10	Apple	Ready for Sale
March 05, 2015 05:09	Apple	Processing for App Store
March 05, 2015 05:04	Apple	In Review
February 26, 2015 08:50	cisprofjrr@alumni.ohio.edu	Waiting For Review
February 14, 2015 06:08	cisprofjrr@alumni.ohio.edu	Prepare for Submission

**Ready for Sale!!!**

**MyTeachBuddy**

# The Apple iPhone App



## MyTeachBuddy

# Hybrid Mobile App Development

- ★ Any Questions???
- ★ Any Ideas???
- ★ Any Comments???

End of  
Part 1!



# Visual Drag-and-Drop Programming Languages

## Part II

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**Begin Part 2**

# Scratch (Build Your Own Blocks)

## BYOB (old version) Downloads:

Welcome to the distribution center for BYOB (Build Your Own Blocks), an advanced offshoot of Scratch, a visual programming language primarily for kids from the Lifelong Kindergarten Group at the **MIT Media Lab**. This version, developed by Jens Mönig with design input and documentation from Brian Harvey, is an attempt to extend the brilliant accessibility of Scratch to somewhat older users—in particular, non-CS-major computer science students—without becoming inaccessible to its original audience. BYOB 3 adds first class lists, sprites, and procedures to BYOB's original contribution of custom blocks and recursion.

# SNAP! (Build Your Own Blocks) 4.0

The image shows the Snap! programming interface. At the top left is the logo "Snap! (Build Your Own Blocks) 4.0". Below it are two Scratch-style scripts:

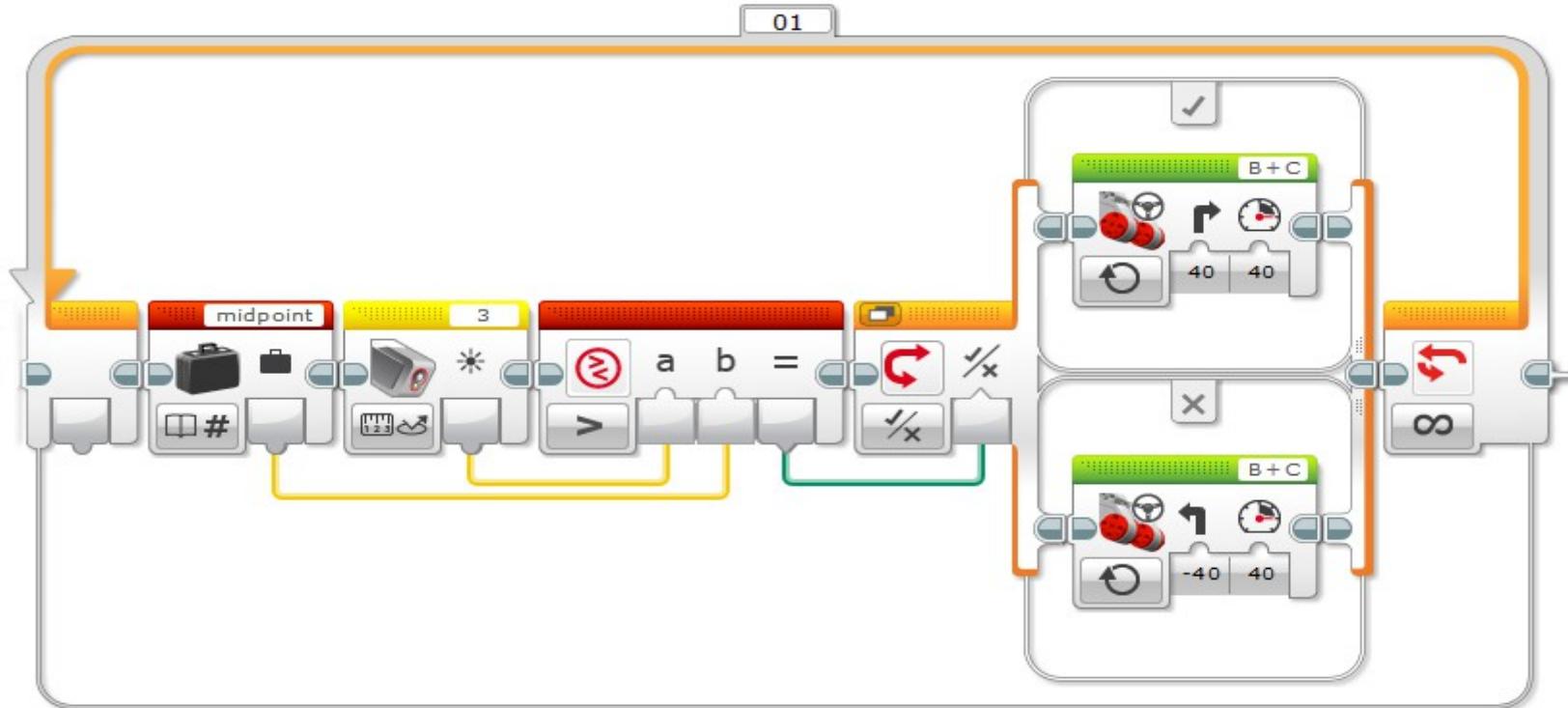
- The first script uses a "repeat until" loop to run an action "A" for 10 iterations. It includes a "set [start v] to [start]" block, a "repeat until [I > end]" control block, a "run [action A]" control block, and a "change [start v] by [-1]" control block.
- The second script uses a "for" loop to iterate from 1 to 10. Inside the loop, it says "join words [1 v] [k v]" for 2 seconds. It includes a "for [1 to 10]" control block and a "say [join words [1 v] [k v]] for [2] secs" control block.

Below the scripts is a workspace window titled "untitled". The workspace contains a single sprite, a 3D wireframe model of a spiral shape. On the left side of the workspace are toolbars for "Control", "Sensing", "Operators", "Variables", "Motion", "Sound", "Looks", and "Lists". The bottom left corner of the workspace has a "clear" button.

**Snap!** (formerly BYOB) is a visual, drag-and-drop programming language. It is an extended reimplemention of [Scratch](#) (a project of the Lifelong Kindergarten Group at the MIT Media Lab) that allows you to Build Your Own Blocks. It also features first class lists, first class procedures, and continuations. These added capabilities make it suitable for a serious introduction to computer science for high school or college students.

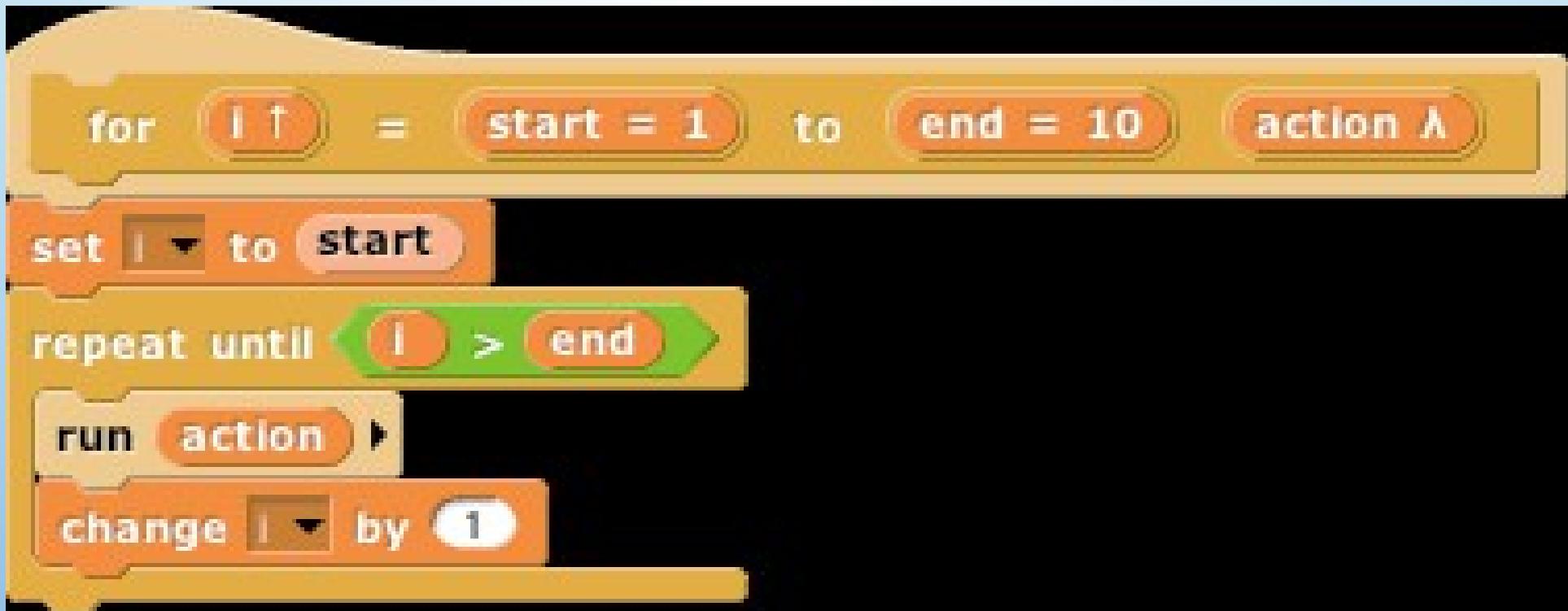
Snap, a visual programming language

# LEGO Native Block Programming



# SNAP! (Build Your Own Blocks)

## 4.0



[Snap, a visual programming language](#)

# SNAP! (Build Your Own Blocks) 4.0



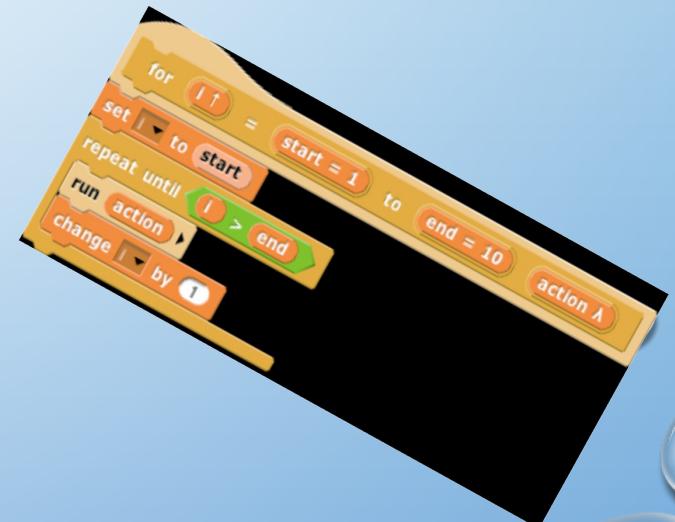
<http://snap.berkeley.edu/>

Snap, a visual programming language

# Drag & Drop Programming

\*Any Questions???  
\*Any Ideas???  
\*Any Comments???

End of Part 2!



# In Summary!

- Part 1 – Hybrid Mobile Computing
- Part 2 – Drag & Drop Programming
- Finalization for the Future

Thanks, Prof. JRR

**End of Presentation  
on  
Hybrid App Development  
and  
Drag & Drop Programming**

**###**

# Thanks again, Prof. JRR

Any Supporting Code and/or notes will be made available on GitHub.

Please download **MyTeachBuddy** and be Kind & Generous in your reviews.

*Please don't install it and then delete it later,  
It creates terrible stats on the App Store Sites.*

# Other Resources!

GITHUB



<https://github.com/profjrr>

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ProfJRR Columbus, OH. All  
Rights Reserved.