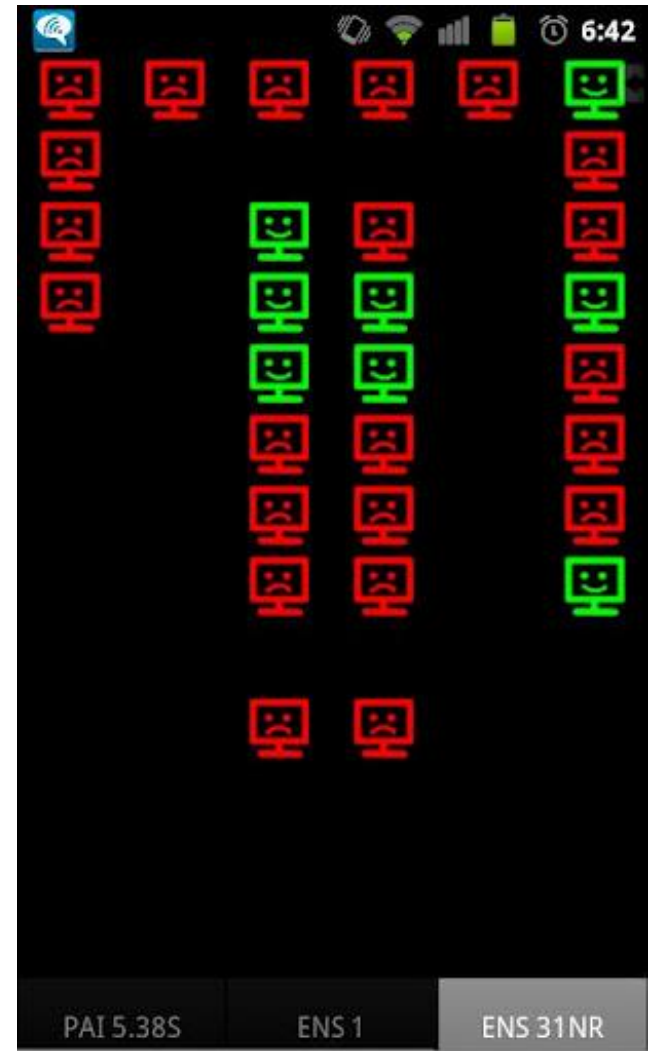


# CS371m - Mobile Computing

## App Project Overview

# App Project

- Teams of 3 students
- Develop an Android application of your choosing subject to instructor approval
- Application must run on class dev phones, API Level 16



# App Milestones

- App Proposals (Individual)
  - written 7/20
  - posters 7/20 and 7/21 depending on assigned poster day
- Teams and app choice, 7/24
- Design Documents, 7/27
- Alpha Release, 8/2
- Alpha Evals, 8/7 (Individual)
- How to, 8/10 (Individual)
- Beta Release, 8/14
- In class DEMOS 8/10 and 8/11

# App Proposals

- individual assignment
- every student proposes two applications
- Scope, use of mobile features
- at least one service oriented
- written due at 11 pm, Canvas on 7/20
- posters due day of assigned session
  - 7/20 and 7/21
  - compelling reason for a given day, email me ASAP
- Posters - polished, (obvious when thrown together the morning of class)

# InstaEatery



the Halal Guys



Hopdoddy



East Side King

## How to :-

1. HUNGRY!!!
2. Turn your location on
3. Open InstaEatery app
4. Find Instagram post of food near you
5. Filter by distance, or highly tagged restaurants.

- Deciding what to eat when none of your friends will decide
- Exploring your city
- Exploring new cities
- Staying hip amongst Foodies

## good for

## features

- Uses Instagram photo map to tally how many Instagram post are taken there or #hashtag's the restaurant has
- Save-able 'I want to try this' list
- Uses Google maps to help you travel there

## future

- Scrollable gallery of post of food made around you
- Yelp reviews along side the restaurants that pop up often on Instagram

## Photo map





# Giftery



## FEATURES:

- Keeps track of birthdays you plan on doing something about
- Stores your ideas and photos
- Integrated with Amazon to price check
- Alerts you a few weeks in advance to buy the gift
- Money saving calculator, helps you determine how much should be saving weekly or monthly

## CONTACTS:

Does not import all your contacts;  
This contact list will only contain  
whoever you input.

## CALENDER:

- Includes the contact list birthdays, anniversaries, and other special occasions
- The further in advance you input a birthday, the more time you will have to prepare your gift
- Alerts you ahead of time that: an occasion is coming up, or that you should put money aside this month for your plans

## NOTES:

- Stores notes you make about the person such as favorite colors, do not buys, favorite brands or stores



## FUTURE:

Eventually, we could integrate a CheapCheapCheap, Massdrop, TechBargains tracker and other money saving sites to help you find good deals on a specific item!



# Team and App Choice

- By 7/24
- App requires instructor approval
- teams of 3 people
- solo students will be grouped together at random or assigned to a team
- Join group on Canvas
  - available now

# Design Document

- 7/27
- What app will actually do
- Use cases
- Menus
- Screens
- Wireframe
- Your Plan!!!





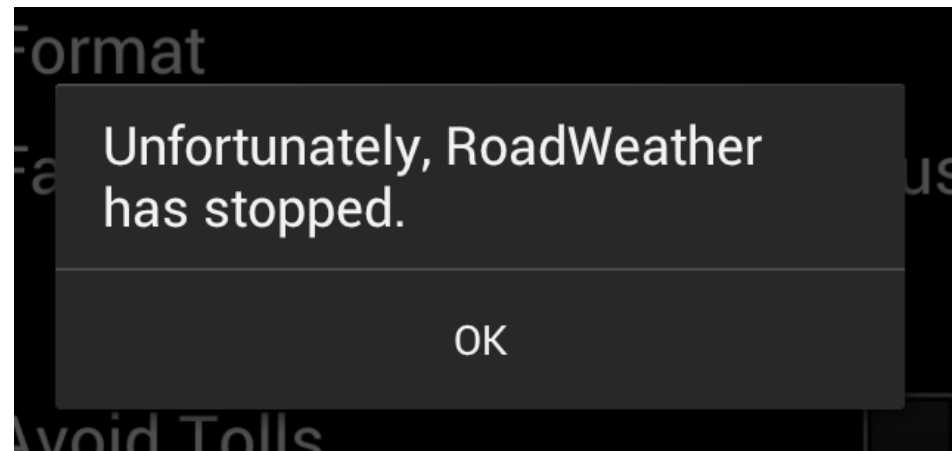
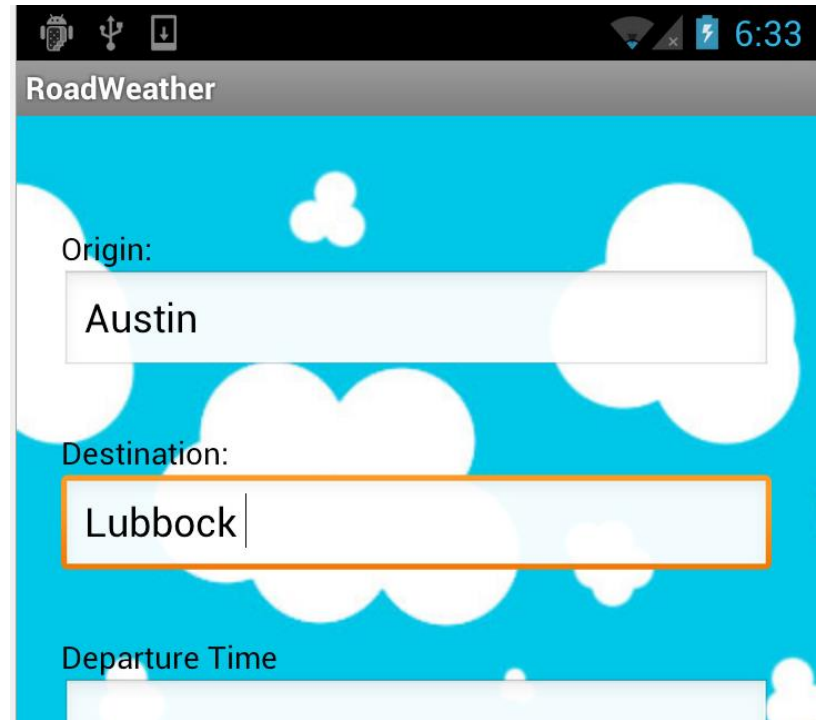
# Alpha Release

- 8/2
- Focus on Basic UI and *Functionality*
- turn in APK, project, and readme file

The screenshot shows a mobile application interface for task management. At the top, there is a status bar with icons for Android, USB, and download, along with signal, Wi-Fi, and battery indicators, and the time 6:30. Below the status bar is a navigation bar with three buttons: 'Today' (with a square icon), 'New' (with a plus icon), and 'Review' (with a list icon). The 'New' button is highlighted. Below the navigation bar is a section titled 'Task Name and Time' containing a text input field labeled 'Enter Task Name'. Below this is a 'Set Deadline:' label followed by a time display '06:30 PM' and a 'Select Time' button. Below the time display is a section titled 'Repeat Options' with seven buttons for days of the week: 'Su', 'M', 'Tu', 'W', 'Th', 'F', and 'Sa'. The 'Th' button is highlighted with a green underline. Below the repeat options is a section titled 'Notification Options' with an 'Alert:' label and two buttons: 'Alarm Off' and 'Vibrate Off'. At the bottom is a 'Persists' button.

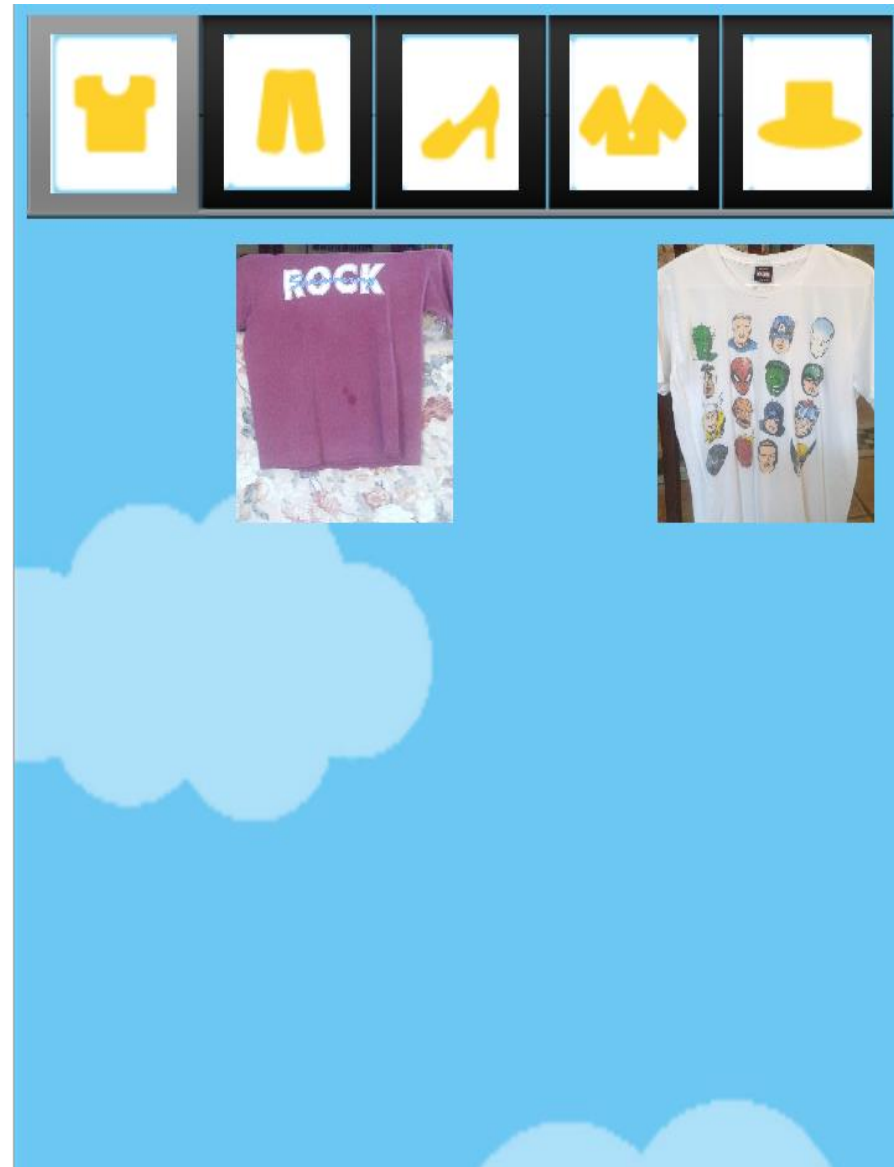
# Alpha Peer Evals

- 8/7
- For Alpha each student reviews 3 other apps
- feedback provided to team
- good, bad, ugly, suggestions, ERRORS



# Beta Release

- 8/14
- Fully Functional
- ***Polished***
  - UI polished
  - icon
  - graphics if necessary
  - menu options / app bar
  - sound / feedback
  - persistence
  - responsiveness



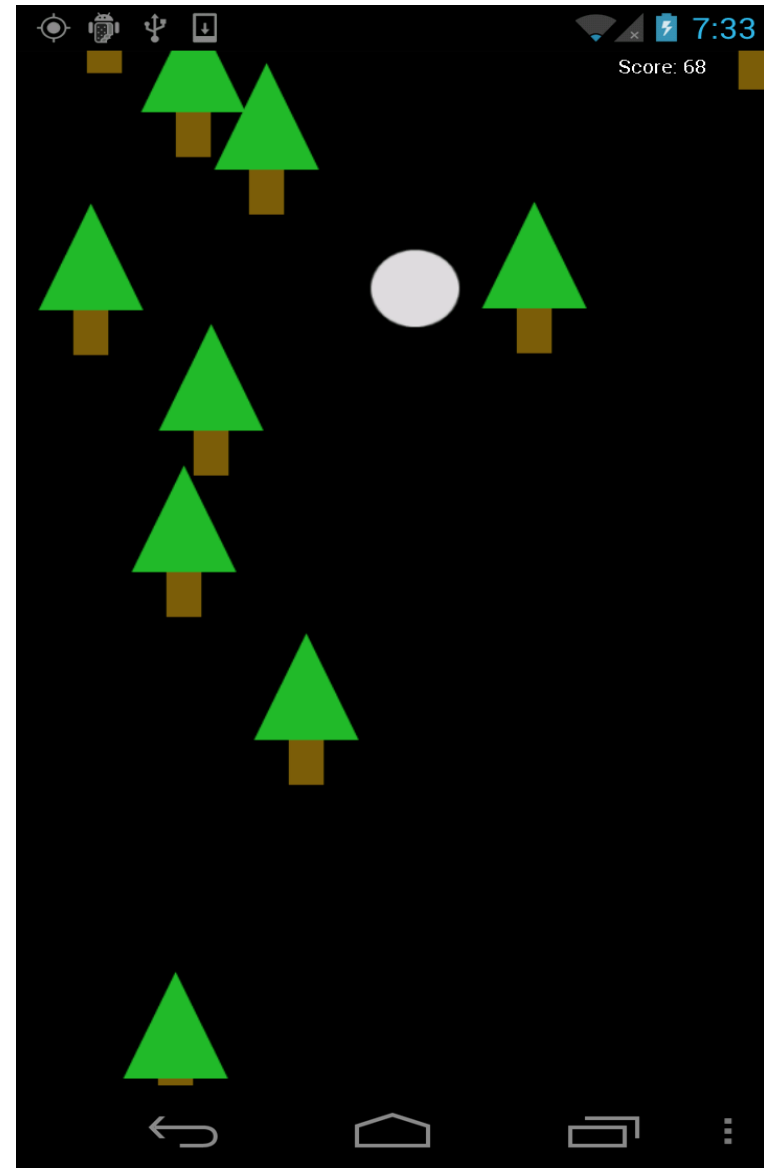
# Beta Demos

- 8/10 and 8/11
- Assigned randomly
- roughly 10 minutes per presentation
- describe and demo app to class



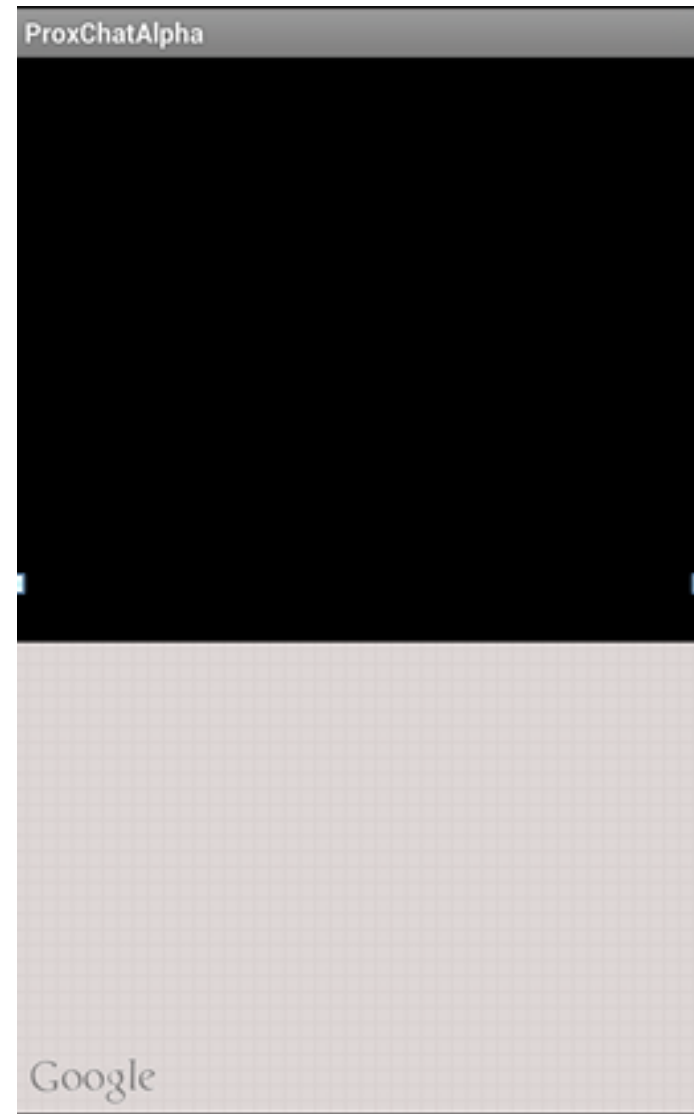
# Recommendations

- Based on my own experience (and bias)
- Pick something you are interested in
- ... but that is reasonable!
- Better to have simple idea / app that can be improved and extended
- .. than a non-functioning pile of garbage



# Recommendations

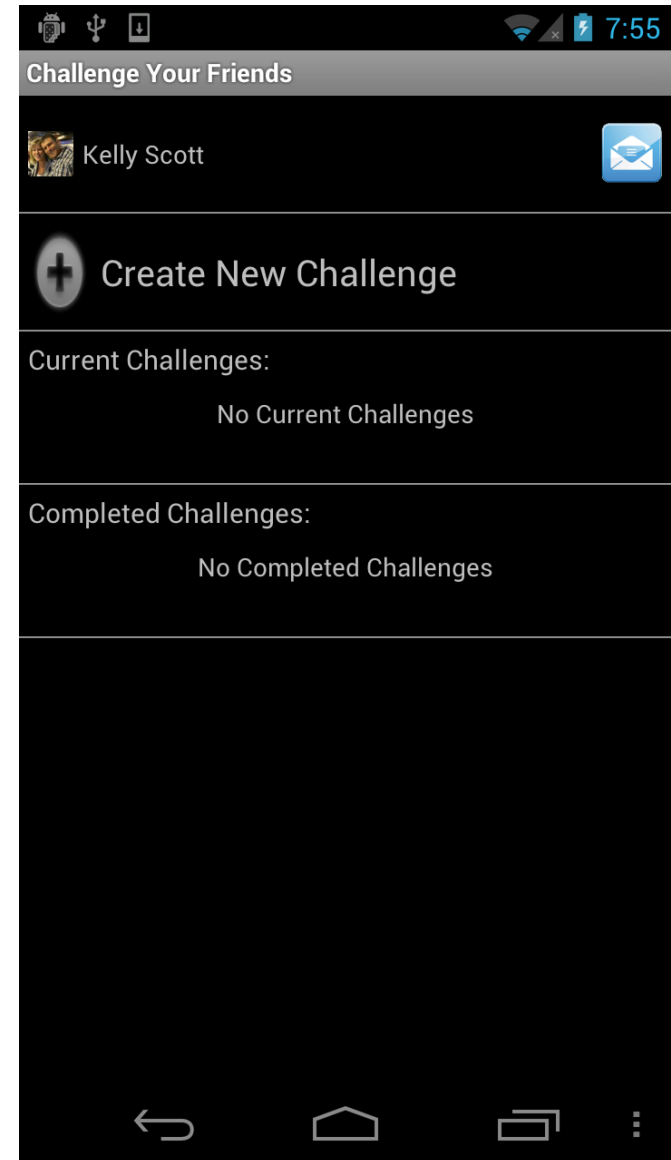
- Games are okay
- Okay to make a clone
- Apps designed for kids are okay
- Okay to use APIs / libraries
  - but no silver bullet
  - integration is hard and time consuming
- Don't try to learn too many new technologies
  - if you need your own web server and to interact with a large data base, but don't know how to set one up, now is NOT the time to learn





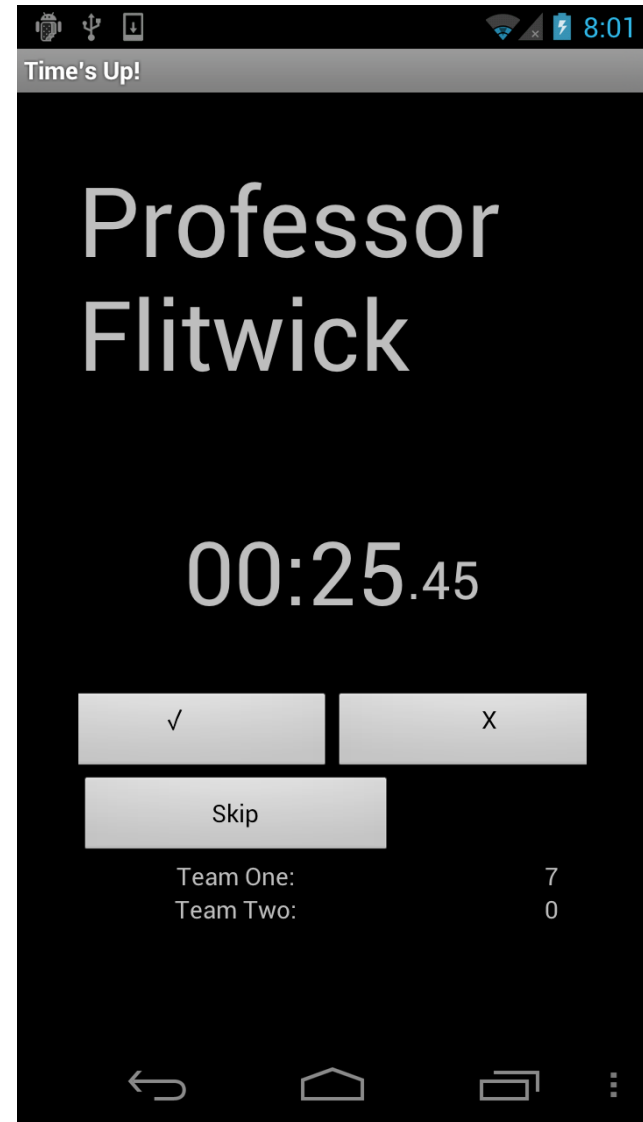
# Recommendations

- Avoid social media
  - probably my bias, but kind of boring and high barriers to entry
- Avoid apps with lots of initial data entry
- Avoid apps that are essentially static web pages



# Requirement

- Must use ***some*** features of the mobile device such as:
- Location / Maps
- Sensors
- Gestures / Touch Screen
- Contacts
- Camera
- Network
- Available applications / services
- Speech- to - text
- microphone
- audio output



# Recommendations

- Pick something you are interested in
- Pick something that scales down well
- Pick something you can do
  - the parking spot app

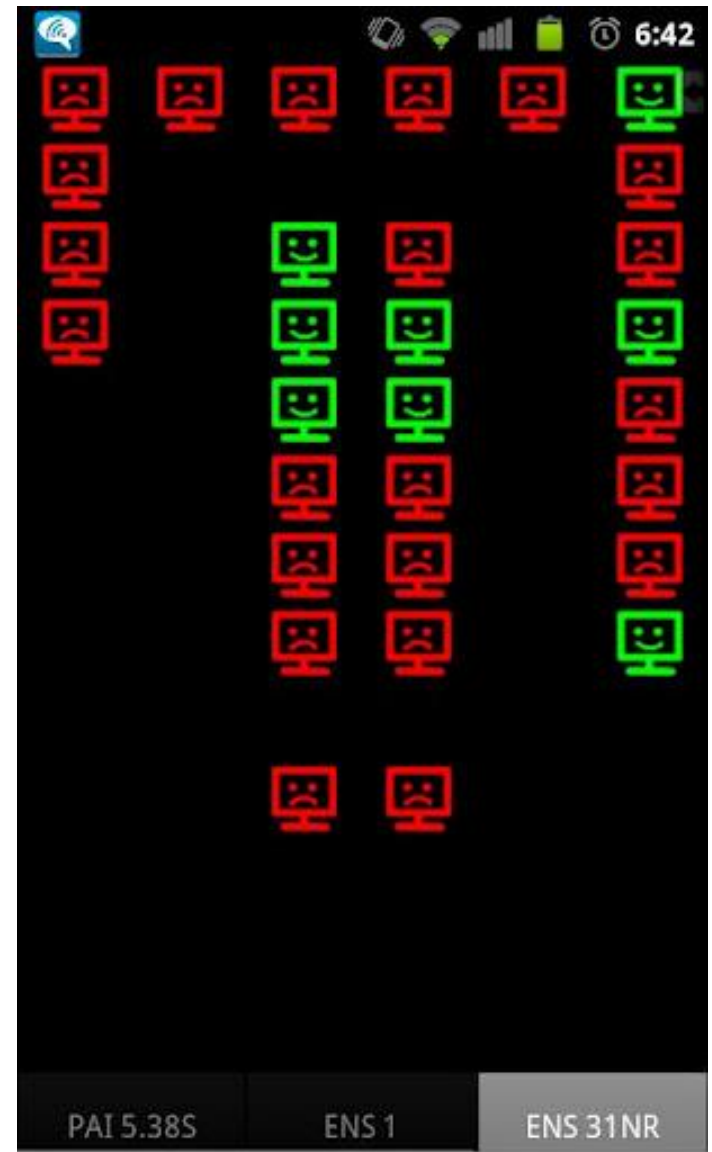
# Backends

- Many apps require a *backend*
  - storage off the device to share between apps
- Easier now due to the rise in Mobile Backend as a Service
  - MBaaS
- Old favorite Parse
- Newer options
  - Firebase (Google)

**PAST PROJECTS**

# UTCS Lab Map

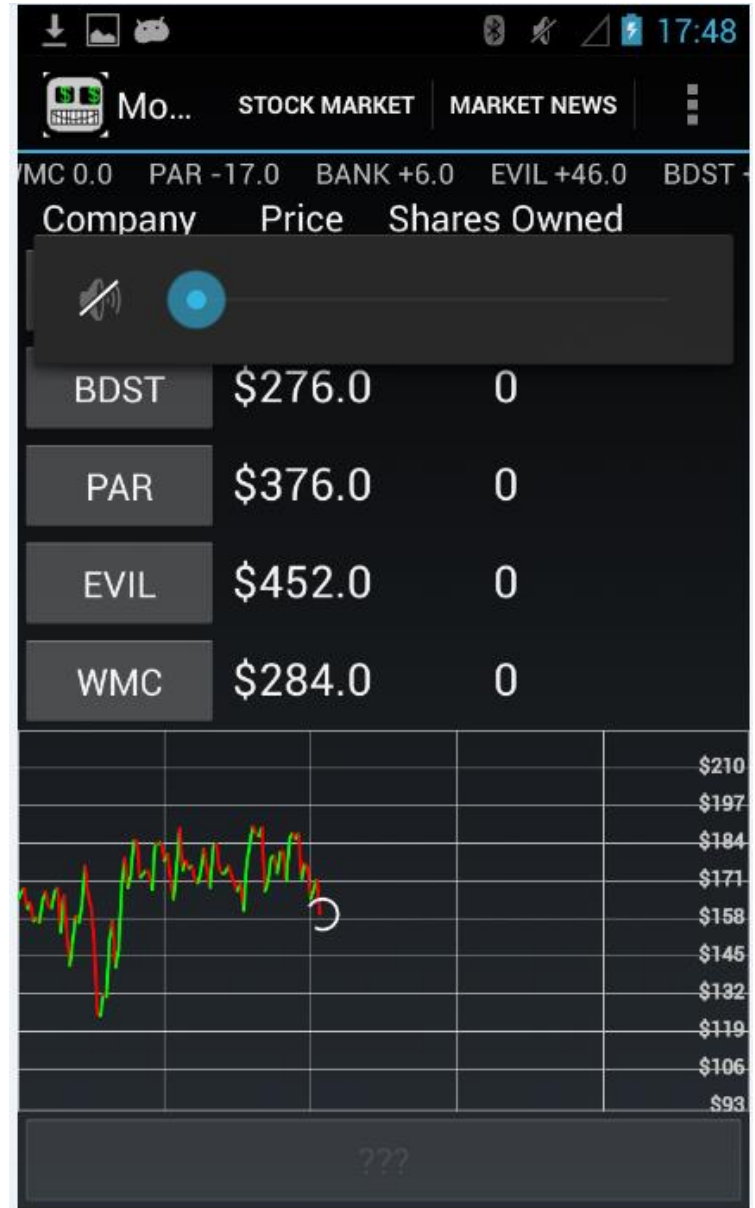
- Spring 2012
- What Linux machines are available (no one sitting there) in each CS lab?





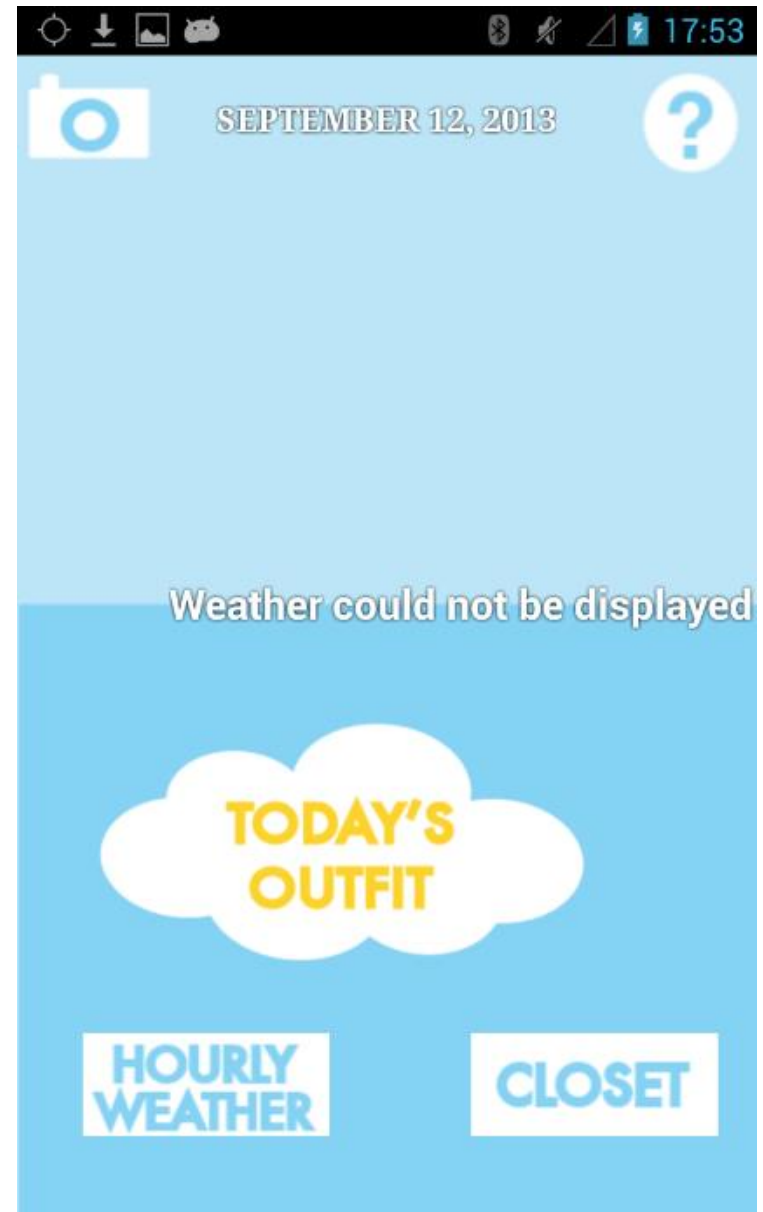
# Past Projects

- Moonstocks, Fall 2012
- Stock market game
- Stock price moves in response to music playing
- buy low, sell high



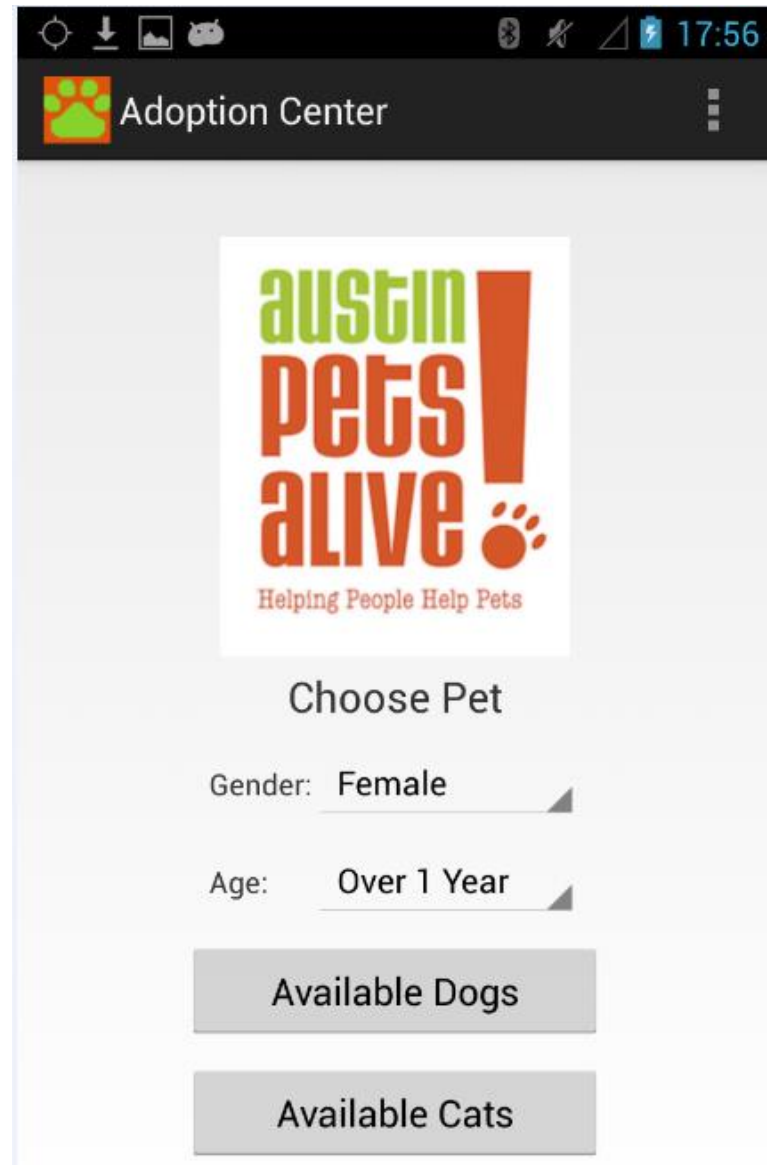
# Dress for the Weather

- Spring 2012
- Take pictures of your clothes
- Classify and tag for weather
- Checks weather and recommends an outfit



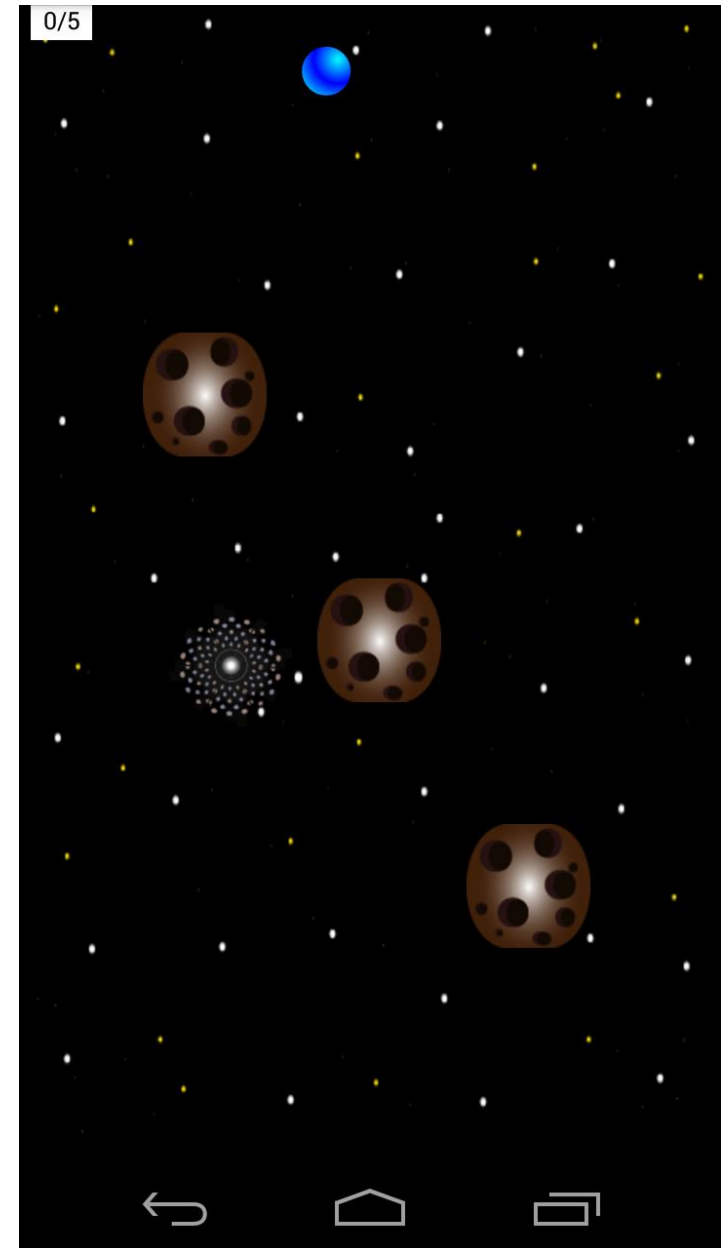
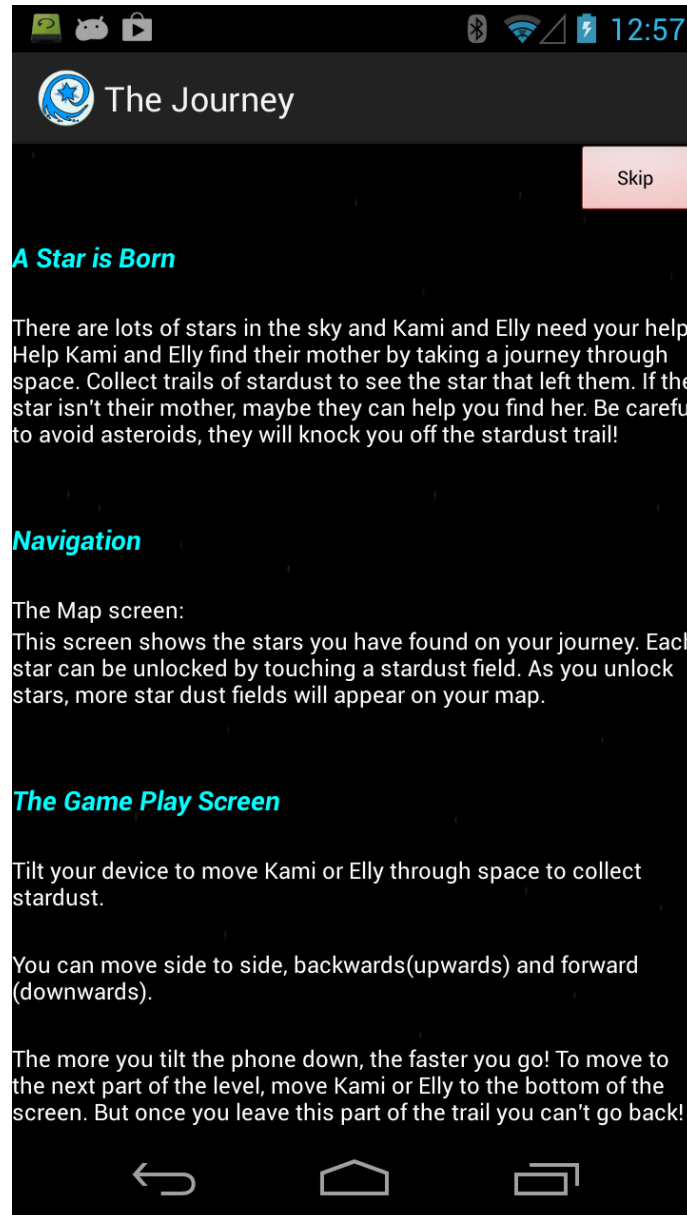
# Austin Pets Alive

- Fall 2012
- Show dogs and cats available for adoption



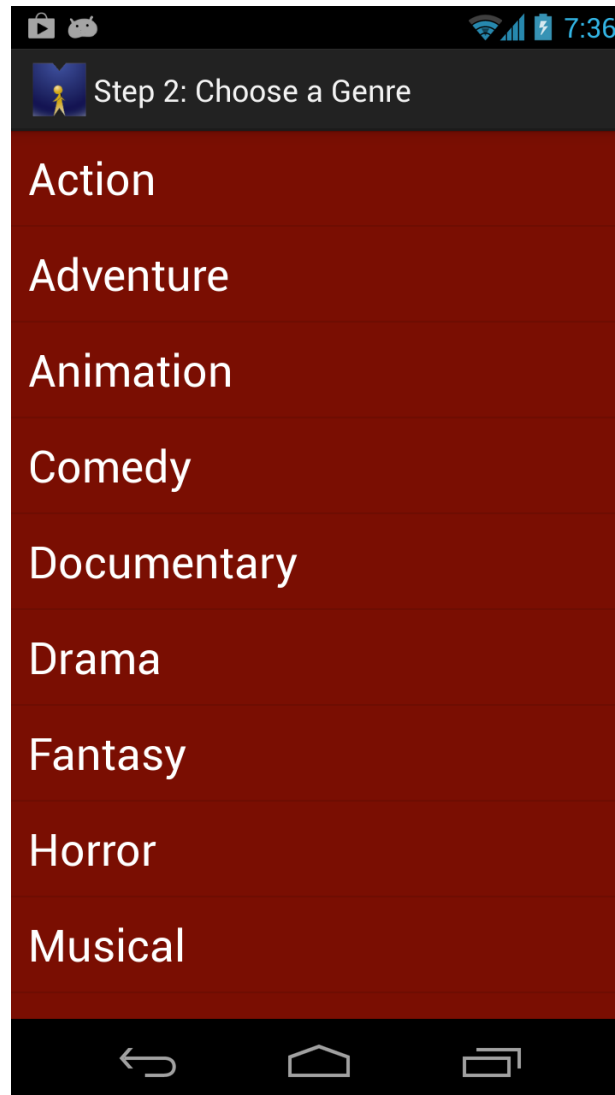
# Shooting Stars Chronicles

- Fall 2012
- Tilt Game



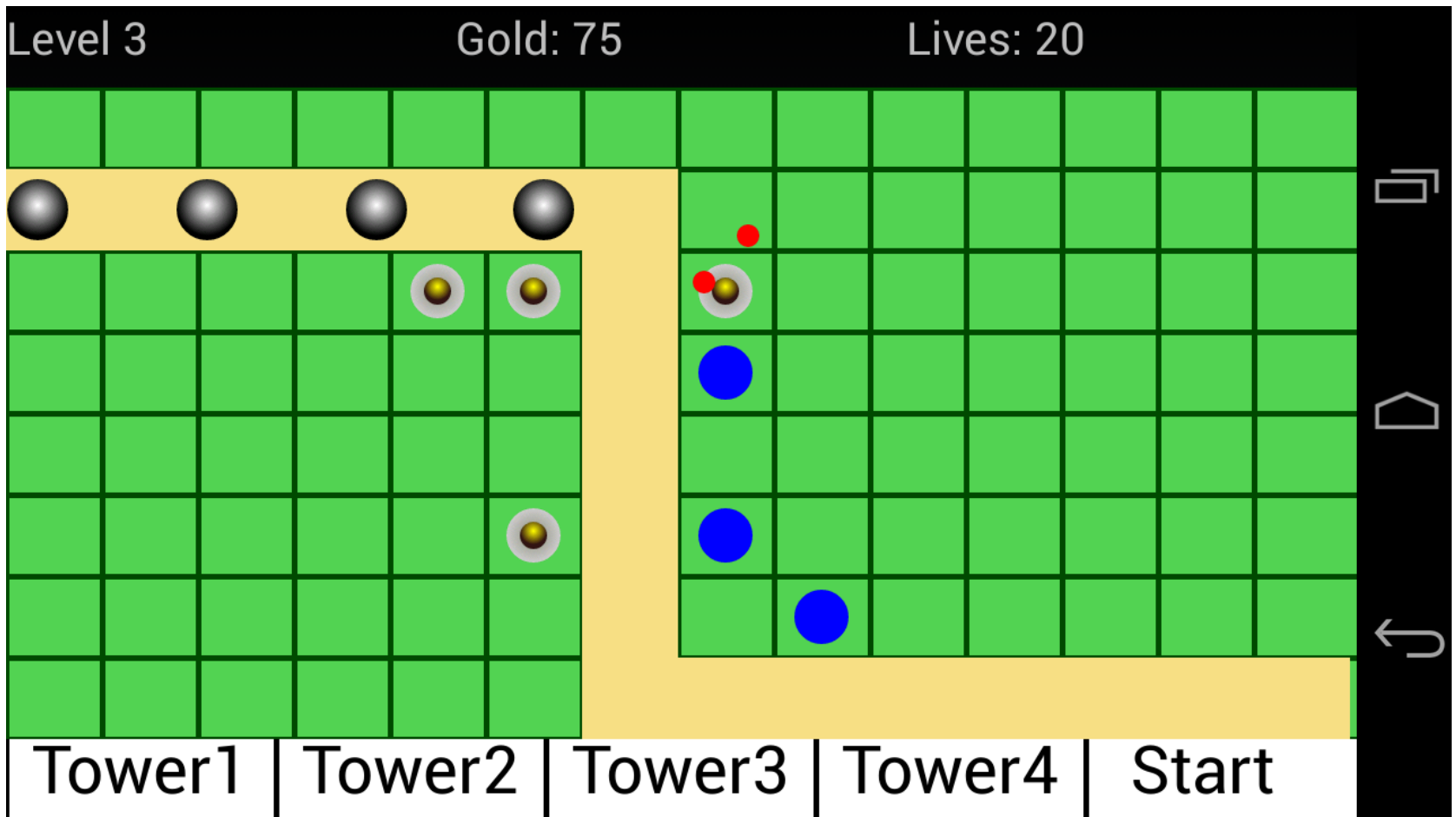
# MovieGoer

- Fall 2012
- Suggests movie based on location and genre choice



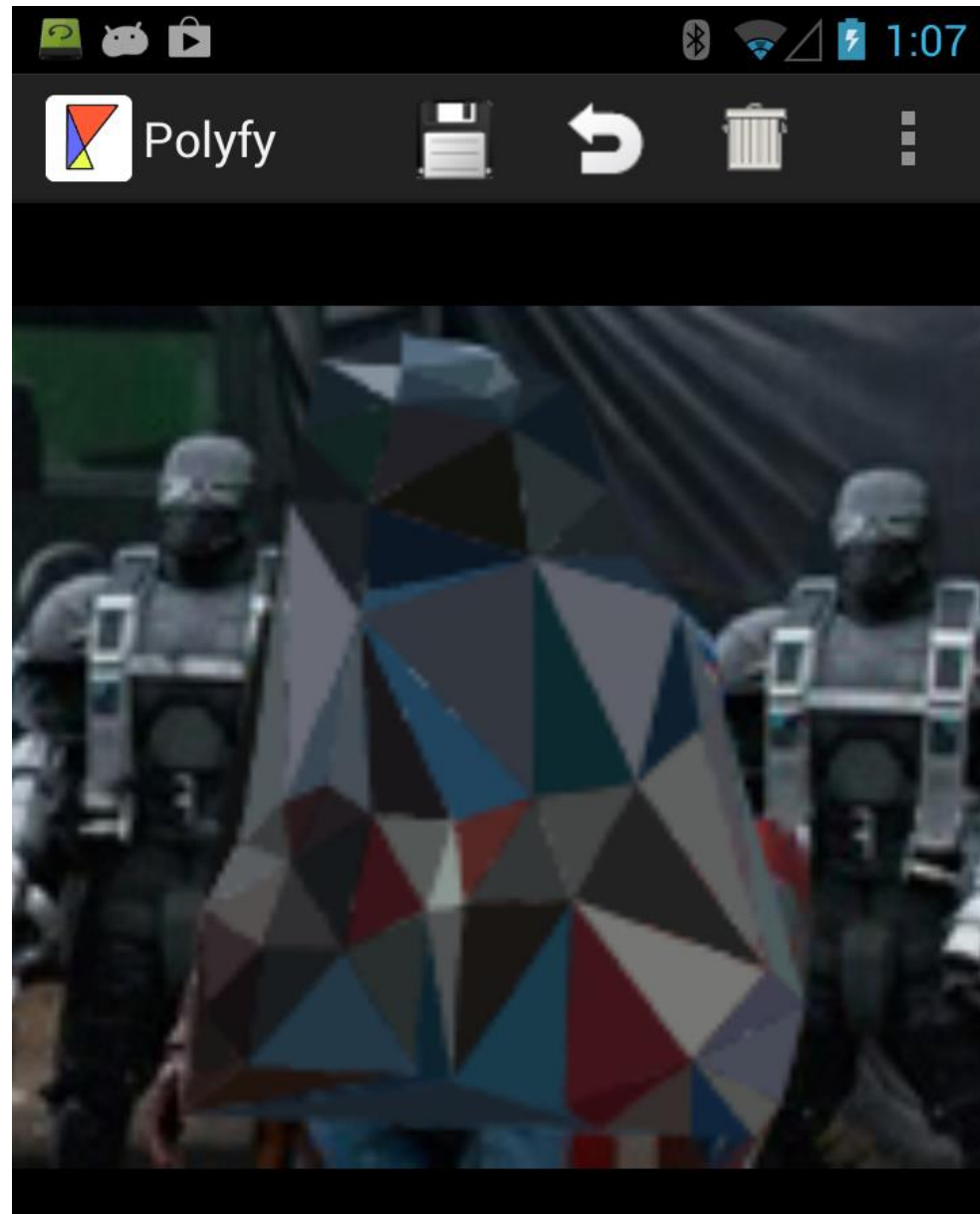
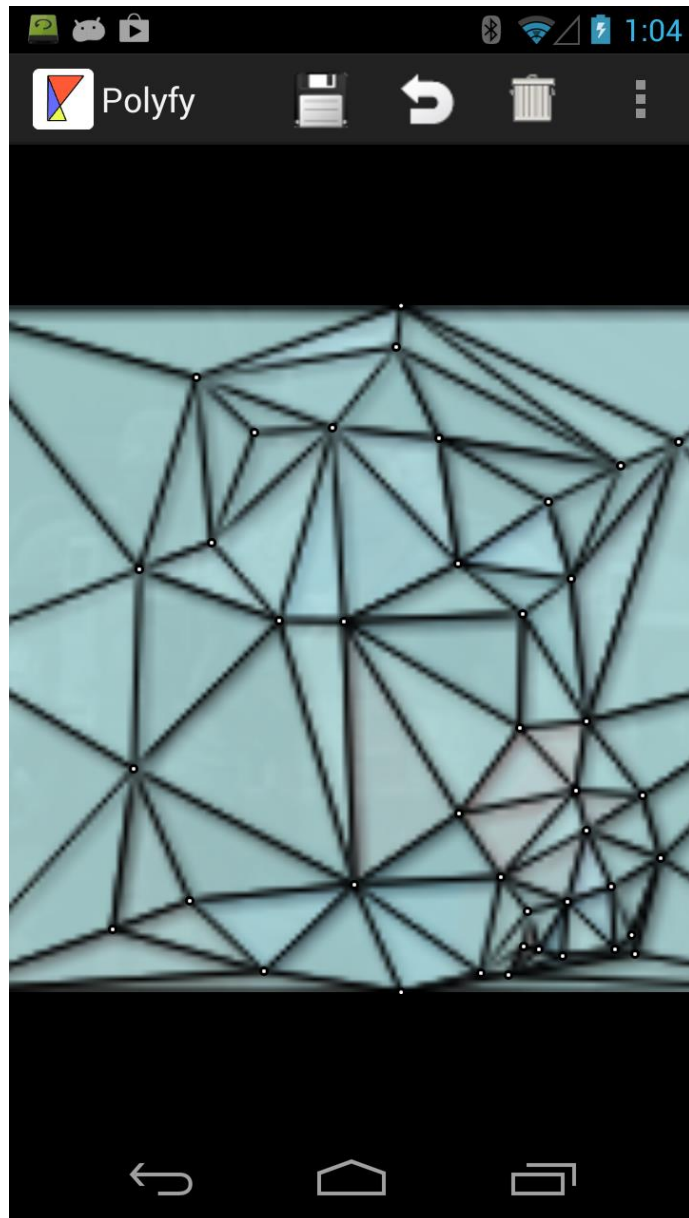
# Tower Defense

- Fall 2013, Simple Tower defense
- All Android 2d Graphics



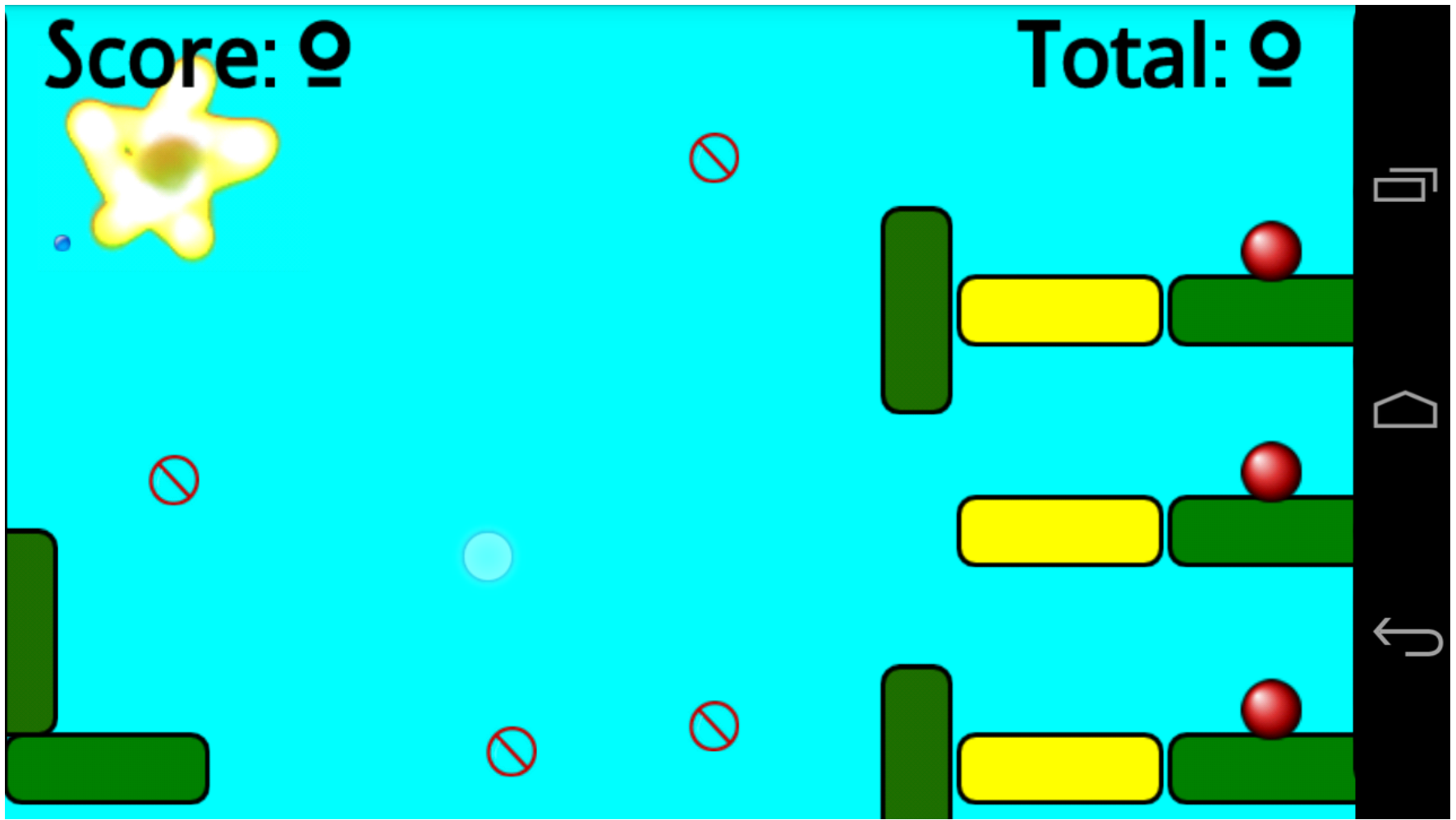


# Polyfly - Fall 2013



# Deballisher

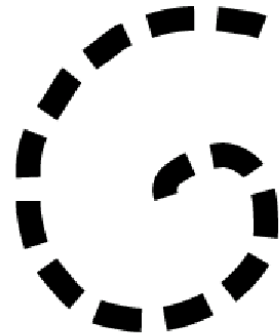
- Fall 2013, Tap game
- 3<sup>rd</sup> party physics package



# TraceMe

- Spring 2014
- Trace dotted pattern
- Limited Ink
  - makes the game
- Used Parse cloud storage service

Score: 33



Ink Level



# Cards Against People

- Spring 2014
- based on Cards Against Humanity
- clean version for review
- goal to use multiple devices but ran out of time

## Cards Against People

**Please, just let  
me \_\_\_\_.**

Start the game.

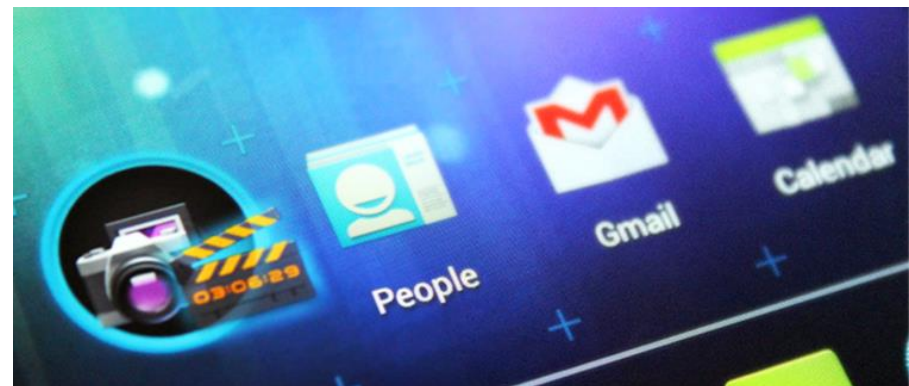
Manage my decks.

Learn how to play.

Change settings.

# Android Design Guidelines

- Create Vision!
- Enchant Me!
- Simplify My Life!
- Make **ME** Amazing!
  - <http://developer.android.com/design/index.html>



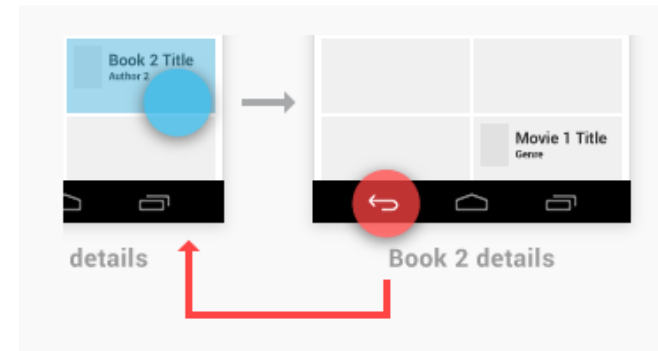
# Create Vision

- **Delight me in surprising ways**
- **Real objects are more fun than buttons and menus**
- **Let me make it mine**
- **Get to know me**



# Simplify My Life

- Keep it brief
- Pictures are faster than words
- Decide for me but let me have the final say
- Only show what I need when I need it
- I should always know where I am
- Never lose my stuff
- If it looks the same, it should act the same
- Only interrupt me if it's important

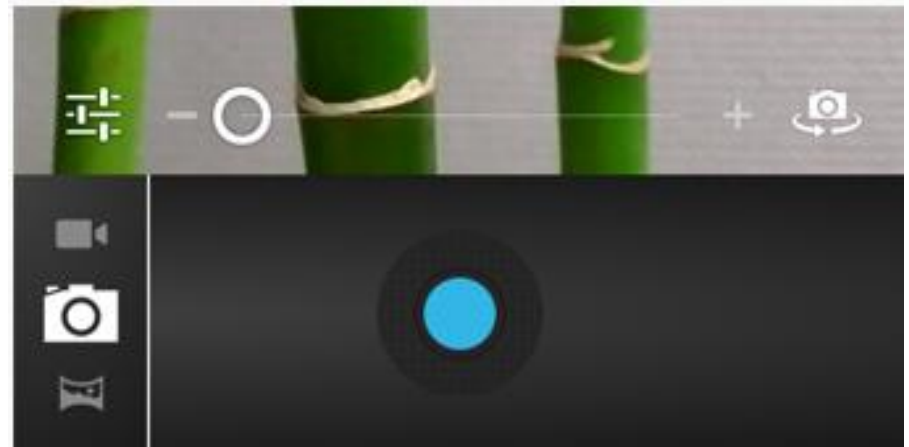


# Make Me Amazing

- Give me tricks that work everywhere
- It's not my fault
- Sprinkle encouragement
- Do the heavy lifting for me
- Make important things fast

## Insert SIM card

Turn off your phone, remove the battery, and carefully insert your SIM card with the gold contact side down. The cut-off corner should end up furthest away from the battery.



# Apple App Guidelines

- **The Display Is Paramount, Regardless of Its Size**
- **Device Orientation Can Change**
- **Apps Respond to Gestures, Not Clicks**
- **People Interact with One App at a Time**
- **Preferences Are Available in Settings**
- **Onscreen User Help Is Minimal**
- **Most iOS Apps Have a Single Window**

<http://tinyurl.com/3yj7b5y>



Developer

# Apple Human Interface Principles

- **Aesthetic Integrity**
- **Consistency**
- **Direct Manipulation**
- **Feedback**
- **Metaphors**
- **User Control**

# User Experience Guidelines

- **Focus on the Primary Task**
- **Elevate the Content that People Care About**
- **Think Top Down**
- **Give People a Logical Path to Follow**
- **Make Usage Easy and Obvious**
- **Use User-Centric Terminology**
- **Minimize the Effort Required for User Input**
- **Downplay File-Handling Operations**
- **Enable Collaboration and Connectedness**
- **De-emphasize Settings**

# User Experience Guidelines

- **Make Search Quick and Rewarding**
- **Entice and Inform with a Well-Written Description**
- **Be Succinct**
- **Use UI Elements Consistently**
- **Consider Adding Physicality and Realism**
- **Delight People with Stunning Graphics**

