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

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.

Features:
- Uses Instagram photo map to tally how many Instagram posts are taken there or hashtags the restaurant has
- Save-able 'I want to try this' list
- Uses Google maps to help you travel there
- Deciding what to eat when none of your friends will decide
- Exploring your city
- Exploring new cities
- Staying hip amongst Foodies

Photo map:
- Scrollable gallery of photos of food made around you
- Yelp reviews along side the restaurants that pop up often on Instagram
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!

Best Friend
Birthday:
September 23, 1989
Asking for:
n/a
My ideas:
GoPro
Portable Speakers
Nice shirts

CHECK SALES!
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
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 database, 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

A Star is Born

There are lots of stars in the sky and Kami and Elly need your help. Help Kami and Elly find their mother by taking a journey through space. Collect trails of stardust to see the star that left them. If the star isn't their mother, maybe they can help you find her. Be careful to avoid asteroids, they will knock you off the stardust trail!

Navigation

The Map screen:
This screen shows the stars you have found on your journey. Each star can be unlocked by touching a stardust field. As you unlock stars, more star dust fields will appear on your map.

The Game Play Screen

Tilt your device to move Kami or Elly through space to collect stardust.

You can move side to side, backwards(upwards) and forward (downwards).

The more you tilt the phone down, the faster you go! To move to the next part of the level, move Kami or Elly to the bottom of the screen. But once you leave this part of the trail you can’t go back!
MovieGoer

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

Step 2: Choose a Genre
- Action
- Adventure
- Animation
- Comedy
- Documentary
- Drama
- Fantasy
- Horror
- Musical

Step 4: Enjoy your show

May we suggest...

Chef

@ Alamo Drafthouse Cinema - Village

12:10  10:30pm
3:05   6:00
Tower Defense

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

- Fall 2013, Tap game
- 3rd party physics package
TraceMe

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

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

• Create Vision!
• Enchant Me!
• Simplify My Life!
• Make ME Amazing!

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
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
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