

# BotaniClash



## By Team Tree Huggers:

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# Presentation Outline

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# The Purpose

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## A great cause

Climate change is affecting plant growth  
Researchers need to keep track of plants

The more data the better

BotaniClash is an opportunity for people  
to help



## A fun game

Location based games on the rise

Great for competitive gamers

Fun for the outdoorsy

A game that grows with its players





## The Client

Dr. Eric Graham, Biology Professor at CWU

Originally worked at the Center for Embedded Networked Sensing at UCLA on Project Budburst

Budburst - Geocaching application for collecting data on plants - issues with GPS location and manual syncing

Goal is to create a mobile app that crowd sources data collection to help scientists and provides a fun game experience for users



# The Requirements

# Functional Requirements

## BotaniClash Must...

**Pull Player's Geographic Location (Every 5-60 sec)**

**Reveal A tree on the map when user finds it**

**Accumulate/keep track of every player's Points**

**"Tree points" "Rank Points"**

**Give Players control over Trees**

**Initiate Special events for trees lacking data**

**Send Data to client's Server (Or locally)**

# Nonfunctional Requirements

**To be considered:**

**Mobile app for both iOS and  
Android devices**

**Reliability**

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**Scalability**

**Efficiency**

**Performance**

**Security**



# Tools Considered

Technology Used	Reason
Qt Creator (qt/QML)	App must be compatible for both Apple and Android
MySQL	Allow access from multiple users at once
Amazon RDS(Relational Database Service)	Webservice to store client's data, data security, mySQL support

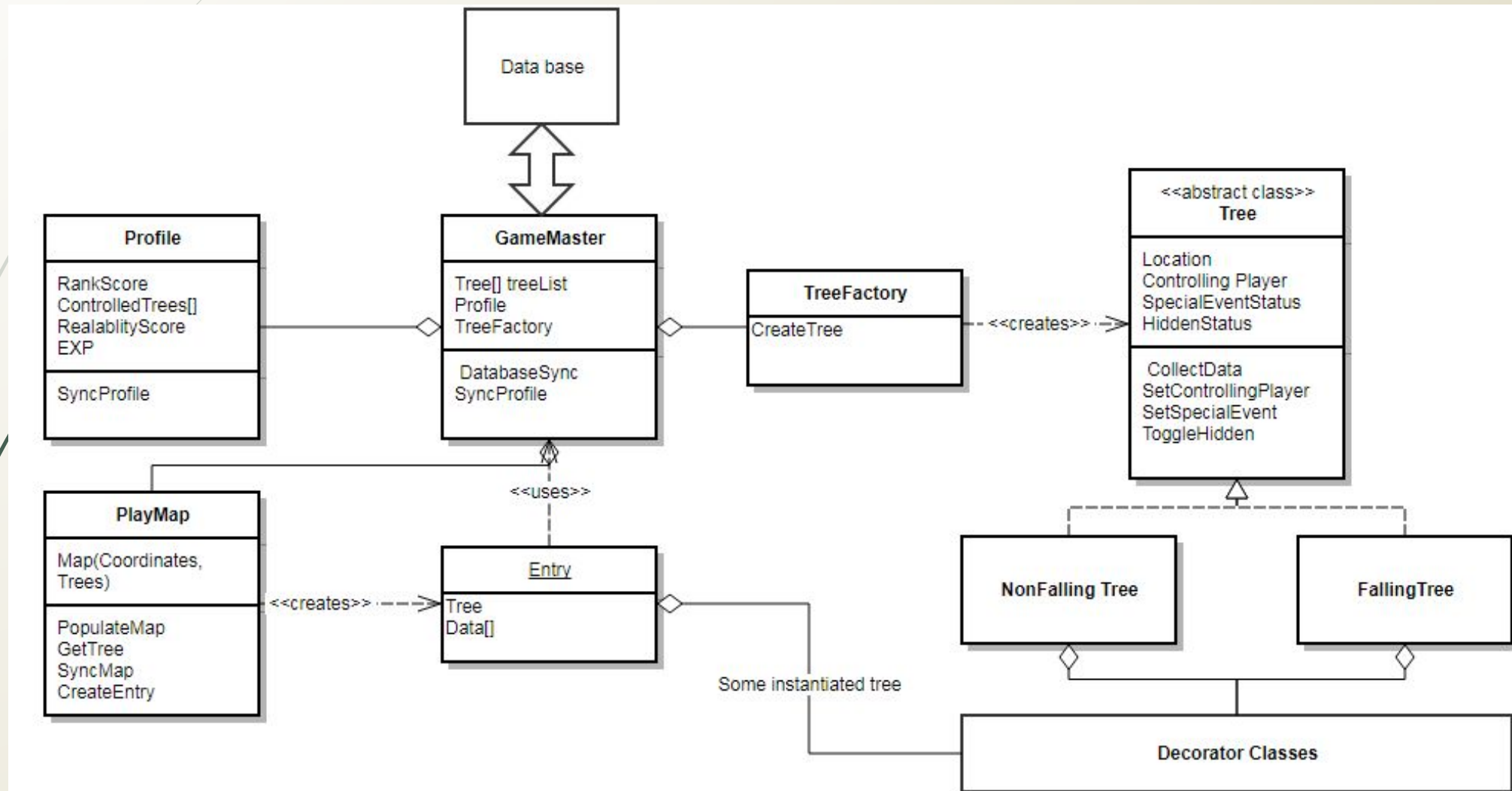


# The System Structure

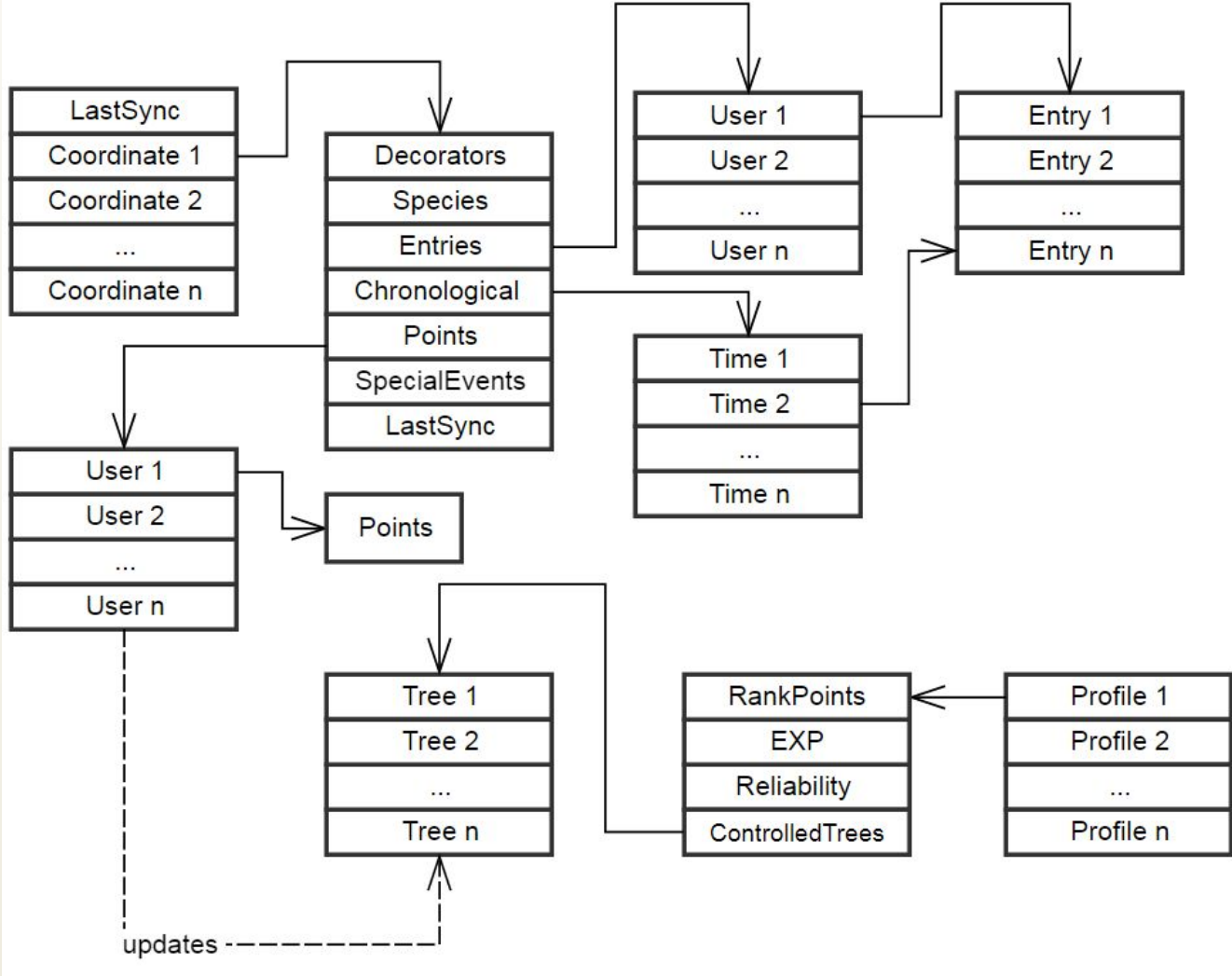
# Basic Gameplay

- Players will collect data on trees in order to collect two kinds of points
- Players will fight for control of trees
- Special events will force players to explore new areas of the map

# Application Architecture



# Database Structure





# The Plan

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Responsibilities:  
Lead

# The Plan

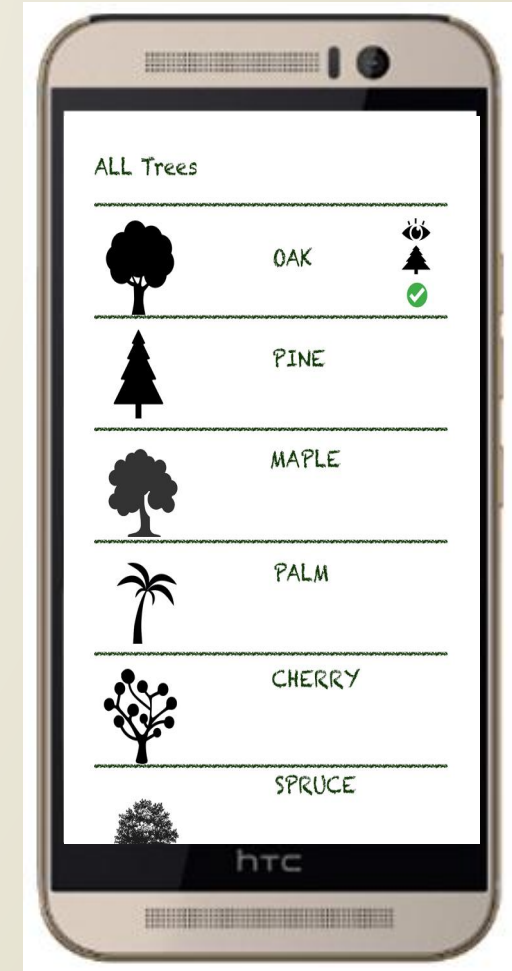
Week		1 - 3	3 - 5	5 - 7	7 - 10
	Database lead Luke	Tree Table	Profile Table	Update	Testing
	Back-End lead Bijan	<u>Tree Group</u> Factory Tree Insertion Implementation	Game Master Play Map	Profile Entries	Testing
	iOS Interface lead Erick	Data Collection Map Profile Leaderboard	Testing	Animation	Testing
	Android lead Wayne	Data Collection Map Profile Leaderboard	Testing	Animation	Testing
	Floater Hermann	As Needed	As Needed	As Needed	As Needed
Version		0.1	0.2	0.3	



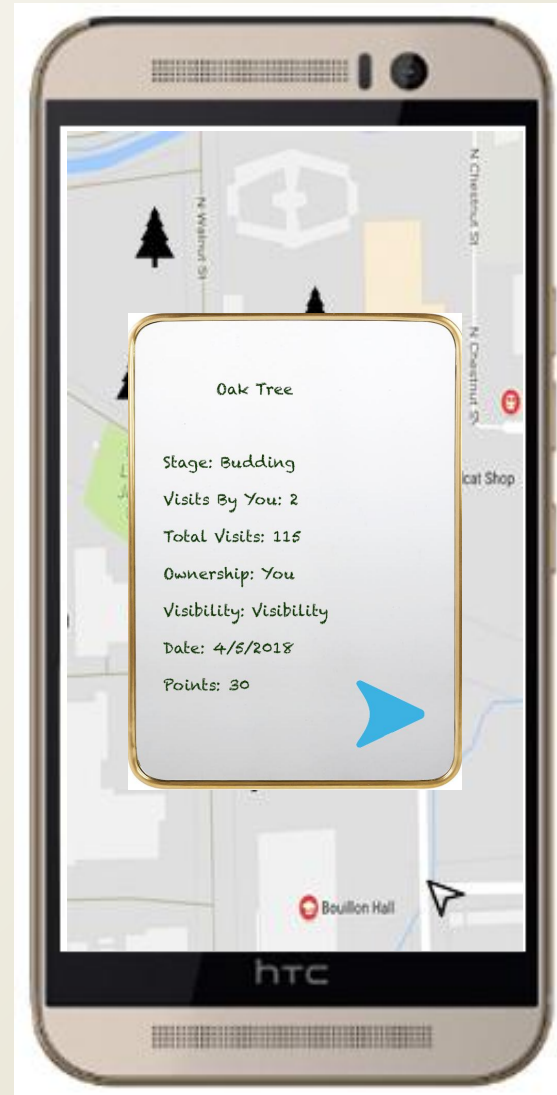
# The Design



# Some User Interface Designs



# Some User Interface Designs





# The Testing

# Testing BotaniClash

Test case	Expected outcome(s)
Device is near a tree	Player is notified of tree in vicinity
Player submits data for a tree	Exact data appears on database, player's point values increase
Multiple players submit their data at the same time	Database accepts all data, app doesn't crash
Player hides tree	Tree is invisible on map
Data amount of specific tree kept low	Tree is visible on map special event triggered for that tree

# Review



# Review

- Purpose: BotaniClash provides a fun way to collect plant data
- Trees that need data are stored in database
- BotaniClash sends data to a database, rewards players
- The app is also competitive/rank based
- The app will be portable



# Thanks For Watching 😊

Image sources:

Slide 4: [www.dreamsite.com](http://www.dreamsite.com)

Slide 5: <https://www.cwu.edu/biology/dr-eric-graham>

Slide 22: <http://www.abca.on.ca/page.php?page=tree-monitoring>  
<https://chadwickarboretum.osu.edu/research-and-education>