



**Poison Ivy Appalachian Trail  
Mega-Transect Data Collection Application**

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**CS 4624**

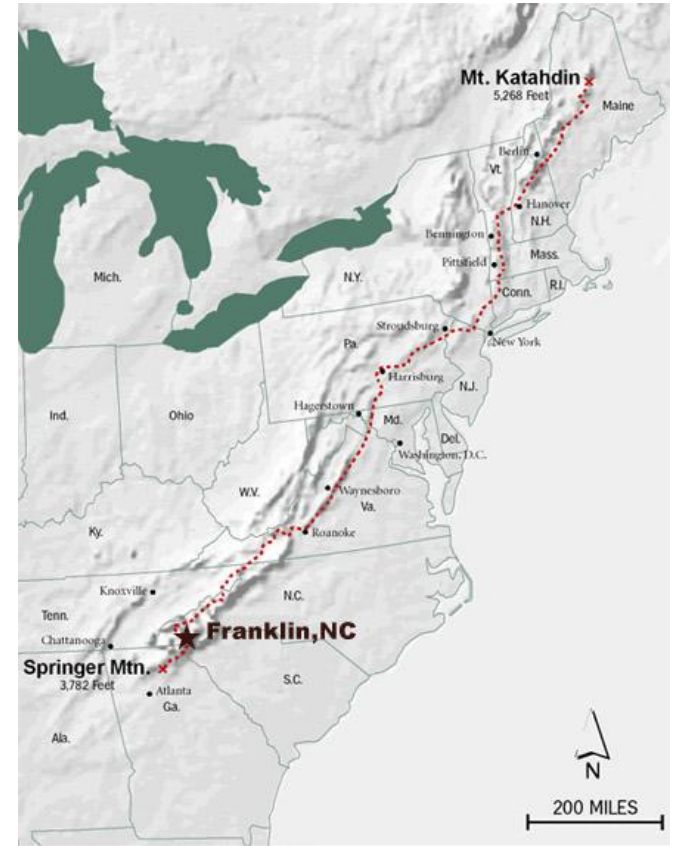
April 28, 2016

# Purpose/ Background

Client: Dr. John G. Jelesko

Research program to study  
molecular biology and the evolution  
of plant metabolism

Record current poison ivy trends  
along the AT

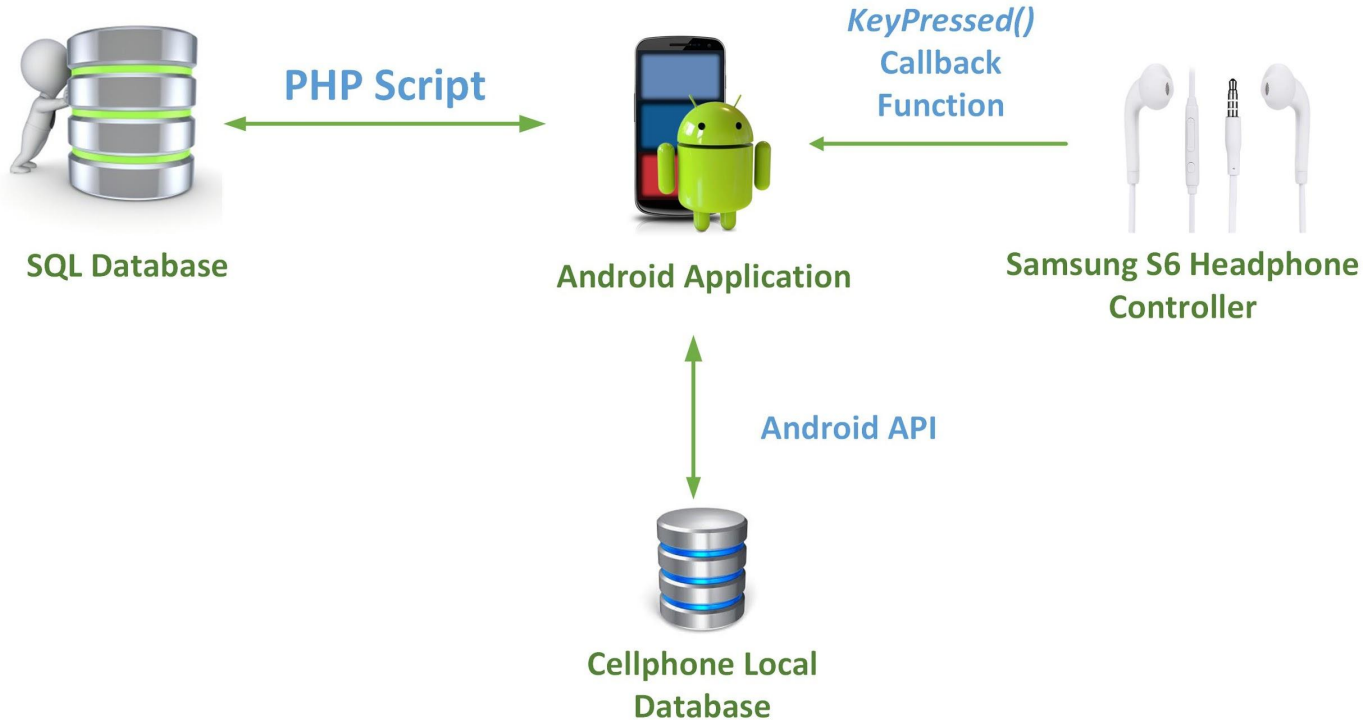


# Requirements

1. Android application (stored on external SD)
2. Record GPS coordinates, growth habit, and plant id
3. Sync to remote database when reconnected
4. External Controller (e.g., headphones)
5. Documented and available code
6. Tutorials

# Application Overview

## System Overview

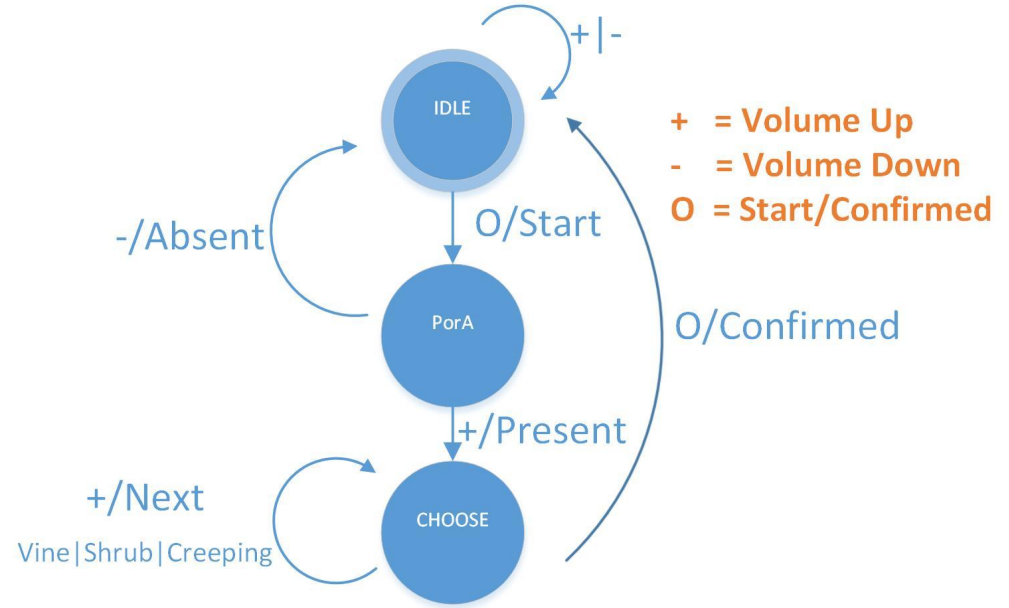


# External Hardware

 Samsung GALAXY S6



- Start/Confirmed
- Absent
- Present/Next



# Databases

- Local (SQLite)
- Server (MySQL and PHP)

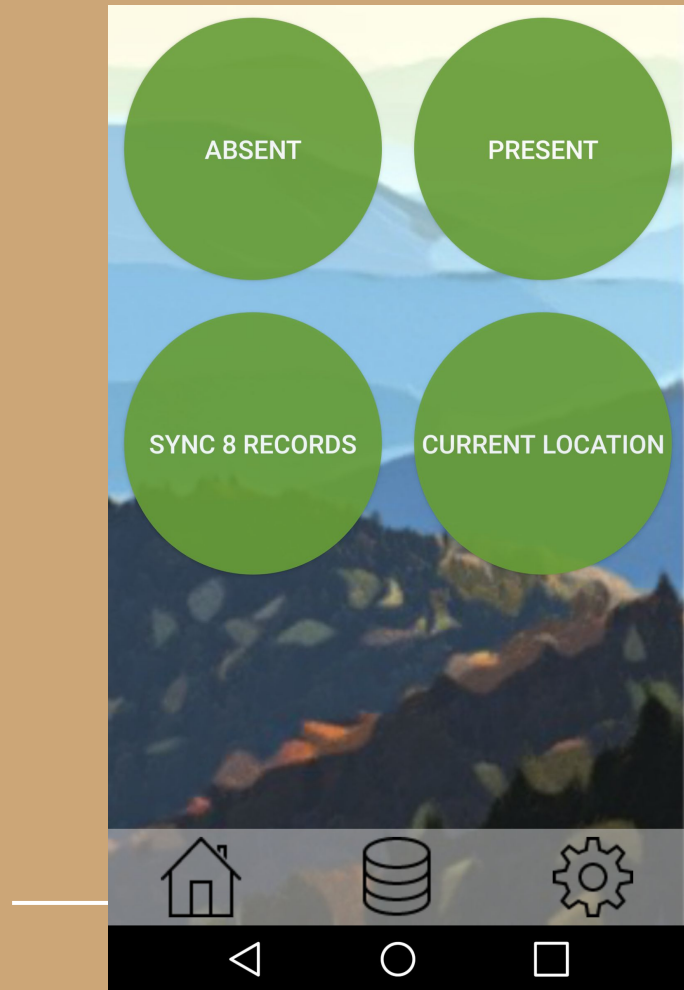
poison_ivy		
id	int	PK
team	char(255)	
plant_id	char(255)	N
plant_type	char(1)	
latitude	decimal(16,13)	
longitude	decimal(16,13)	
date_time	varchar(25)	
sync	bool	



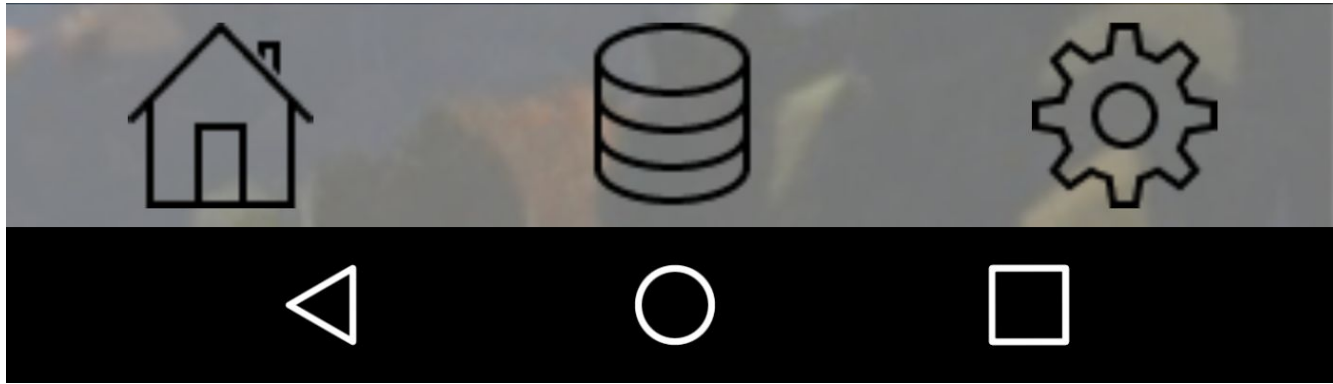
# Problems Faced and Lessons Learned

Problems	Solutions/Lessons Learned
Connectivity	GPS connectivity dependent on service provider
GPS Location Service	Choose best known location or last known
External Headphone to Software Connection	Make best use of build-in functions
VT Server Configuration	Just because it work on one system it won't always work on another
Pronunciation	It's pronounced " <a href="#">Appa-LATCH-uh</a> "
External SD Card Migration	Manually move the PIAT app to SD card

# Demo







The home button brings you to the homepage



The local database button displays in a table format the current records and their respective properties.



The settings button displays the input fields for the user to input their respective teams, MySQL username, and password.

DELETE LAST RECORD

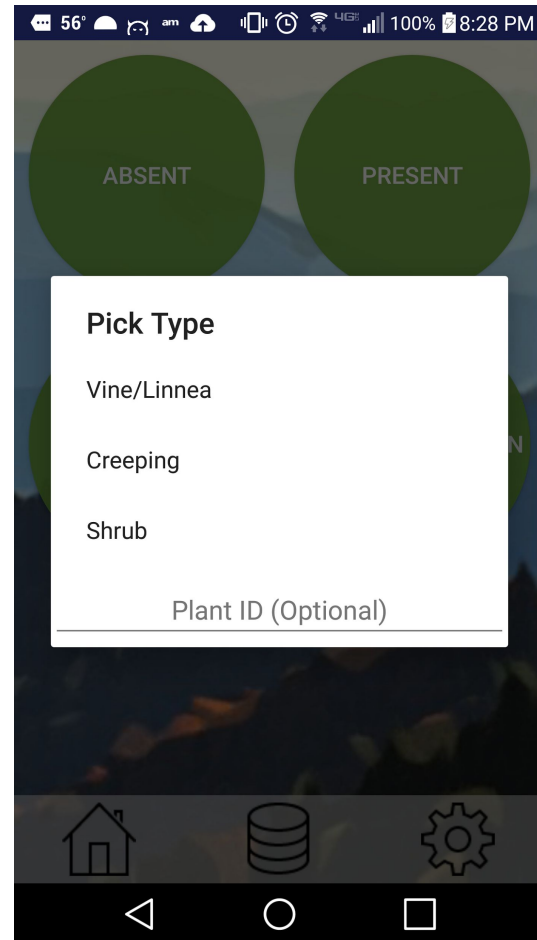
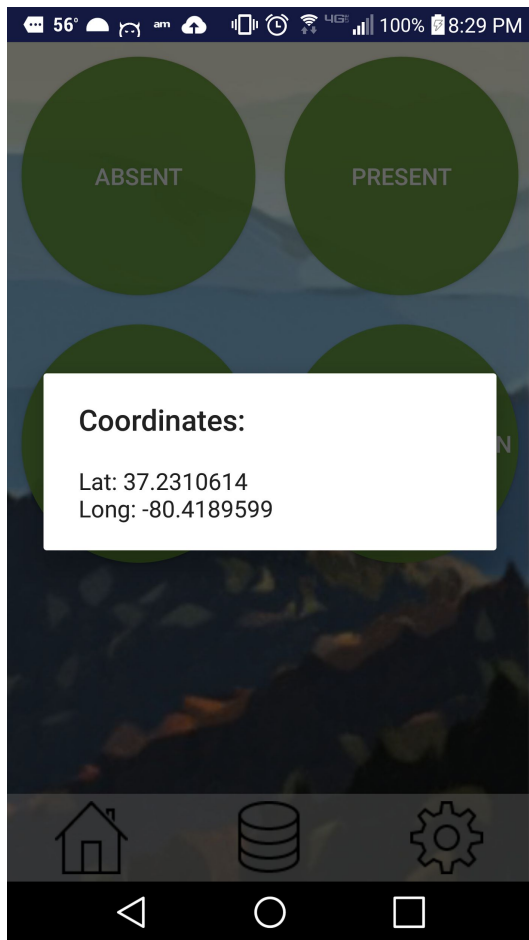
id	plant_id	plant_type	date_time
7		A	2016-04-14 15:38:26
6		A	2016-04-14 10:51:51
5		A	2016-04-14 10:49:15
4		A	2016-04-14 10:48:09
3		A	2016-04-14 10:47:48
2	5	V	2016-04-14 10:44:09
1		A	2016-04-14 09:36:29



DELETE LAST RECORD

id	team	plant_id	plant_type	latitude	longitude	date_time	sync
7	Nate		A	37.2297656	-80.4203509	2016-04-14 15:38:26	0
6	Nate		A	37.2320958	-80.4255672	2016-04-14 10:51:51	1
5	Nate		A	37.2313178	-80.423133	2016-04-14 10:49:15	1
4	Nate		A	37.2313107	-80.423046	2016-04-14 10:48:09	1
3	Nate		A	37.2312067	-80.4227852	2016-04-14 10:47:48	1
2		5	V	37.2313037	-80.4229591	2016-04-14 10:44:09	1
1			A	37.2312137	-80.4228722	2016-04-14 09:36:29	1





Nate

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UPDATE SETTINGS



QUESTIONS?

