Software Engineering

Spring 2019

Tablet Based Attendance

Team RISKK:

Kalil Garrett
Seth Tomy
Roger Williams
Isaac Avila
Kevin Le

Planning and Scheduling

Assignee Name	Email @student .gsu.edu	Task	Duration	Dependency	Due Date	Note
Seth Tomy	stomy1	Slack Github Report	5 hours	Need everything ASAP for consolidation into report	1/31	
Kevin Le (coordinator)	kle24	Teamwork Basics Summary 1	3 hours	n/a	1/31	
Kalil Garrett	kgarrett10	Teamwork Basics Summary 2 Video	2 hours	n/a	1/31	
Roger Williams	rwilliams179	Problem Statement	2 hours	Github/Slack	1/31	
Isaac Avila	iavila1	System Requirements	2 hours	Github/Slack	1/31	

Teamwork Basics Summary

Ground Rules

Work Norms

Work norms describe the delegation and execution of activities needed to complete the given tasks. These norms focus on how the team should operate: responsibility distribution, setting deadlines, missed deadlines, quality evaluation, and timeliness.

Example 1: In my negative group experience, work norms were never established, and this led to us being an ineffective team. The only deadline that was enforced was the final deadline, which resulted in certain aspects of the project not being finished and dissatisfaction amongst the group. It would have helped if the group established how to go about handling teammates who miss their deadlines.

Example 2: For another project, a grad student set the deadlines, distributes the work, reviews the work, and deals with group issues since he had a lot of group experience.

Facilitator Norms

Facilitator norms describe the potential use of someone who will drive the project. These norms focus on group progression and problem-solving: deciding whether and how to select a facilitator, rotating and defining the facilitator position, and ensuring project progression.

Example 1: During a hackathon, I became the facilitator of the group. My responsibilities were the following: making sure the team was on the same page, tracking progress of short term and long term goals, and sustaining satisfaction of the group. The group made significant progress on the project and all team members were satisfied at the end of the hackathon.

Example 2: In my experience it's of paramount importance to have a 'facilitator'. When things are left as a group responsibility, things can get forgotten or left out entirely. Thus it is important for someone to take charge/ownership of the group/product.

Communication Norms

Communication norms dictate how and when the group communicates with one another. The medium and time frame should be established early

in the group, and it may help to decide on an agreed upon response time (e.g. within 24 hours).

Example 1: I am the president of a new organization called STEMulate, and I work closely with each of the executive members in their role. At the start of the semester, I asked them what is the best way to contact them (e.g. email, phone), and it's been helpful knowing how to contact each of them individually.

Example 2: For most of my previous projects in other classes, we mainly used GroupMe and occasionally do face-to-face meetings after class for more serious matters.

Meeting Norms

Meeting norms describe logistics behind planning meetings. This norm includes the following: knowing individual schedules, responsibility of coordinating or planning meetings, location, and handling tardiness and absences.

Example 1: In a previous class, my group planned meetings as needed since the task at hand did not require us to meet on a set schedule. However, most of my other group experiences involved having a set meeting time. Handling tardiness and absences is not typically addressed, and I think it would help with accountability in the future.

Example 2: There was no actual coordination for meeting schedules for one of my other group projects since we had in-class time for this. However, there were times when one member set up a few meetings when we're trying to reach a major milestone.

Consideration Norms

Consideration norms describe our group environment. This norm focuses on creating a comfortable, productive environment for everyone: is there eating, drinking, smoking, or conversation dominators?

Example 1: Specifically in the past, when meetings have been long(i.e. longer than an hour), everyone's comfort is important for continued interaction. Allowing snacks, coffee, smoke breaks, etc. were helpful in achieving this.

Example 2: Another important factor is meeting time. When meeting times are established by the facilitator without consideration of the team, meetings are missed or there is dissatisfaction among the team on meetings before they even begin.

Hints for Handling Difficult Behavior

Overly Talkative

If someone is dominating the discussion, try to direct the conversation to someone else when there's a pause. If that person remains very talkative, one other person should consult them privately about sharing speaking time.

Example 1: Picking holes in the conversation can be helpful, as well as directing the conversation towards an area that is not that person's expertise. If all else fails a 1-on-1 discussion with that individual will typically fix it.

Example 2: A simple phrase such as, "We know X has all the answers, now would anyone else like to participate," has a two-fold effect. Person X will tend to talk less, and the rest of the group will tend to pitch in.

Too Quiet

Draw out unengaged or unconfident people by asking them about opinions or stuff about themselves. If they're unsure of themselves, compliment them from time to time when they do good work.

Example 1: On the executive board of an organization, there was a person who didn't say much at the first meeting, and a few of us noticed. At future meetings, we made sure to ask them about their opinion, how their tasks are going, and how they're doing as a person.

Example 2: I tend to not talk much because I'm unsure of my knowledge and skills. Another group member for another project kept pushing for my feedback and I told them feedback on what we're doing, which was appreciated and taken into consideration.

Argues

It can be beneficial to have someone that questions the group's idea since it can lead to improvements. However, someone who judges others can destroy the morale of the group. Another member should let them know that their actions have not only negative a negative impact on the individual but the entire team.

Example 1: I have not had experience with a person who is critical of others. This person may be critical of others when the other person is not in the conversation, but this behavior should be addressed by any group

member that hears it. I myself may be critical of the group's ideas, and I ask questions to clarify any confusion about the idea.

Example 2: When something feels off, I sometimes speak up about this feeling. For the most part, what I say is good feedback for the team.

Complains

If the person's complaint is legit, set some time to solve it. If not, then help that person improve with what their problem is.

Example 1: In a previous group, two members had not heard of the algorithm we were to implement. I suggested that they do some research to learn more about the algorithm and then think about how they can apply it to our specific application. Unfortunately, they didn't take these steps until the end of the project and continued to complain until they understood the algorithm.
Example 2: I complained about not knowing about database stuff but was pushed to doing it since nobody else in the group knew about databases and the others simply said to try anyway. I still ended up doing the database stuff (kind of) and did well enough to get the project functional.

Hints for Handling Difficult Behavior

Floundering

Floundering is equivalent to prolonging the start of the project, and this happens at the beginning of the project when the team isn't sure what to do. This can be fixed by writing down the tasks that need to be completed.

Example 1: My last group floundered at the start by not knowing how to tackle our problem. We distributed larger responsibilities amongst one another, but none of us knew where to begin. Hence, it took a while for any progress to be made.

Example 2: I am generally focused when in meetings, so if there's too much idle talk or nothing is happening, I usually ask what we are doing, which usually helps people go back to talking about the project.

Going Off on Digressions and Tangents

Slight tangents are fine for getting to know each other, but too much can detriment progress. Try to get the conversation back to the main topic.

Example 1: If I'm familiar with a person, I may discuss non-project related

topics, but I do not do this in a group setting. Sometimes, my groups may go a bit off topic, but the leader or facilitator will bring us back to the topic.

Example 2: When the group decided on a project topic, one group member was very ecstatic about the project being about their idea and kept on talking about implementation when it's very early in the semester.

Making a Decision Too Quickly

Someone who is eager to start working on an aspect of the project may want to make a quick decision. Someone should ask about what is needed to make this decision and what everyone else thinks.

Example 1: I work closely with someone who is action-oriented in my organization STEMulate. They typically want to apply any advice and critiques before I finish giving them all, but we need to decide on how to go about improving what we're working on. In previous group assignments, the group must select a group topic, and there's typically a person who has to do a specific topic. However, I make sure everyone's voice is heard before the topic is selected.

Example 2: A group member for another project wanted to get things done and used certain hardware without consulting everyone in the group, which made us waste time because it ended up creating arguments on which hardware was better to use for the project.

Not Making a Decision

Be open with others' feedback. Remember that decisions are for the group, not for one person. If you have trouble, you can do multi-voting: voting for things to be considered and then voting between the top choices. You can also do "Plan A", where each member allocates 100 "points" to each choice and the one with the most points is chosen.

Example 1: In my past, either the leader or a majority vote would break a stalemate. Typically, the pros and cons are not discussed before the overrule from the leader or majority. I like this new approach which helps to facilitate quicker, and fair decisions.

Example 2: A group member from another project always suggest multi-voting every time we are split or unsure on decisions.

Feuding Between Group Members

Feuds generally impede the group's progress. If there is a feud between group members, the parties involved should discuss the problem using

various listening techniques discussed in this Teamwork Basics.

Example 1: Many times when there's a been a feud the best course of action was to discuss the issue with that person and find some sort of common ground. The issue at hand is not always solved but typically the feuding members will find commonality and it will help with future issues.

Example 2: There was a case where two people would argue between different methods of doing certain components of a project. I told them to focus on what method would best fit this project instead of having biased preference and we ended up using a completely different method.

Ignoring or Ridiculing Others

Due to comfortability, group members may sometimes not interact with one another which can lead to cliques within the group. To combat this, every member should attempt to work with every other member.

Example 1: In my negative experience with groups, other members would read the group chat but not respond. This may be because they did not have any project progress or consciously did not want to interact. Work ethic may have been a divide in my previous groups.

Example 2: I tend to feel like I get left out of some important decisions and in one of my other group projects, someone decided to use certain hardware and dumped that responsibility onto me for being the group's best programmer without consulting me about the hardware being used in advance.

The Group Member Who Does Not Do Their Share of the Work

If a member will not work with others, complete their assigned task, or come to meetings, someone should meet with them and discuss their impact on the group.

Example 1: I try to avoid conflict if both parties are not interested in the topic, and I usually pick up the other person's responsibilities. I am quick to assume the other party does not care about the project, but it will only help both of us if I can approach them and reach a resolution.

Example 2: I don't usually go to group meetings since they tend to be too much out of my way (I commute to GSU) so I let others who went tell me the gist of the meetings. Had I gone to some of those meetings, I could have given them vital feedback on a decision that they made too quickly. In cases of group members not doing their share of work, I tend to be the one picking up the slack and then consult that member about it privately.

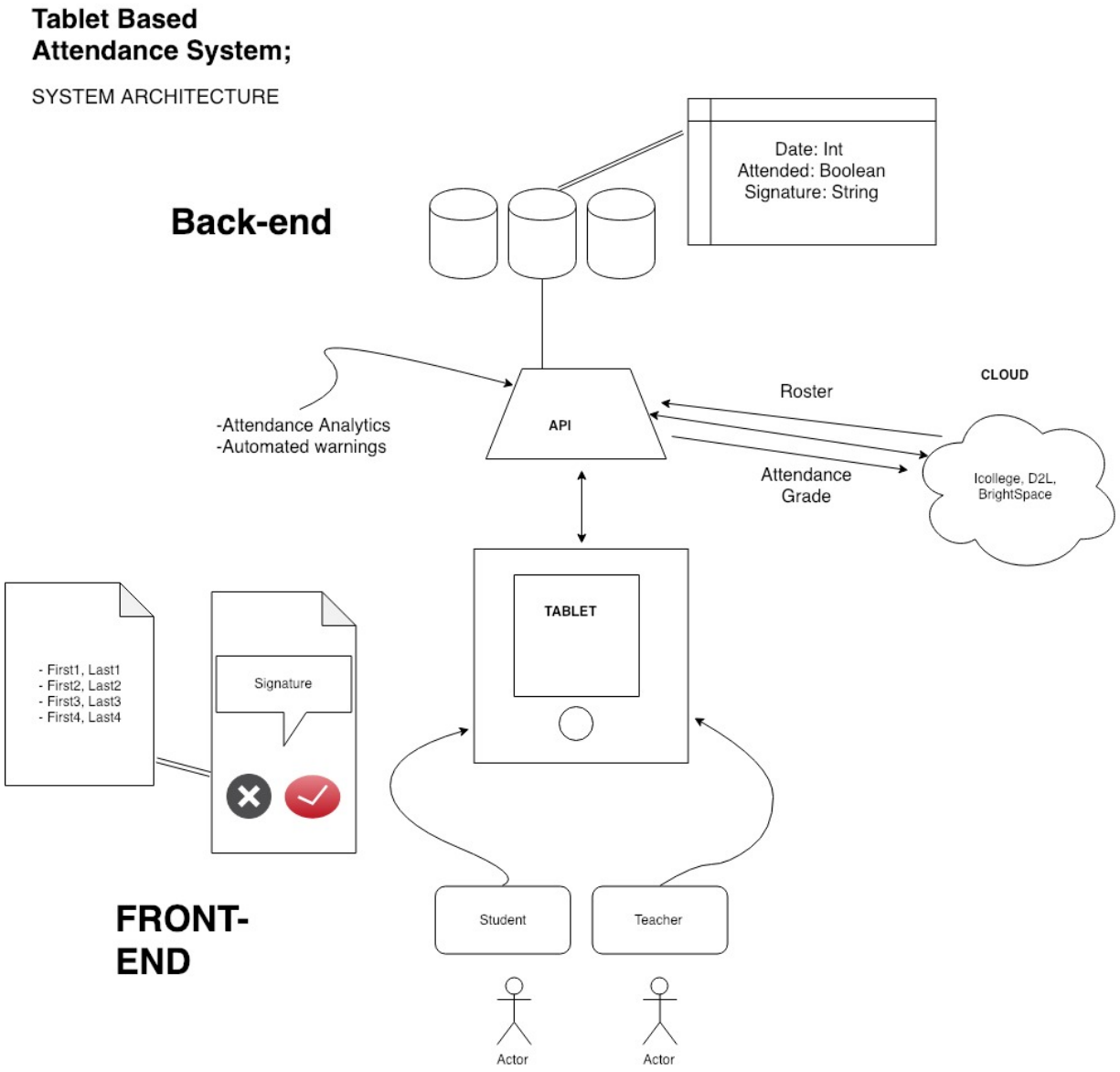
Problem Statement

RISKK Problem Statement

The tablet-based attendance system (RISKK) will solve the problem of tracking, tabulating, and calculating students' attendance grades. The target customers will be colleges and universities and will be primarily used by instructors and students. RISKK will eliminate the hassle of paper-based attendance tracking by allowing each student to sign the attendance register during class time by using a tablet computer. With the attendance data gathered from the students, RISKK will provide attendance reports to instructors, calculate and assign attendance grades to students.

This project is feasible and can be implemented with the currently available resources because instead of creating a new, separate solution or system, RISKK will integrate with the institution's existing learning management systems. RISKK will differentiate itself from its competitors by the way it handles students' privacy. While current competing products use invasive and complicated biometric authentication methods like facial recognition, RISKK will use less invasive methods while still ensuring security, privacy, and reducing fraud. The most interesting technical aspects of this product will be how it solves the student authentication and impersonator problems and how it will seamlessly integrate with the various proprietary learning management systems used by various colleges and universities.

System Requirements



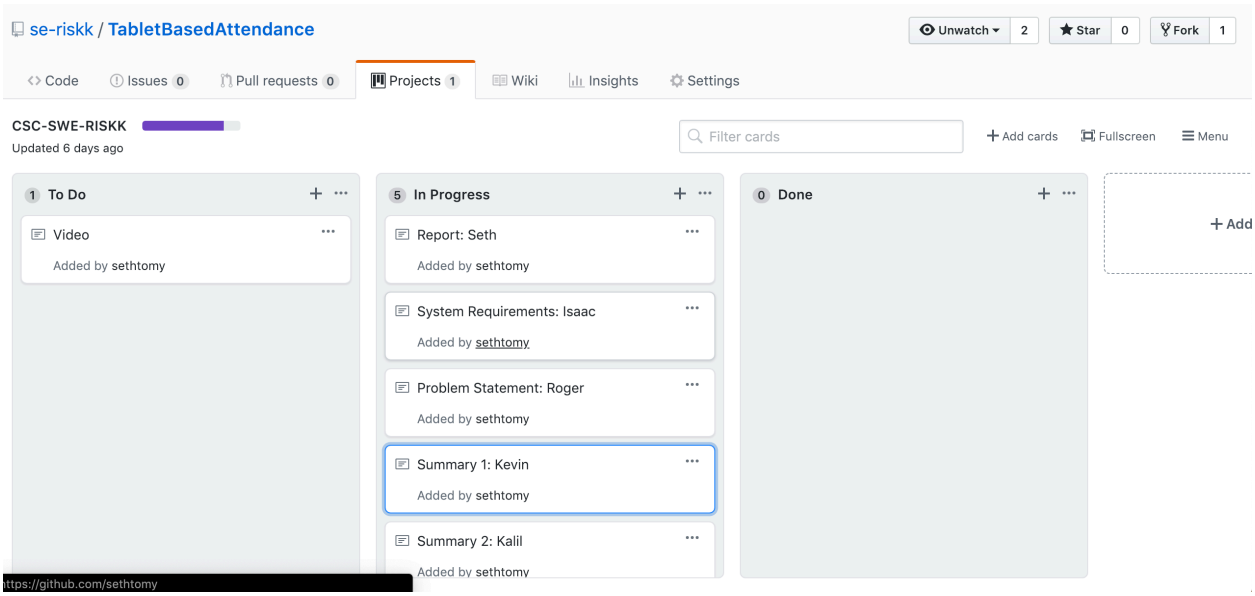
Description of Tablet Based Attendance System's architecture

As technology advances, so do new methods of doing things in today's world. The general process on how we would want our application to be run is quite an interesting one. Having to work this one in & out does require a few steps into getting there; simplicity yet being effective can have great use for those who willing to use this product. The general use of the attendance system would be used in all sorts of locations, ideally our school systems regarding public schools grades k-12 and up to university level.

As class would begin, the instructor would sign into the tablet using specific login information that is unique to them, and then have a signature to confirm its them, once logged in, the tablet will have the roster which have the right students assigned to instructor. As there is the front-end part of this project, there will be an API that interacts with the tablet, a database (back-end), following up with iCollege. The database will collect both the information regarding the instructor along with the students who are enrolled in the course. The database will store the signature as a string value, whether they did attend or not with a Boolean value, and then date as an integer value. The API will have a key role as a core piece in having to act on the methods that are written to perform the said actions. There is information regarding API's we can use to work with our application along with iCollege, The API will request specific attendance from iCollege which has the names of students who are enrolled into the desired course. The API will pull the roster from iCollege to then be displayed onto the screen of the tablet. As of now we plan to polish the architecture to better target the audience in which we're making application; to have a meaningful impact.

Appendix

Links:
riskk.slack.com
github.com/se-riskk/TabletBasedAttendance
https://www.youtube.com/watch?v=St4cG63BrP0&feature=youtu.be

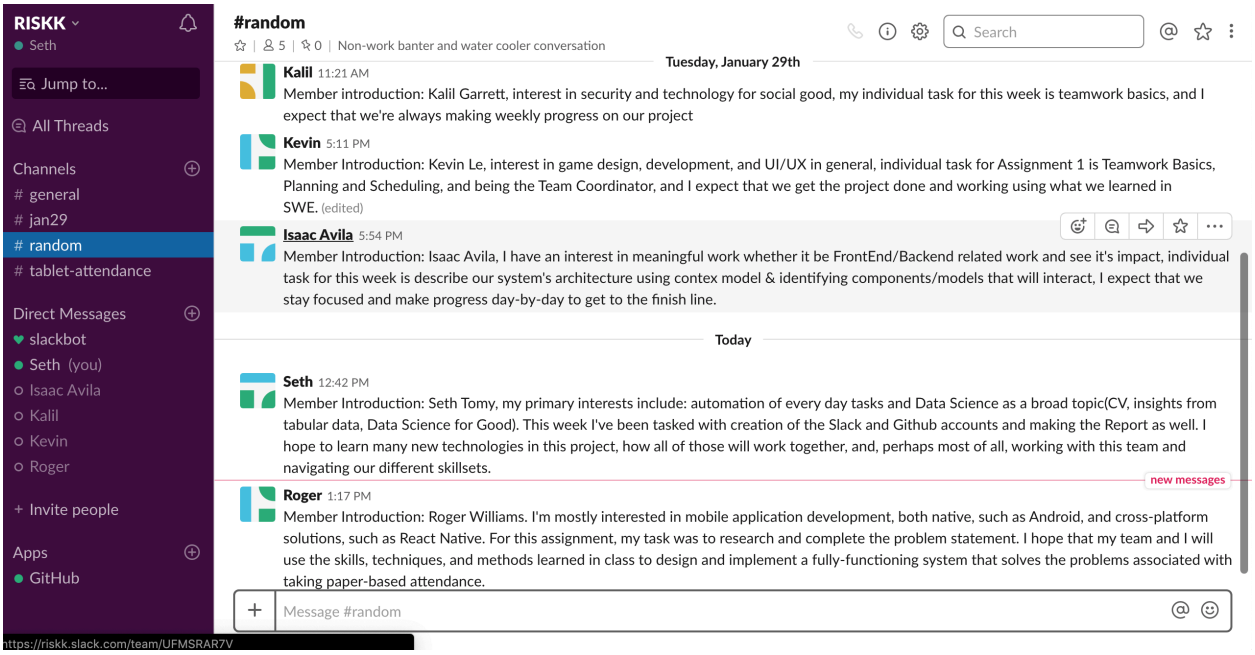


README.md

Tablet Based Attendance

Team RISKK: Members

- Kevin Le
- Seth Tomy
- Kalil Garrett
- Roger Williams
- Isaac Avila


RISKK
Seth
Jump to...
All Threads
Channels
general
jan29
random
tablet-attendance
Direct Messages
slackbot
Seth (you)
Isaac Avila
Kalil
Kevin
Roger
Invite people
Apps
GitHub
#random
5 | 0 | Non-work banter and water cooler conversation
Search
Tuesday, January 29th
Kalil 11:21 AM
Member introduction: Kalil Garrett, interest in security and technology for social good, my individual task for this week is teamwork basics, and I expect that we're always making weekly progress on our project
Kevin 5:11 PM
Member Introduction: Kevin Le, interest in game design, development, and UI/UX in general, individual task for Assignment 1 is Teamwork Basics, Planning and Scheduling, and being the Team Coordinator, and I expect that we get the project done and working using what we learned in SWE. (edited)
Isaac Avila 5:54 PM
Member Introduction: Isaac Avila, I have an interest in meaningful work whether it be FrontEnd/Backend related work and see it's impact, individual task for this week is describe our system's architecture using contex model & identifying components/models that will interact, I expect that we stay focused and make progress day-by-day to get to the finish line.
Today
Seth 12:42 PM
Member Introduction: Seth Tomy, my primary interests include: automation of every day tasks and Data Science as a broad topic(CV, insights from tabular data, Data Science for Good). This week I've been tasked with creation of the Slack and Github accounts and making the Report as well. I hope to learn many new technologies in this project, how all of those will work together, and, perhaps most of all, working with this team and navigating our different skillsets.
new messages
Roger 1:17 PM
Member Introduction: Roger Williams. I'm mostly interested in mobile application development, both native, such as Android, and cross-platform solutions, such as React Native. For this assignment, my task was to research and complete the problem statement. I hope that my team and I will use the skills, techniques, and methods learned in class to design and implement a fully-functioning system that solves the problems associated with taking paper-based attendance.
Message #random
https://riskk.slack.com/team/UFMSRAR7V

Seth Tomy

574 Rosalia St. SE Atlanta, GA 30312
(770) 714 – 5950 | sethtomy@gmail.com
linkedin.com/in/sethtomy | github.com/sethtomy

EDUCATION

Georgia State University – Atlanta, GA * Major in Computer Science

- Major Specific GPA: 3.83; Overall GPA: 3.24;
- Honors: President's List; Dean's List; Athletic Director's List
- Expected Graduation Date: May 2019

PROFESSIONAL EXPERIENCE

United States Navy April 2013 – April 2018
Supervisor – Travel Department

- Developed and deployed an unbiased selection algorithm for annual fair personnel deployment. After one year of implementation lowered annual standard deviation of days deployed by one month.
- Led a division of 13 personnel.
- Managed an annual budget of $1 million.

PROJECTS

GroceryGO, HackGSU 2018 1st Place

- User inputs their grocery list and is given back the closest grocery stores with all items currently in stock.
- Stores were synthesized with a random subset of NCR's entire item catalog to get a better store density.

Anidata, Nonprofit Organization July 2018

- Built a Twitter parser to create a database of tweets for data science for social good opportunities.
- Leveraged Google's NLP API for sentiment analysis and clustering for finding polarity.

Kaggle Competition, May 2018

- Prediction model for teaching association to create a targeted marketing campaign designed to get donors to make additional donations to the organization.

SKILLS

Programming/Data Analytics: Python, Java, C, Spark, Hadoop, Bash
System Administration: Linux, Docker

Roger W. Williams

(404) 200-7073 | rogerwilliams365@gmail.com | www.rogerwilliams.io | Atlanta, GA

EDUCATION

Georgia State University ***Expected Graduation: May 2020***

B.S. Computer Science. GPA: 3.62 | *Concentration: Databases and Knowledge-based Systems*

PROJECTS

Reactions – Primary Developer & Designer
http://rogerwilliams.io/l/reactionsapp

- Collaborated with professors in the Chemistry & Computer Science departments at Georgia State University to conceptualize & develop an iOS and Android application.
- The app gamifies the process of solving and balancing chemical equations: players solve reaction equations, earn points and unlock achievements.
- Technologies used: React Native (JavaScript), Google Play Games Services API.
- Designed and built landing page using DokuWiki, HTML and CSS.

YouSub: Subscriptions Manager for YouTube – Developer & Designer
http://rogerwilliams.io/l/ytsubsapp

- Developed an Android app that allows users to organize their YouTube subscriptions into folders.
- Implemented feature that interacts with Google's OAuth service to authenticate users.
- Implemented feature that interfaces with the YouTube API to import user's YouTube subscriptions.
- Technologies used: Java, Kotlin, Android Studio, YouTube Data API.

React Native Google Play Games Services – Developer
http://rogerwilliams.io/l/rngpgs

- Developed an open source library for the React Native framework that wraps around the Google Play Games Service API for Android.
- Implemented features that allow for the integration of the leaderboards, achievements, and saved games native APIs from the React Native framework.

LANGUAGES & TECHNOLOGIES

Java, JavaScript, Python, HTML, PHP, C, Android Development, React Native, Node.js, jQuery, SQL, Firebase, JSON, XML, WordPress, CSS/SASS, Bootstrap, Git/GitHub, Linux

WORK EXPERIENCE

Student Assistant (Part-time), *Georgia State University – Chemistry Department, Atlanta, GA*
2018 – Present

- Worked alongside chemistry professor to develop an Android and iOS application that allows students to practice solving chemical reaction equations.

Carpenter's Helper (Part-time), *CD Forsythe Home Improvements, Atlanta, GA*
2016 – Present

171 Auburn Avenue NE
Atlanta, GA 30303
(404)-719-8186
isaacavila16@gmail.com

Isaac Avila

EDUCATION

Georgia State University – Atlanta, GA — Graduate Summer 2019
BS, Computer Science

WORK EXPERIENCE

Landscaping Assistant: — Part time July 2006 – Present
- Assisting with multiple lawns using equipment such as a weed-eater, blower, hedge trimmer
- Ensure that the job gets done with a positive attitude
- Translate from English to Spanish if necessary
- Gather all equipment and load it back into the truck, leaving area clean and organized

United Parcel Service: Package Handler — Part time July 2017-March 2018
- Personally loading 4-5 trucks
- Lifting packages up to 70 lbs from head sorter and assembly line
- Maintain the integrity of shipments to preserve the condition of products during loading, unloading, and packaging
- Following packing label to ensure parcels are on the correct trucks
- Monthly quizzes about safety, lifting, loading and breaking jams.

TJ Maxx: Sales Associate — Part time July 2017-October 2018
- Maintain up-to-date knowledge of store policies regarding payments, returns and exchanges
- Manage quality communication, customer support and product representation for each client
- Bilingual Spanish/English customer service representative

VOLUNTEER

Soccer In The Streets: — January 2017 to present
- Open and close Marta Station soccer
- Volunteering for jamborees with grade-school students from Atlanta Public Schools
- Serving in a holistic and comprehensive way, reaching kids on the field via character development, mentoring, work ethic

COMPUTER SKILLS

Microsoft Office: Word, PowerPoint, Excel, Publisher
Coding: Java, C, JavaScript, Python, HTML, PHP, SQL, PostGreSQL, XML, CSS, Git/Github, Linux

KEVIN LE

KLE24@STUDENT.GSU.EDU

404-667-6191

SKILLS

-Programming experience in Java and HTML/CSS/JavaScript
-Independent and hard-working while being able to take charge when necessary

EXPERIENCE

GAME MODDING

July 2018 – Ongoing for Maintenance

-Created a simple proof-of-concept espionage system in a strategy game lacking in diplomacy.
-If bugs were found, was eager to pinpoint and fix them, maybe even overhaul part of the mod to pave way for future mod content.

MOBILE APP DEVELOPMENT PROJECT

August 2018 – December 2018

-Did most of the functional programming for the app project.
-Had to do some all-nighters to make up for general project team inexperience.
-Created a prototype app that would check house conditions in real time (i.e. temperature, humidity, etc.) using MESH.

EDUCATION

B.S. IN COMPUTER SCIENCE (PENDING)

Georgia State University – Atlanta, GA

Concentration on Graphics & Human/Computer Interaction

Course Highlights: Data Structures, Mathematical Models for Computer Science, Computer Organization and Programming, Data Visualization, Web Programming, Fundamentals of Game Design, Mobile App Development, Windowing Systems Programming

Kalil Garrett

(404) 345-0855
kgarrett10@student.gsu.edu

EDUCATION

- Georgia State University Honors College, May 2020
  - Candidate for Bachelor of Science in Computer Science and Mathematics
    - Courses taken: Java 2, data structures, system level programming, computer organization and programming, theoretical foundations of computer science
    - Taking: Software engineering, programming language concepts, design and analysis of algorithms

SKILLS

- Advanced proficiency in Java, Javascript, Photoshop, Office Suite
- Intermediate proficiency in Node.js, HTML
- Basic proficiency in C, UNIX, R, Python, and CSS

EXPERIENCE

- Carnegie Mellon University Research Experience for Undergraduates
  - Software engineering researcher, May 29th - August 3rd,2018
    - Detecting suspicious updates in the Node.js package manager
- Georgia State University Assistant
  - Department of Computer Science, 2018 - Present
  - College of Early Childhood Education, 2017 - 2018
    - Working on a website for Georgia elementary teachers to check science lesson plans