Emoji Checker System

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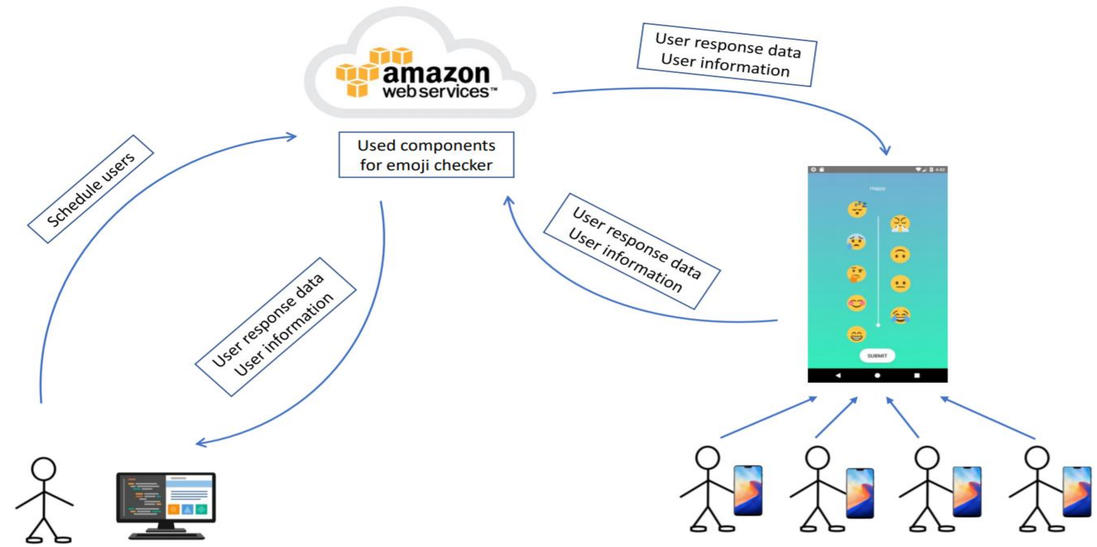
Motivation

Our project is a collaboration between three software engineering teams that incorporates a backend Rest API system, an administration application, and a front end Android application that is designed to monitor student emotional responses. This is a simulation of real world software development composed of fifteen CS students that work together to accomplish a large software project with a bigger scope than any individual teams.

The Emoji Checker Project is a system for allowing a professor to monitor student responses at various times to keep track of student emotions throughout the duration of class. Student emotions are an important piece of information to understand the effectiveness of course content and curriculum and students' understanding of their material. According to Thomas Goetz, "recordings of student emotions are important because it is directly related with students' well-being, and it is directly related with students' learning and achievement". [1]

This project is a key part of the Software Engineering course, and is an innovative change from the other software engineering groups, which are responsible for creating stand alone software rather than collaborative team efforts. The system that we developed is a very powerful tool because it has strong positive effects on monitoring emotional student responses and it has a greater potential scope, as this type of system supports a monitoring of scrum teams. Effective team collaboration in the workplace is one example that makes this a powerful tool.



Individual System Components

Administration team

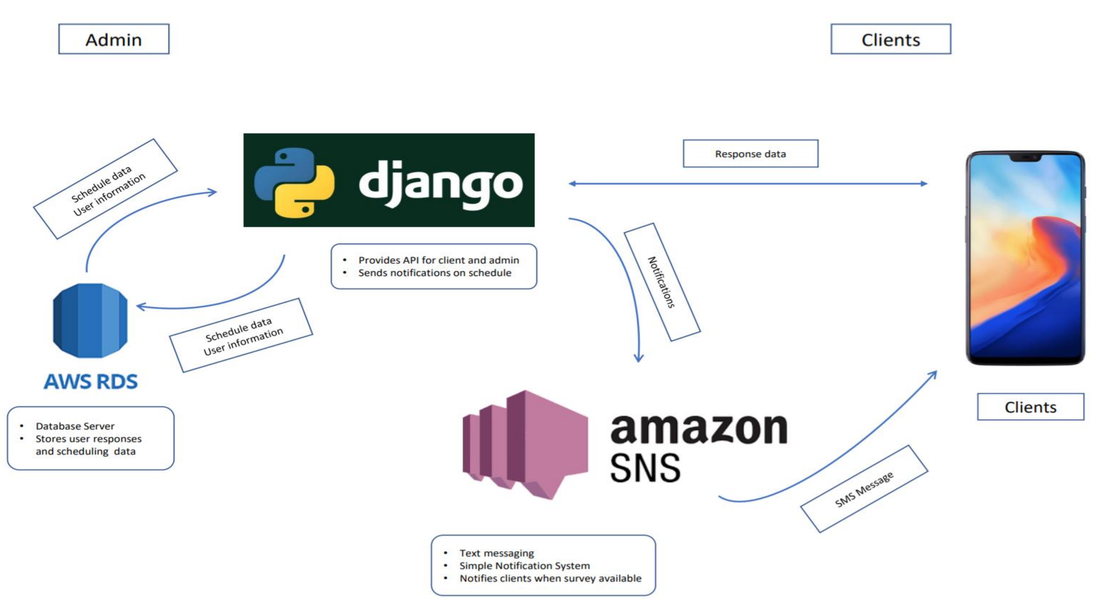
- Main purpose is to allow user to administer the application by viewing users info added by app, schedule list of user for specific times, and export data to a CSV.
- Written in Java utilizing JavaFX to create simple, single stage table view.
- Implements a slightly modified Model-view-controller architecture (MVC) allowing efficient parallel development within the team.

Backend team

- The Emoji-Checker backend was implemented using Amazon Web Services (AWS), specifically Elastic Compute Cloud (EC2), Relational Database Service (RDS), and Simple Notification Service (SNS). These web services will be used with the Django REST Framework to interact with the other parts of the system.
- Our big picture goal is to host and manage the database and all other server-side processes with which the front-end and administration teams interact. The product is the infrastructure that the app is built upon.
- The front-end and backend will communicate using HTTP with Django's REST framework to interact with the various AWS components of the system.

Front End team

- Emoji Checker is created using Android Studio with Java and xml to create all front-end pages. It also establishes a connection to the database with Volley library as the communication link to the back-end.
- Emoji Checker is an interactive android app that receives random requests for students to log their emotions towards course content by choosing an emoji that best describes their feelings/attitude.
- Additional features include an Emoji history page that allows students to view their previous emojis to better prepare for their course and upcoming exams.



References

[1] Goetz, Thomas, et al. "Academic emotions from a social-cognitive perspective: Antecedents and domain specificity of students' affect in the context of Latin instruction." *British Journal of Educational Psychology* 76.2 (2006): 289-308.