**Software Implementation and Testing Document**

**For**

**Group <18>**

Version 1.0

**Authors**:

Alex Bundy

Kester Mbah

Johnathan Gutierrez-Diaz

Christopher Laughlin

Rodjna Pierre Louis

# Programming Languages (5 points)

HTML: Used for creating the user interface within the project. This includes the screen to signup, login, search apartments, add apartments, and just to exist on the home page. Those files that use it are AppApartment.html, Apartment Search.html, header.html, index.html, login.html, and signup.html. Html is very common to use for webpages so we went ahead with it.

CSS: Used to style our webpages in our styles.css file. Allows us to alter the style easier down the line with this file rather than styling each html file specifically. Essentially makes the code more able to change later as the requirements change.

JavaScript: Used to implement some of our interactive features like using the google maps to show where an apartment is and the distance matrix api to determine how far it is. This is used in both index.html and apartmentsearch.html to provide functionality, such as using the Google Maps API. JavaScript was used due to it being the common language for client-side processing in web development..

Python: In app.py and setup.py python is used to help manage both the databases and how the program flows. It specifies the routing for the html files, it initializes flask for the system, it connects the project to the database, and manages the backend for the html files like rendering them when necessary. Essentially python runs the backend of our program, with it managing the interactions between screens as well as the database for both accounts and apartments. Python was used due to its ability to interact with all these systems in a relatively simple manner.

# Platforms, APIs, Databases, and other technologies used (5 points)

Google Maps API: Used in index.html and apartmentsearch.html to display the locations of nearby apartments. We used this due to a map on these type of websites being common, and Google Maps specifically provides a nice looking easy to use map that we could add markers to indicate apartments.

Flask: Flask is used in app.py to handle server-side logic including routing between html pages, processing user input within these pages, and managing actual submissions like login, signup, and add apartment. Flask is good for this type of project due to its simplicity and it works well with python, supporting our language of choice n this project.

SQL Database: SQL database is setup in setup.py and app.py, with setup.py initializing it by establishing a connection to the database, creating the database, selecting the database, and creating the tables necessary within the database. In app.py the database actually becomes used, as of now it only interacts with signing up and logging in

Google Distance Matrix: This API is used in tandem with Google Maps API to calculate the distance between Florida State University and the apartment of choice within the application. This is used in both index.html and apartmentsearch.html. This provides extra calculations that could come into play when choosing an apartment close to campus.