BLG 411E - Software Engineering
Fall 2021-2022 Term Project

Group 9

Pycee v2.0

INTRODUCTION

Our Project: Pycee 2.0: Enchanced Python Compiler Error Messages via StackOverflow

What exactly is Pycee v1.0?

Pycee v1.0 is a Sublime Text IDE plugin, which aims to help Python developers with simplifying the process of searching for errors online

INTRODUCTION

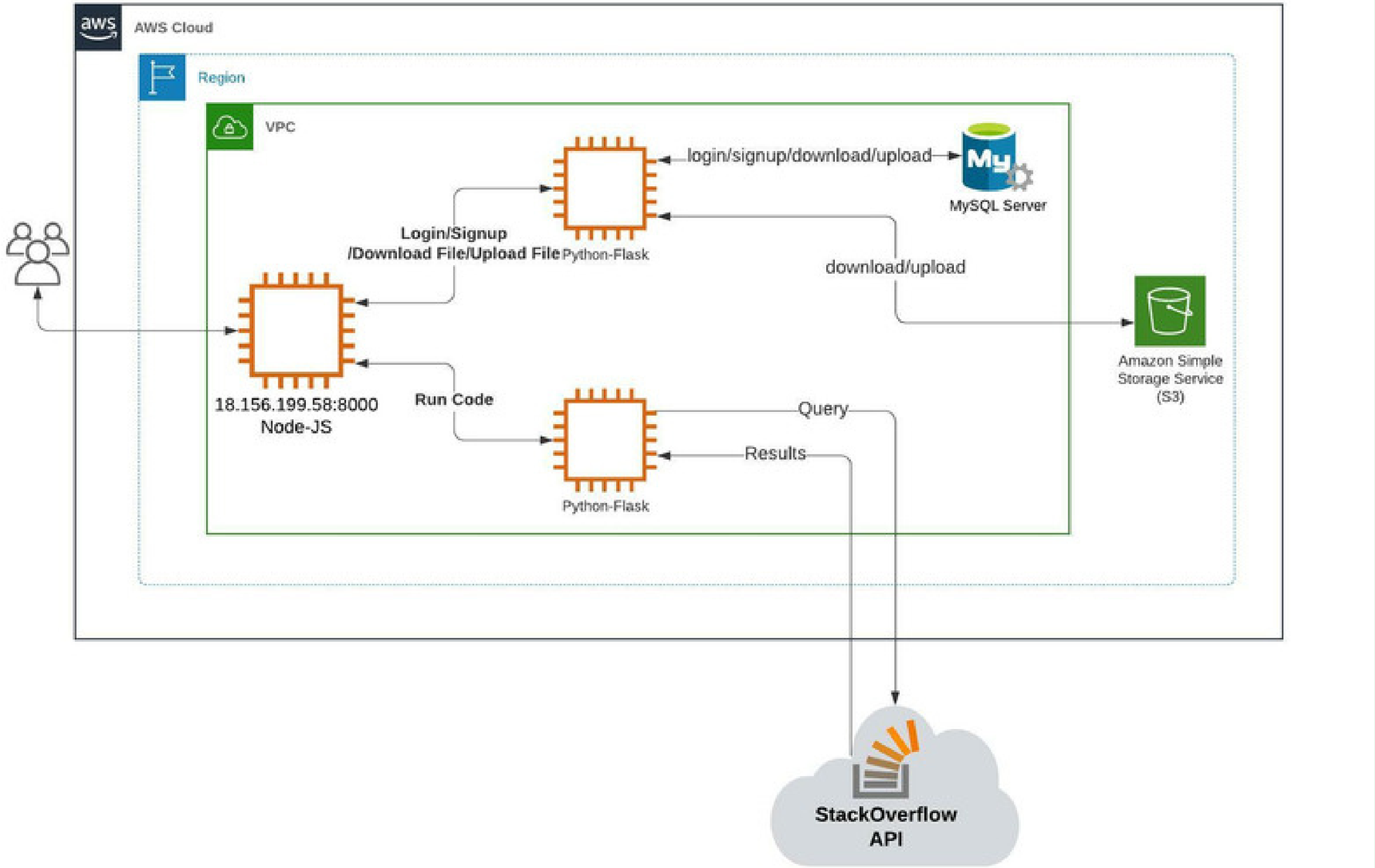
Our Project: Pycee 2.0: Enchanced Python Compiler Error Messages via StackOverflow

Our first goal with Pycee v2.0 was to make it easily and universally accessible without downloading, meaning migrating it to a web application, and further improve its capabilities

Secondly, we aimed to improve the existing features and add more utility, utilizing error processing and StackOverflow API. More on this later on.

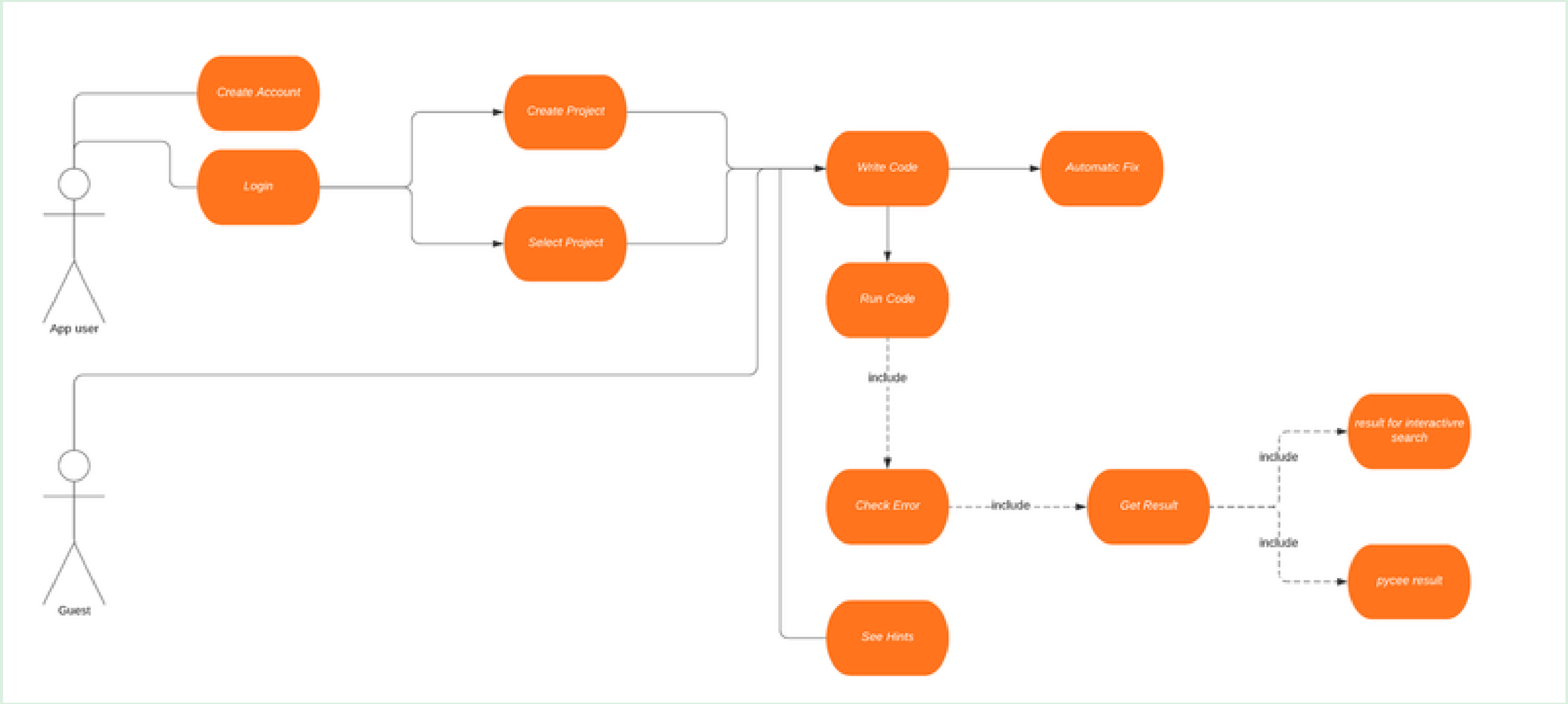
Diagrams

SYSTEM HIGH-LEVEL ARCHITECTURE



Diagrams

USE-CASE DIAGRAM



GROUP 9 MEMBERS

BUSE NUR SABAH

Backend

EKİN ZUHAT YAŞAR

Backend

CANSEL GÖRÜROĞLU

Frontend

MATTHEW OĞUZHAN DİRLİK

Backend

Technologies

AMAZON WEB SERVICES

We thought it was best to utilize AWS for Pycee's migration to a web application. We used Amazon s3 to keep our files on cloud.

TRACKING TOOL

As we were using github's /itusweng/group9 already, we utilized github issues to keep track of our process.

VERSION CONTROL SYSTEM

We utilized git to keep track of our version control, developing on separate branches so that we could see any conflicts

TESTING TOOL

We used python unit tests

Technologies

FRONTEND

We utilized Vue.js and Quasar Framework to make up our frontend page and editor.

PYTHON CODE HANDLING

We utilized Flask microframework, pylint qualitychecker and Python Subprocess to run our external code.

BACKEND

We used MYSQL db to store information and Amazon s3 to store files.

Group Customer Meetings

CUSTOMER(TA - ABDULLAH EKREM OKUR)

We met our customer(TA) throughout the semester, asked our questions and got useful advice, especially in the first meeting where he helped us realize that some of the scopes we believed to be plausible were harder than we thought they were

CUSTOMER CHANGES

In the beginning, we wanted to add an automatic fix for errors but our TA mentored us to the fact that it was a complicated process which requires advanced ML. Therefore, we eliminated this idea. Also, TA had suggested CodeSpaces as an online IDE and we decided to use it. After some research, we realized that it is not free.

We Have Delivered

OUR GOALS

MIGRATION TO A WEB APPLICATION

We have successfully migrated Pycee v2.0 to a web platform utilizing Amazon Web Services

IMPROVED ACCURACY OF ERROR PROCESSING

We run the code, process the output and only search the necessary parts of given error

USER PROFILES THAT CAN HOLD PROJECTS

Users with created accounts can create a new project, work on it and save it to our backend. When user comes back, they can select and load the project where they left off

IMPROVED QUERY CALLS TO STACKOVERFLOW API

We have created filters which helps us provide our user to get the most relevant and upvoted StackOverflow searches along with the most upvoted and accepted answer.

We Couldn't Fully Deliver

OUR GOALS

INTERACTIVE SEARCH TOOL FOR THE ERROR MESSAGE

As we migrated our project to web, one of our goals was having an in frame simple browser that we can show our filtered StackOverflow calls. StackOverflow by default blocks all in frame browsing requests, so we changed our queries to get only the 3 most relevant questions, with their most relevant and upvoted answer. We are able to provide our user with above mentioned information.

OUR GOALS

We Couldn't Fully Deliver

AUTOMATIC FIXES TO CODE AFTER ERRORS

We thought this would be plausible, but our Customer(TA) gave us advice about how this is much more complicated than we think and can even be a project on its own. Afterwards, we did our own research and came to the conclusion that this would not be a plausible goal.

GROUP – 9

Thank you for listening

Our demo videos are uploaded to:

https://drive.google.com/drive/folders/1ocyOfNxBrmR1rxKS-e9YUVILuCJPAmP9?usp=sharing

MEMBERS

- Ekin Zuhat Yaşar - 150160142
- Buse Nur Sabah - 150170002
- Matthew Oğuzhan Dirlik - 150160123
- Cansel Görüroğlu - 150170089