MIDDLE EAST TECHNICAL UNIVERSITY
DEPARTMENT OF COMPUTER ENGINEERING

SOFTWARE ARCHITECTURE DESCRIPTION (SAD)

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afetbilgi.com

Group 24

Burak Metehan Tunçel
2468726

Saad Yousuf
2349819

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1 Introduction

This document is the Software Specification Requirement (SRS) of a website designed to help earthquake victims to acquire the necessary information and give volunteers a chance to donate to help earthquake victims. The website is called afetbilgi.com[1], developed by Middle East Technical University (METU) students and graduates.

1.1 Purpose and Objectives of afetbilgi.com

afetbilgi.com, direct translation to English is 'disaster documentation', is an open-source efforted project led by students from METU in Ankara, Turkiye. It aims to provide a clean, verified, and correctly classified information interface for earthquake victims and helpers alike in the aftermath of the tragic earthquake on February 6th, 2023, in Pazarcik, Turkiye. It also offers quick information using confirmed website links, maps, and address tables, along with the relevant contact details of organizations and helpers involved.

1.2 Scope

afetbilgi.com was established to offer as much information as needed by users in three main categories:

- People who are affected by the earthquake (the victims).
- Individuals/Organisations who want to help and participate in other governmen-t/private efforted procedures in the affected areas.
- People from METU who verify and checked any presented links on the websites.

The website is primarily responsible for providing tables and datasheets with web-site links to third-party organizations/contacts details of web places/physical locations which offer/collect help. As indicated here, these links are external and lead out to other websites(outside from afetbilgi.com) whose efforts are verified by human resolves (METU students/helpers/site administrators) on the surface-level user experience.

Given how the world is connected with the internet and phones/televised communication, the project developers aim to create a website using these advantageous characteristics via a simple interface in multiple available languages to create fast and easy use of information with no additional and unnecessary obstacles. In areas lacking internet infrastructure that might have been disturbed by the earthquake activities, the website can be distributed via printed-out PDFs, which are shareable via ordinary computers and mobiles, and hand-forwarded physical versions in the forms of leaflets and so on.

Lastly, afetbilgi.com includes a map functionality if the victim/helper has an internet connection. Any user can locate helper geolocations via terrain/road routes while also being able to quickly view extra details such as written addresses, contact phone details, and previous reviews.

1.3 Stakeholders and Their Concerns

There are three main categories of people related to afetbilgi.com:

1. **Earthquake victims/ affectees:** These individuals whom the earthquake has directly impacted seek help, support, and information to recover from the disaster. They may be looking for information on how to find shelter, food, medical assistance, and other resources that can help them get back on their feet. The website may provide them with a platform to connect with relief organizations and volunteers and access information on navigating the recovery process.

2. **Volunteers:** These individuals want to offer their time, skills, and resources to support the relief and recovery efforts. They may include local volunteers, international volunteers, and disaster response teams. The website may attract volunteers by providing information on how to get involved, where to go, and what support is needed. Their primary use of the website could be to scout places to help from outside the main areas, such as centers transporting essential needs to stricken areas like farther cities such as Ankara and Istanbul. This is the target sector for the Donate or Help category, such as via blood donation, monetary donation, physical

volunteer help, etc. Other entities such as relief organizations, government agencies, more prominent sponsors, and potential media outlets can exist within this category.

3. **Web developers, Data Collectors, and Site administrators:** These are the website creators responsible for developing, designing, and maintaining the platform. They may include web developers, designers, and other professionals involved in creating and managing the website. These stakeholders may be vested in ensuring the website is accessible, user-friendly, effective, and, most importantly, providing simple, verified information to facilitate relief and recovery efforts without any hurdles.

2 References

This document is prepared with respect to IEEE 42010-2022 [2] standard.

References

[1] A. B. İşlem Merkezi, *Afetbilgi — afetler hakkında doğru ve güncel bilgiler*, `http://www.afetbilgi.com/`, February, 2023.

[2] IEEE, "Iso/iec/ieee international standard for software, systems and enterprise – architecture description," *ISO/IEC/IEEE 42010:2022(E)*, 2022. DOI: `10.1109/IEEESTD.2022.9938446`. [Online]. Available: `https://ieeexplore.ieee.org/document/9938446`.

3 Glossary

4 Architectural Views

4.1 Context View

4.1.1 Stakeholders' Uses of This View

4.1.2 Context Diagram

afetbilgi.com[1] is not part of a more extensive system. It is a standalone and open-source efforted website to verify critical information in the fight against the 6 February 2023 Pazarcik Earthquake and deliver it to disaster victims and those who want to help in an understandable, concise manner in multiple languages.

This information is presented in either the form of legible tables with third-party governmental and private links or an interactable method via a map view interface. If deemed necessary, admin and maintainers can make changes to display newly created or edited data and upload it to the system upon any complaints or suggestions they may get on their contact details.

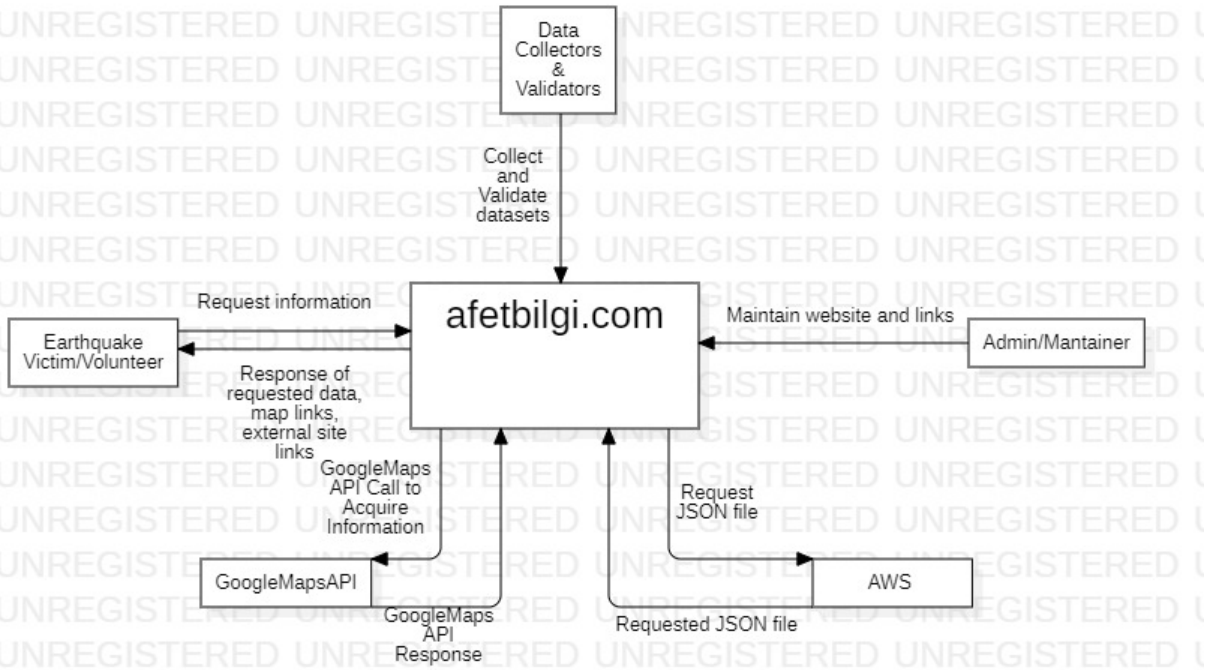


Figure 1: Context Diagram for afetbilgi.com

The afetbilgi.com consists of a combination of small physical and software parts. With the help of interfaces, these parts communicate among themselves and with the user.

4.1.3 External Interfaces

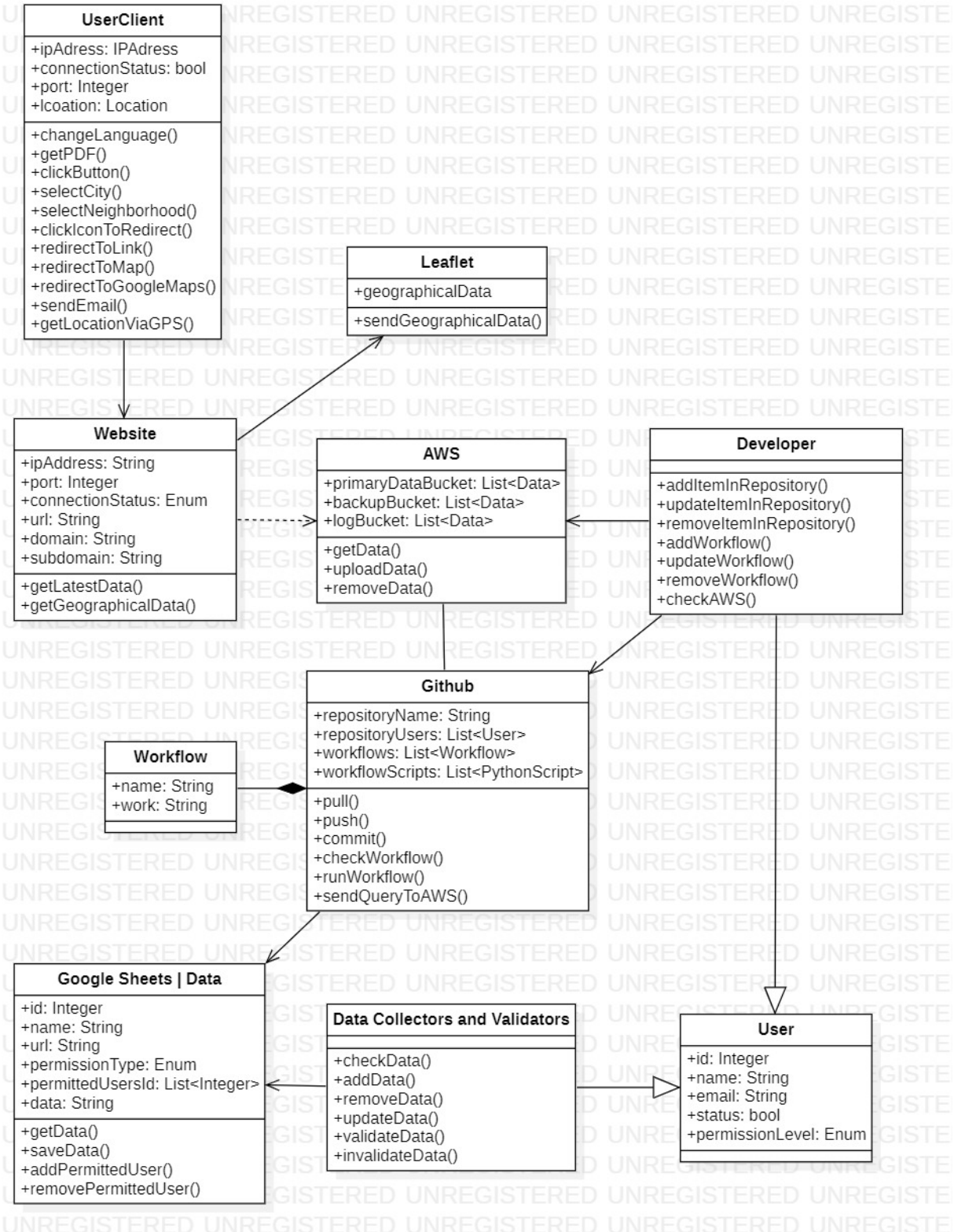


Figure 2: External Interfaces

4.1.4 Interaction Scenarios

4.2 Functional View

4.2.1 Stakeholders' Uses of This View

4.2.2 Component Diagram

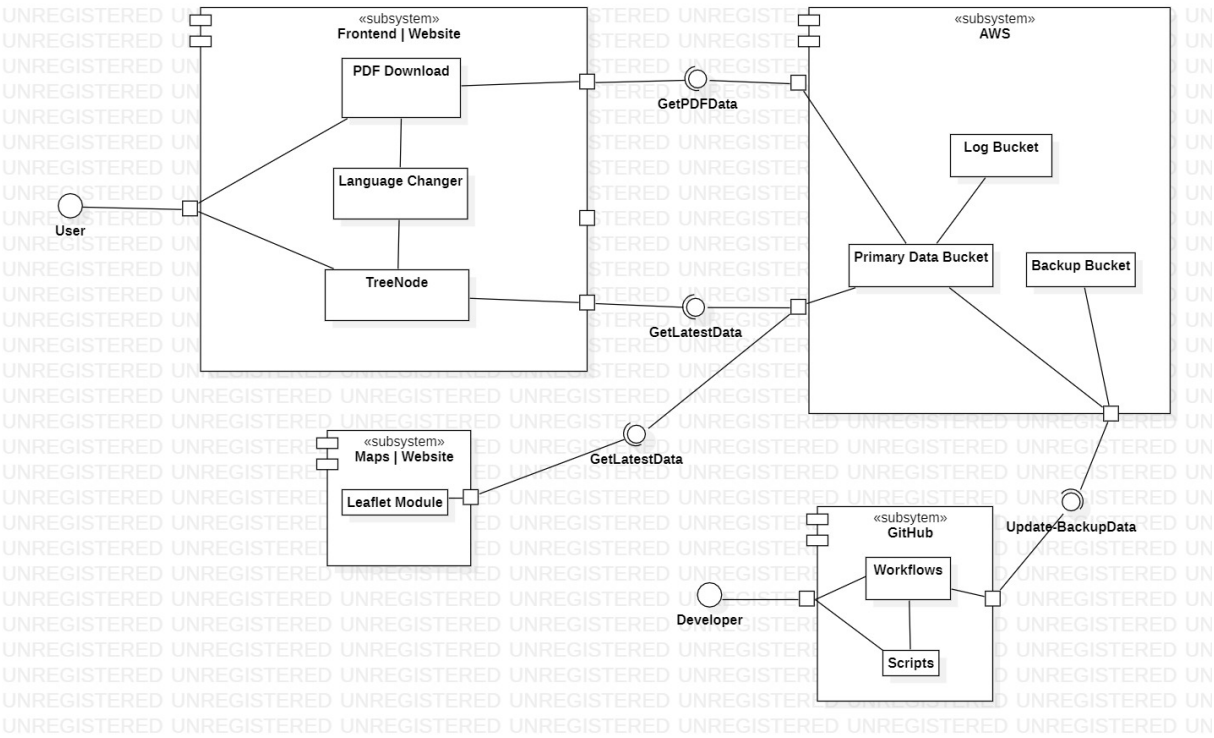


Figure 3: Component Diagram

4.2.3 Internal Interfaces

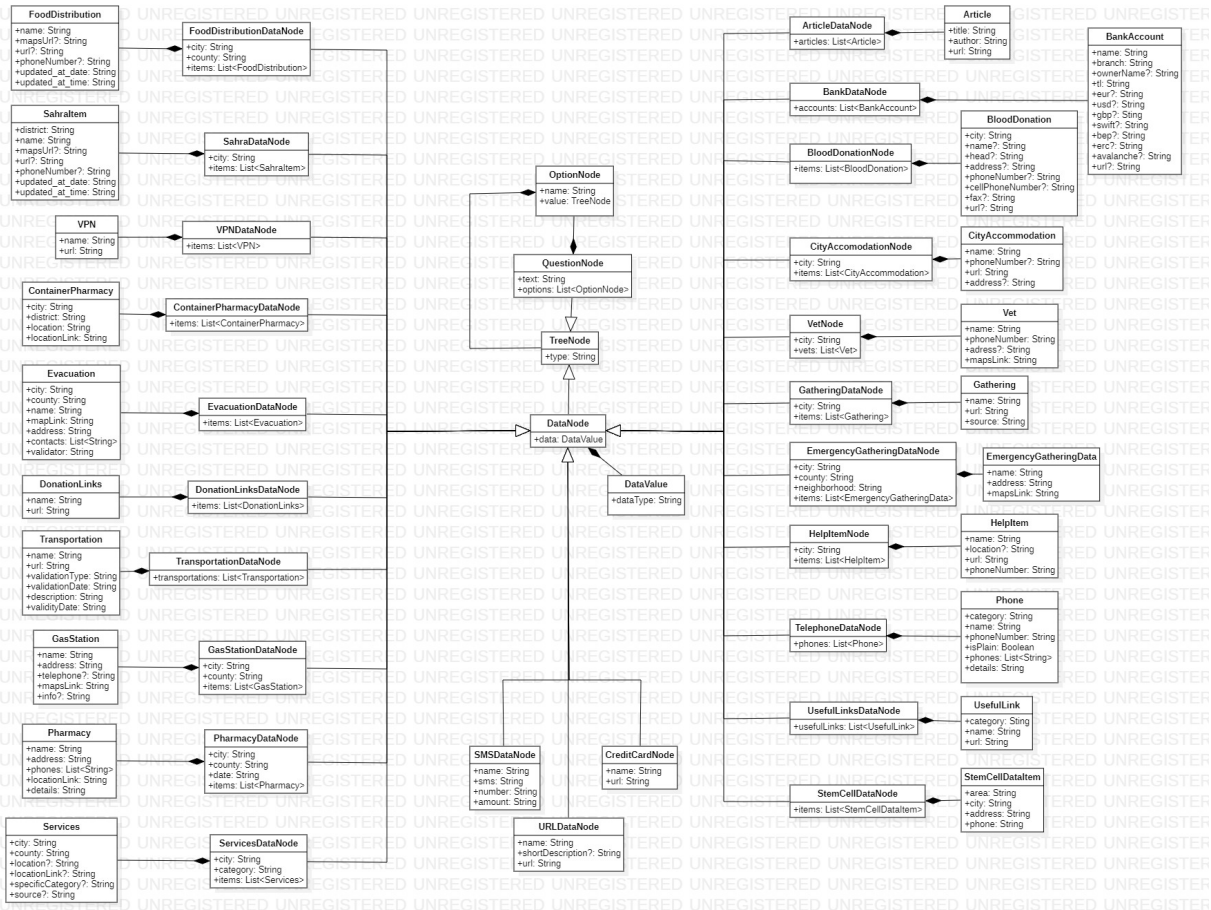


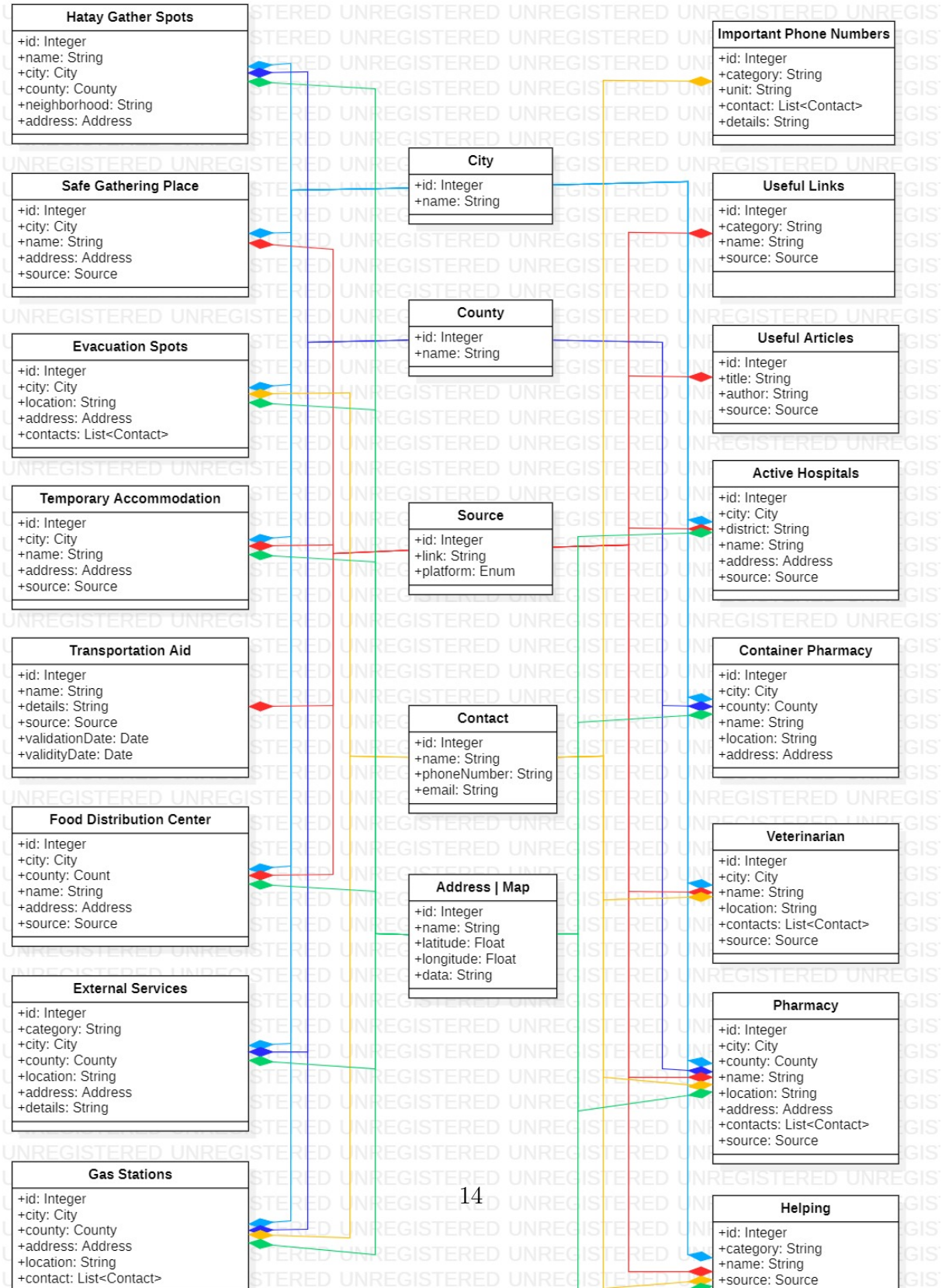
Figure 4: Internal Interfaces

4.2.4 Interaction Patterns

4.3 Information View

4.3.1 Stakeholders' Uses of This View

4.3.2 Database Class Diagram



4.3.3 Operations on Data

4.4 Deployment View

4.4.1 Stakeholders' Uses of This View

4.4.2 Deployment Diagram

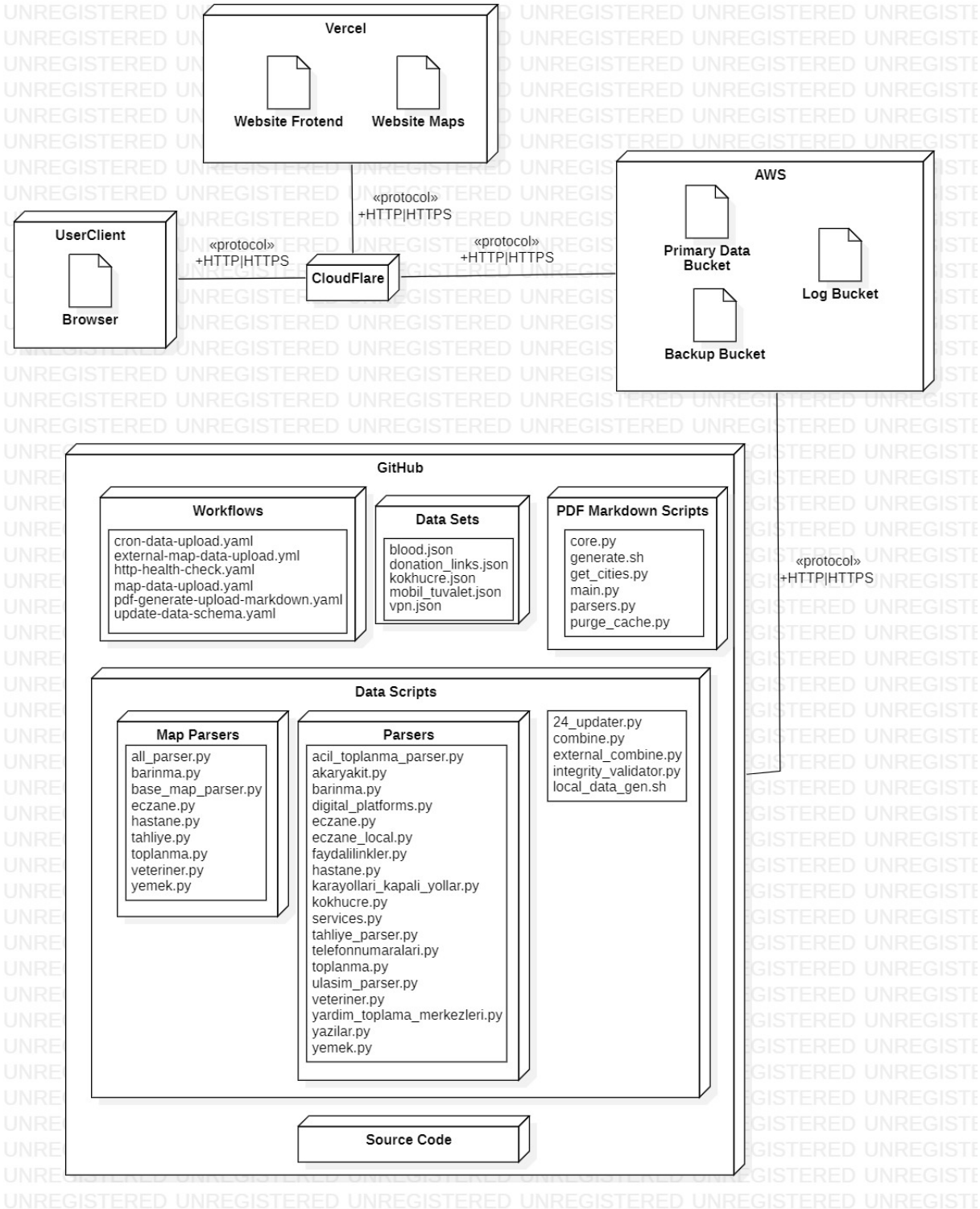


Figure 6: Deployment Diagram

4.5 Design Rationale

5 Architectural Views for Suggestions to Improve the Existing System

5.1 Context View

5.1.1 Stakeholders' Uses of This View

5.1.2 Context Diagram

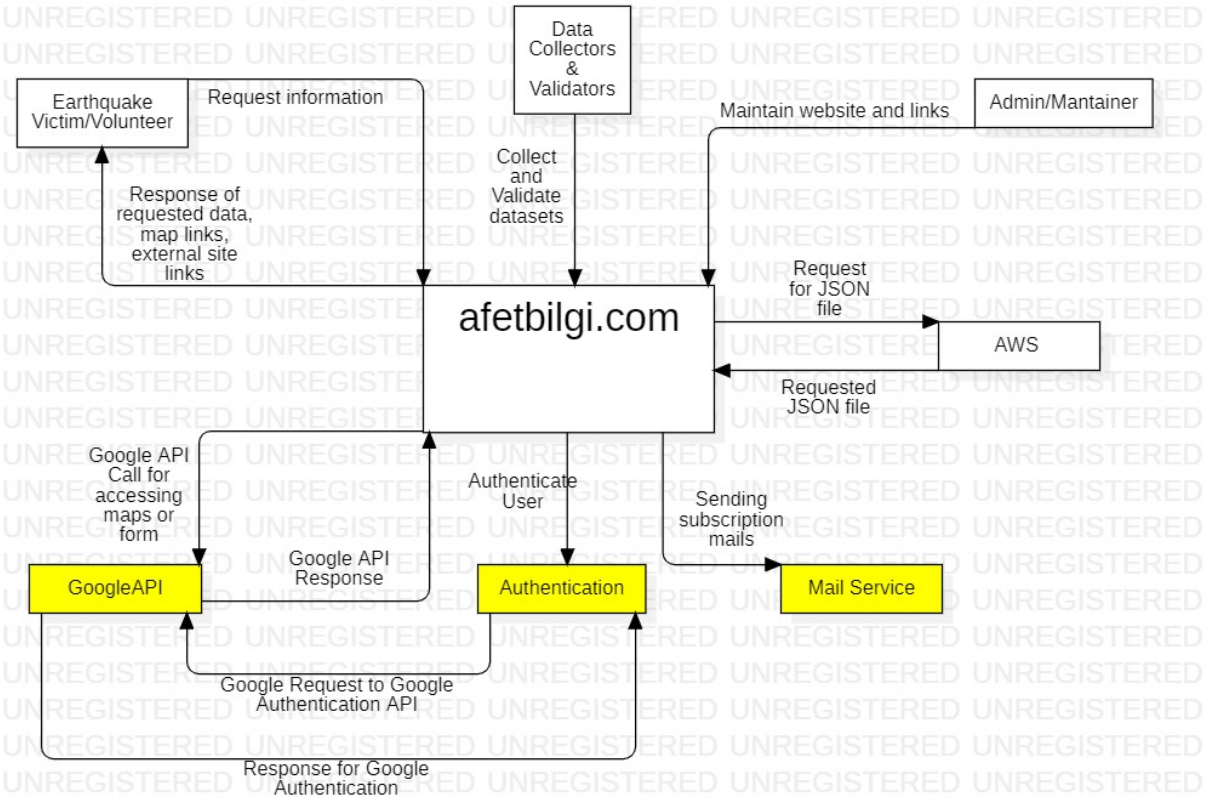


Figure 7: Suggested Context Diagram

5.1.3 External Interfaces

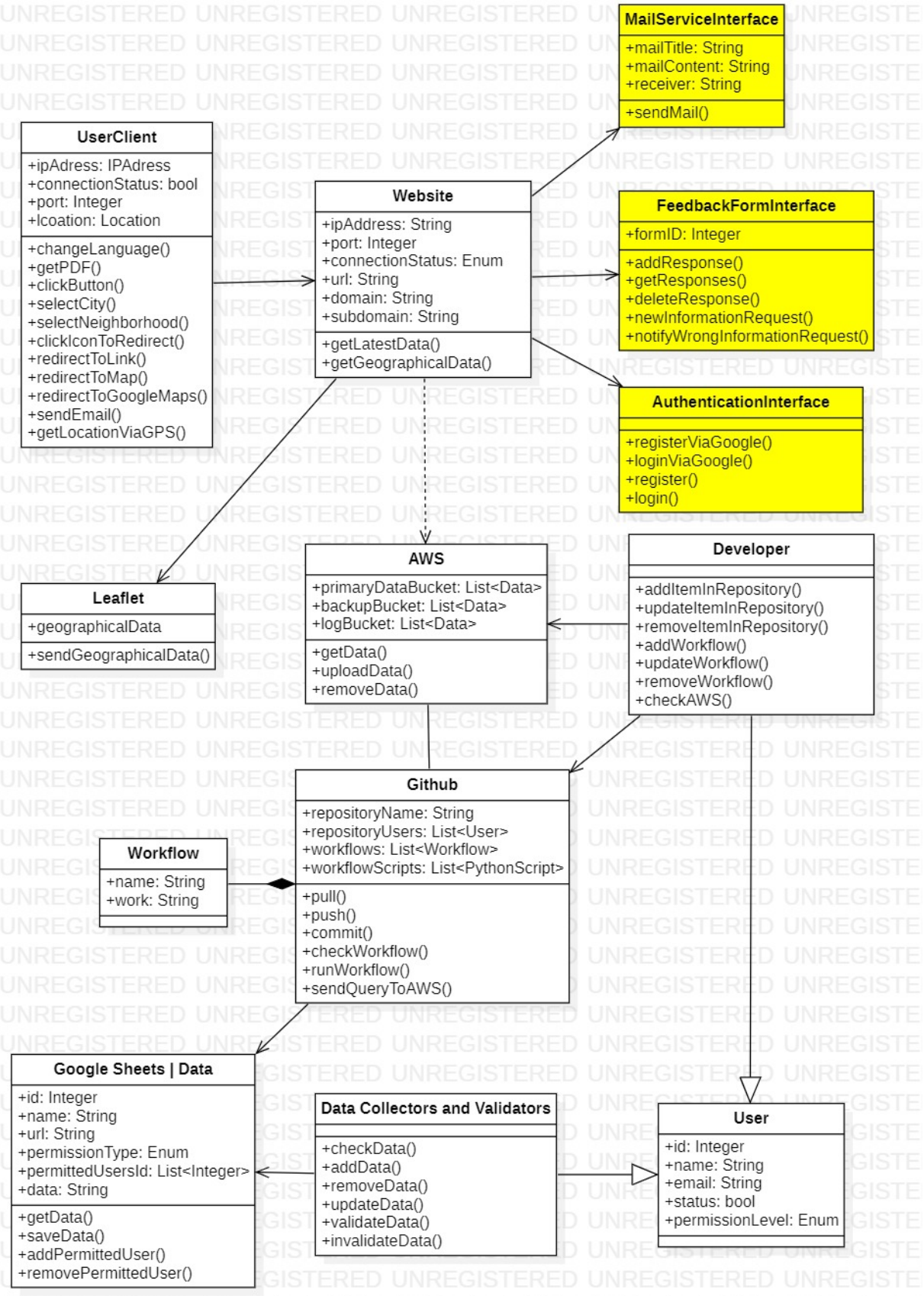


Figure 8: Suggested External Interfaces Diagram

5.1.4 Interaction Scenarios

5.2 Functional View

5.2.1 Stakeholders' Uses of This View

5.2.2 Component Diagram

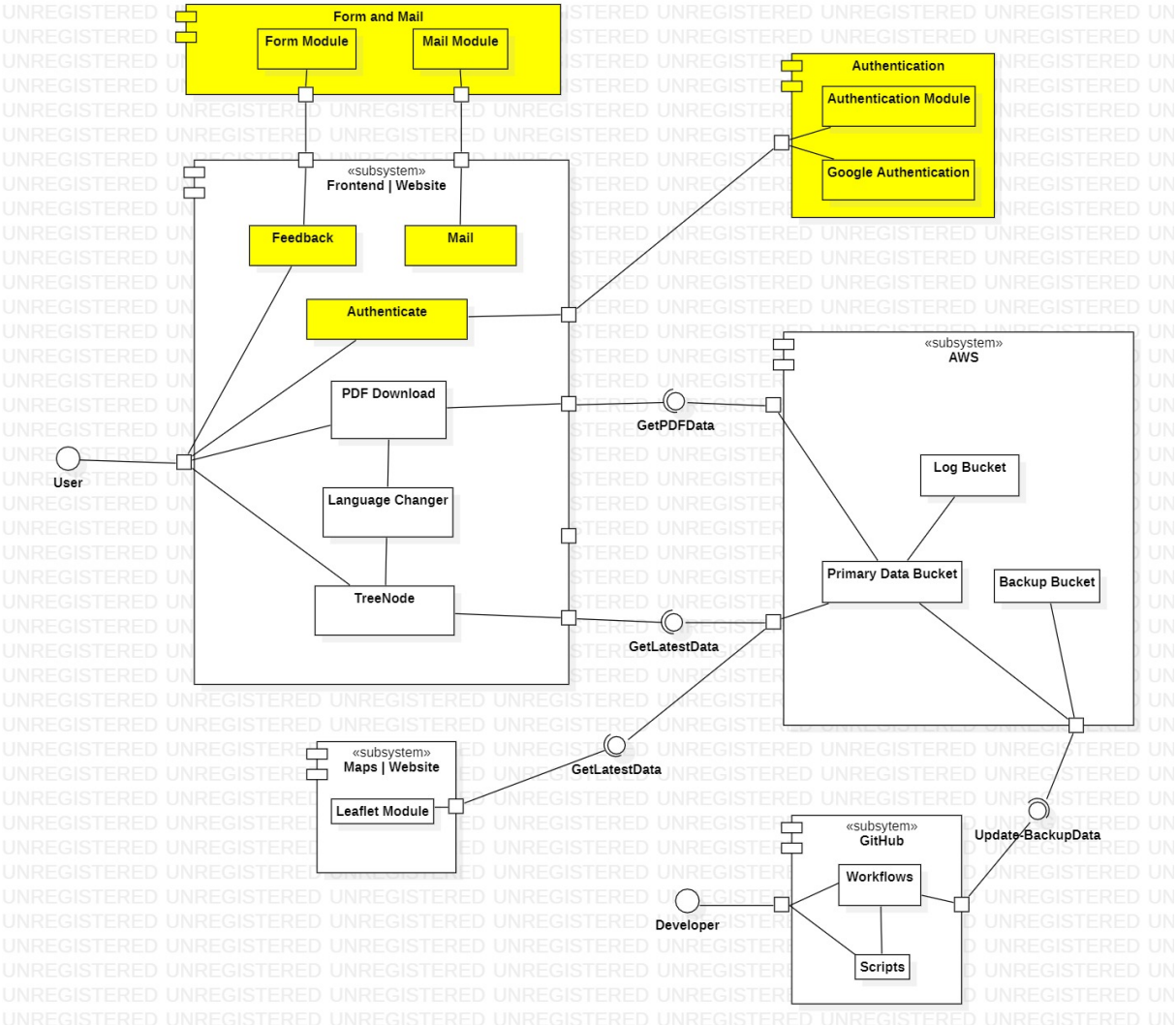


Figure 9: Suggested Component Diagram

5.2.3 Internal Interfaces

5.2.4 Interaction Patterns

5.3 Information View

5.3.1 Stakeholders' Uses of This View

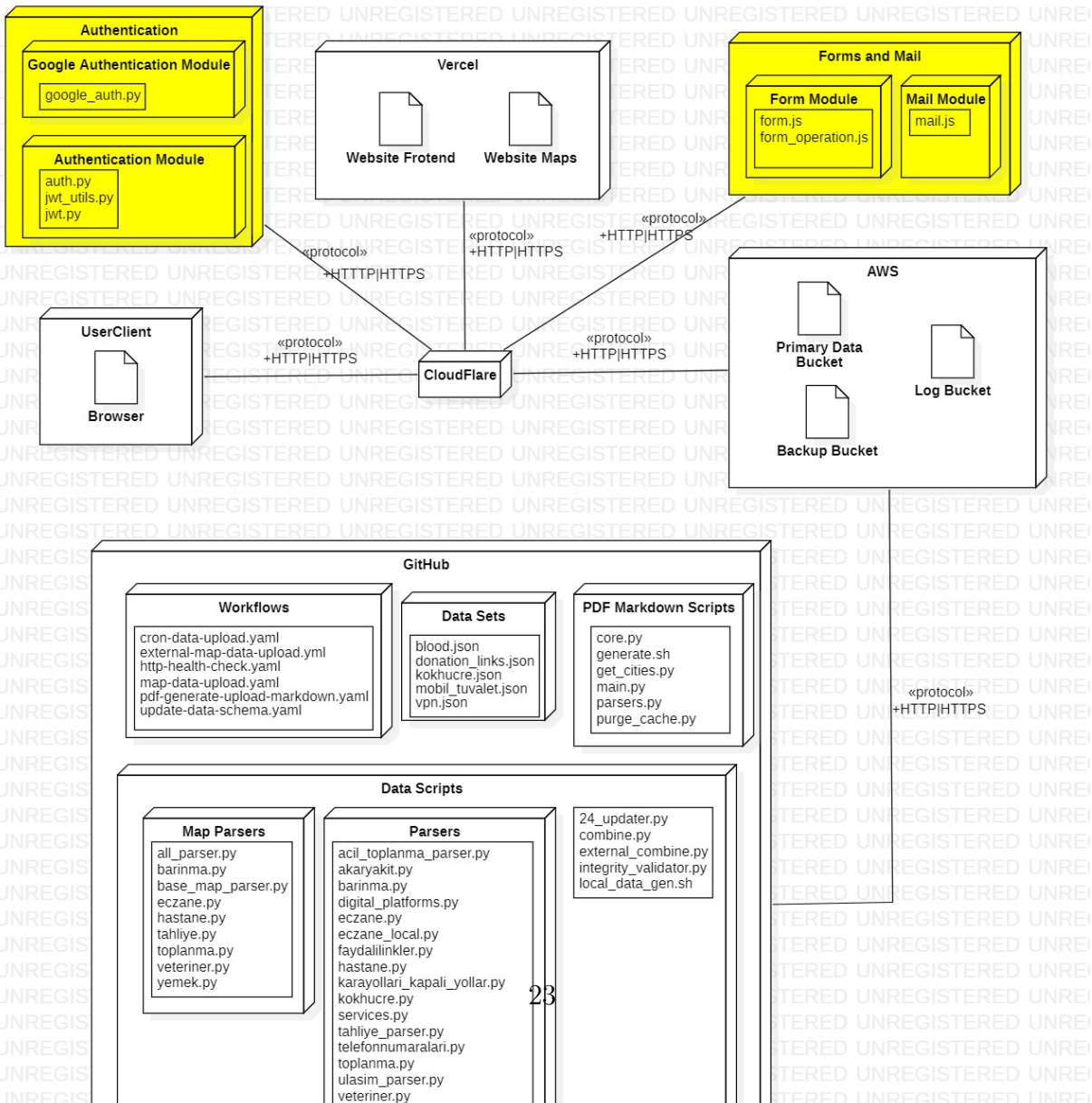
5.3.2 Database Class Diagram

5.3.3 Operations on Data

5.4 Deployment View

5.4.1 Stakeholders' Uses of This View

5.4.2 Deployment Diagram



5.5 Design Rationale