CmpE 352 - Milestone I Report

Bonibon - Language Learning Platform

Group 5

April 1, 2019

Contents

1 Executive Summary

1.1 Project Introduction

Bonibon is language learning platform open to anyone. You can sign up for free, learn languages you don't know, do exercise anytime you want and help other people with languages you are good at. There are four types of exercises: listening, reading, writing, vocabulary. Bonibon also gives you an opportunity for chatting with other learners and experts or sending them essays to improve writing skills. You can follow up your progress and level.

Bonibon accepts contributions from the community. If you want to contribute our system, you can suggest new exercises so that other people can make use of your language skills. Contribution is not only limited by the suggestions, you can also have a conversation with someone whose level is lower than you or evaluate his/her essays and give feedback.

1.2 Project Status

Communication Plan: We decided how to communicate with each other. Our main communication tool is Slack.

Label's philosophy/ Issues: We determined our attributes of issues like: priority, status, type, effort. We also defined a workflow for completing an issue. Assignees do their tasks and assign someone other to review it. If the reviewer gives positive feedback, the task is completed.

Requirements: We defined functional and non-functional requirements. Functional requirements has user and system requirements. Non-functional requirements has availability and accessibility, performance and response time, annotations, reliability, security, privacy and GDPR.

Mockup - User Stories - Personas: We defined three different personas who will use the system. We created scenarios for each one of them and we draw the mockups according to them.

Diagrams: We designed three types of diagrams: class diagram, use case diagram, sequence diagrams. We tried to explain how our system will work according to our requirements by using these diagrams.

Deciding group name: We named our project 'Bonibon'

1.3 Future Plans

Since all work we do is given weekly, we just discussed what languages and tools we will use for the implementation of the project. We will use NodeJS or Python for backend. We have three different alternatives for frontend: React, Vue, Angular. We will Kotlin for android. We are also very keen on AWS tools for deployment and hosting. We are at the beginning of the road, we don't know much about these technologies so we will try to learn these stuff in our spare time.

2 List and Status of Deliverables

Name	Delivery Date	Delivered
Requirements	04.03.2019	✓
User Stories	04.03.2019	✓
Mockups	04.03.2019	✓
Personas	04.03.2019	✓
Class Diagram	01.04.2019	✓
Sequence Diagrams	01.04.2019	✓
Use Case Diagram	01.04.2019	✓

Table 1: List All deliverables and Their Status

3 Evaluation of the Status of Deliverables and Their Impact on Plan

3.1 Liked Repositories

All of our members put at least one of their favorite repositories for our first assignment. This helped us get used to the issues and pages of the GitHub system and we began using GitHub efficiently doing our project.

3.2 Creation of Wiki(s)

Our wiki is the most important part of our project as it is. It contains all our work so far! Our home page and side-bar looks very neat and organized. Anyone can find any content related to our project easily.It contains all of our work so far.

3.3 Project Requirements

Having done many designs, and updating requirements accordingly, we are happy with our first version of the requirements. It is the core and beginning of our project. It's contents are clear and extensive.

3.4 User Stories

The personas and stories we created are very well predicted and likely people that will use our platform. The descriptions are detailed enough and the motives are clear. They helped us imagine the user experience with our project.

3.5 Mockups

The scenarios we picked were the things we weren't sure will look like, so completing them were clarifying. The way we divided our work was very efficient during this and we continued dividing our work efficiently after this assignment also. All three of our mockups look great.

3.6 Label Philosophy

Labels helps us to understand the status, type, effort and priority of an issue. They are useful for identification of a specific issue among the others.

3.7 Communication Plan

Communication is very critical for a team of 10 people. How to establish it is determined in communication plan in detail. It is created at the beginning of the semester with the consensus of every member of the team and the customer.

3.8 Use Case Diagram

Use Case Diagram shows the relationship between users and functionalities of the program. The interaction of guest user, registered user and the admin user is shown in great detail in our use case diagram.

3.9 Class Diagram

Class diagram shows the classes and relationships between them. It is an high level abstraction of the project and it provides great benefits in the coding period. Our class diagram shows the classes, fields and the methods of the classes and connections between them in detail.

3.10 Sequence Diagrams

Sequence Diagrams present key use cases of the classes. We have determined 10 key use cases and showed the action flow in the correct sequence diagram format. They describe the program flow well and they are easy to understand.

4 A Summary of Work Done by Each Team Member

Team Member	Contributions
Ali Meriç Deşer	I have created a slack channel to communicate as a team as my first duty except finding good repos. Then I have participated in designing Requirements with my teammates. I had worked to create System Requirements Section and also for the glossary part. Then we have created User Personas, Scenarios and Mockups according to them. I was a member of a subgroup for creating Chatting Scenario and it's persona and mockups with my teammates. I have created the chatting screen&annotation part of the mockups.Besides the updating the requirements according to feedbacks, I have also participated in creating Sequence Diagrams of our project. I and my friend created the sequence diagram of Doing Exercise in our system. Lastly I was a member of review team and I have review my team members work of first five sequence diagrams.
Yusuf Mert Bila	I participated in user requirements, mockups, user scenarios, personas, class diagram and sequence diagrams. For requirements I worked closely with my teammates and the customer. I used balsamiq to draw mockups and collaborated with my teammates for user scenarios and personas. I used Lucidchart for drawing class and sequence diagrams. I took part in writing and rating sequence diagrams.
Furkan Kadıoğlu	I researched GitHub repos like as PyTorch vs. I have created first week meeting note. I researched labels and use of them and then I have added label philosophy to Bonibon. I have made labelization automatically. I have joined customer meeting regularly as a delagants of group 5. Slack and WhatsApp sometimes are not enough team communication for example wiki pages doesn't allow simultaneous works I have resolved that kind of problems. I have written user requirements' majority and glossary's part which is related to user requirements. I prepared label flow and workflow diagrams for team communication. We have made report mockup w/ Veli & Mahmut. Use case diagrams w/ Enes & Hasan. Class case diagrams w/ Veli for other team members. Exercise sequnce diagrams w/ Meriç. Latex template for this report. I have designed logo by taking advice from my teammate.
Veli Can Ünal	At the first part of the term, we are trying to make our goal clear. As a member of the group 5, I contributed to design labels and workflow of our issues. These are very important for applying agile methodologies and working efficiently. I wrote some part of non-functional requirements. These are availability and accessibility, security , privacy and GDPR.I contribute to creating reporting mock up, scenario and personas.I actually tried to write our persona similar to my cousin. I contributed to create class diagram especially language and search parts. I designed advanced,profile and semantic search sequence diagrams. I also was also one of the assinees for designing reporting sequence diagrams.
Mahmut Uzunpostalcı	I have helped designing communication plan. I have participated in writing the system requirements, added 2 elements. I have created profile page mock-up for scenario 3 and designed actions in mock-up page. I have written Acceptance Criteria for persona 2. I have helped designing class diagram. I have created a sequence diagram for searching. I have organized all closed issues' descriptions, added more clear description if needed and gave links to according pages, and organized labels of all closed issues.

Table 2: A Summary of Work Done by Each Team Member I

Hasan Öztürk	My first contribution was to create a Readme file for our repository. In the requirements phase, I took over the nonfunctional requirements and determined them in align with the directives of the customer. Afterwards I created one persona and one mockup. In the design phase, I contributed both use case and class diagrams. At every stage of my work I gave feedback to others and took feedback from them. Lastly, I wrote a report on evaluation of the status of deliverables with Meltem.
Abdulah Yıldız	I made a research for some useful github repos, I found a collection of some useful links for whoever wants to be a fullstack developer. It has must-read books, videos and articles. Second week was the day we learned about our project. At the meeting, we talked about how we will design it . We are asked to create requirements part, I worked on non-functional requirements. At lecture, we are criticized by Suzan hoca. Also, we got very large feedback. I worked on 4 of them. Arranged glossary part,added new keywords, fixed some grammatical mistakes. We had a meeting to create a mockup.First we searched for mockup tool, then created a mockup on Balzamiq. I wrote a scenario for Aliye çiçekçi. This week's topic was diagrams. I worked on sequence diagrams. Namely chat sequence diagram and writing sequence diagrams. This week we got late feedback, i had many exams. I did not contribute. Another midterm week, I got the sequence diagram review part. I'll review 5 of seq.diagrams.
Selamettin Dirik	First week, I set my personal introduction wiki page on Github and explore repositories that are amazing for me. And then, I prepared part of functional system requirements and made revisions on it. After that, I took part in Writing Exercise & Annotation mockup and Mert Maysallar Persona. Then, in class diagram, I rearranged some part of Writing and Chat Class and constructed Writing Sequence Diagram. Also, I made search about the web and mobile application development tools in order to acknowledge my team members. After revising diagrams according to the customer feedback, I also added Material and Material Controller Classes into the class diagram. Finally, I reviewed the Use Case Diagram and Credentials Class.Then, I corrected some points and updated them on our github repository.
Abdullah Enes Öncü	Research about GitHub repos. Work on requirements. Web scenario and the persona and acceptance criteria related to this scenario is created. Use case diagram is prepared. Some technologies about project are investigated. Working on class diagrams and chat sequence diagram is prepared.
Meltem Suiçmez	As the communicator, I did my job connecting our group and instructors whenever necessary. I created our homepage and sidebar as it is. I made and edited many agendas and meeting notes. I was part of the User Requirements. For mockups i used Balsamiq when i was a part of the scenario 2. I contributed to class diagram. I was part of 4 sequence diagrams.I used LucidChart a lot during these. For our project name, I created a poll on Slack and suggested names.

Table 3: A Summary of Work Done by Each Team Member II

5 Communication Plan

5.1 Plan

Who	Why	When	Where	How
All Team Members	Weekly Meeting& Assignments	Wednesday 18.00	@BM-B5	Face-to-Face
All Team Members	Urgent Issues	Whenever Necessary	Online	Phone, WhatsApp or Video Call
All Team Members	Project Related Issues	All the Time	Online	GitHub, Slack, WhatsApp and Mail
All Team Members & Customer	Project Related Issues	All the Time	Online	Piazza, Mail

Table 4: Communication Plan

5.2 Online Communication Channel

- GitHub
- Slack
- WhatsApp
- E-Mail
- Piazza

6 Requirements

6.1 Glossary

- **Admin**: A priviliged user who is responsible for providing secure environment for users.An admin has the ability to delete contents, ban users and arrange system contents.
- **Advanced Search**: Finds exercises with respect to exercises' type, topic, difficulty and scope.
- **Annotation**: Explanatory content attached to an item.
- **Approval**: Acceptance or Rejection of a material after evaluation by experts.
- **Authorization**: Authorization is a security mechanism used to determine user/client privileges.
- **Chat**: Communication with other users via texting on the platform in order to improve colloquial language.
- **Client-side** : The environment that runs scripts on a browser.
- **Comment**: A body of text about users or learning materials.
- **Content**: Each of reachable course material.
- **Content Search**: Finding exercises with keywords and tags, system will bring only exact matches.
- **Essay**: Writing assignment which is sent to experts.
- **Expert**: A user who accept essays in one language to review and approves if suggedted materials are appropriate for platform.
- **GDPR**:General Data Protection Regulation is to better protect the personal data of European Union data subjects.
- **Guest**: A person who is not registered.
- **Header injection**: A general class of web application security vulnerability which occurs when Hypertext Transfer Protocol (HTTP) headers are dynamically generated based on user input.
- **HTML sanitization**: The process of examining an HTML document and producing a new HTML document that preserves only whatever tags are designated "safe" and desired.
- **HTTPS**: The secure version of the standard "hypertext transfer protocol" your web browser uses when communicating with websites.
- **Input validation**: the proper testing of any input supplied by a user or application.
- **Learner**: A user who select one language to learn.
- **Learning Material**: Every document or exam which helps to learn a language.
- **Level**: Borders used by system to rectrict users to reach contents.Users are attended to a certain level once they solve the proficiency exam.
- **Native Speaker**: User who registered his/her nation with the stated language as the spoken language of that nation.
- **Proficiency Exam**: Exam containing Vocabulary, Grammer, Reading, Listening sections to determine a user's degree of knowledge in the relevant language. It is done to place students in appropriate degrees
- **Request**: The message that the system send while communicating with server-side or client-side.

- **Semantic Search**: Finding exercises with keywords and tags, system will bring related exercises.
- **Server-side**: The environment that runs scripts on a web server.
- **Tag**: Keyword or term assigned to a piece of information. Used in categorization of topics existing in the course material.

6.2 Functional Requirements

6.2.1 User requirements

- **6.2.1.1.1.1. Registration and Login**
  - **6.2.1.1.1.1.1.** Users shall be able to either create an account or continue as a guest user.
  - **6.2.1.1.1.1.2 Registered User**
    - **6.2.1.1.1.1.2.1.** Users shall be able to sign up by providing an username, an e-mail, at least six character long password, their age and native language.
    - **6.2.1.1.1.1.2.2.** Users shall be able to login to the application by providing his/her username or email and password.
  - **6.2.1.1.1.1.3 Guest User**
    - **6.2.1.1.1.1.3.1.** Guest users shall have limited access to content.(Only first exercises of exercise types)
  - **6.2.1.1.1.1.4 Admin User**
    - **6.2.1.1.1.1.4.1.** Admin users shall login from a different panel than other users.
    - **6.2.1.1.1.1.4.2.** Admin users shall be able to delete content, ban users and arrange contents.
- **6.2.1.1.1.2. Course Material**
  - **6.2.1.1.1.2.1.** Users shall be able to apply to any language he/she wants to learn.
  - **6.2.1.1.1.2.2.** Users shall be able to take the proficiency exam to attend a certain level.
  - **6.2.1.1.1.2.3.** Users shall be able to take listening, reading, grammar, vocabulary exercises.
  - **6.2.1.1.1.2.4.** Users shall be able to access the lower level contents.
  - **6.2.1.1.1.2.5.** Users shall be able to suggest new material for a language.
  - **6.2.1.1.1.2.6.** Experts shall review and approve suggested new materials to the system.
  - **6.2.1.1.1.2.7.** Users shall be able to see the answers after each question is answered.
- **6.2.1.1.1.3 Writing Assignment**
  - **6.2.1.1.1.3.1.** Users shall upload essays for writing exercises.
  - **6.2.1.1.1.3.2.** Users shall be able to select one user as an expert or see recommended experts who are provided by the application.
  - **6.2.1.1.1.3.3.** Users shall be able to take advice from experts.
  - **6.2.1.1.1.3.4.** Users shall be able to communicate her/his expert via chat.
  - **6.2.1.1.1.3.5.** Users shall be able to reject an essay request.
- **6.2.1.1.1.4 Annotation in writing exercise**
  - **6.2.1.1.1.4.1** Users shall be able to annotate essays for writing exercise.
  - **6.2.1.1.1.4.2** Users shall be able to comment to annotations.
  - **6.2.1.1.1.4.3** Users shall be able to annotate images or texts.
- **6.2.1.1.1.5 Chat**

- **6.2.1.1.1.5.1** Users shall be able to send chat requests to experts or native speakers of a language they are learning.
- **6.2.1.1.1.5.2** Users shall be able to see and accept requests.
- **6.2.1.1.1.5.3** Users shall be able to chat with other users who accepted the chat request.

- **6.2.1.1.1.6 Tracking for progress**
  - **6.2.1.1.1.6.1** Users shall be able to track progress and what she/he accomplished.
  - **6.2.1.1.1.6.2** Users shall be able to see statistics about the ratio of completed exercises.
  - **6.2.1.1.1.6.3** Users shall be able to view average grade and achievements.
  - **6.2.1.1.1.6.4** Users shall be able to see the other exercises that he/she will be able to join.

- **6.2.1.1.1.7 Rating & Comment**
  - **6.2.1.1.1.7.1** Users shall be able to view one user's rates and comments about her/him for her/his languages.
  - **6.2.1.1.1.7.2** Users shall be able to vote users who they've chatted or sent an essay.
  - **6.2.1.1.1.7.3** Users shall be able to comment about users who they can chat or send an essay.

- **6.2.1.1.1.8 Search**
  - **6.2.1.1.1.8.1.** Users shall be able to do the semantic search by using keywords.
  - **6.2.1.1.1.8.2.** Users shall be able to do the advanced search by using tags.
  - **6.2.1.1.1.8.3.** Users shall be able to suggest tags and keywords.
  - **6.2.1.1.1.8.4.** Experts shall accept or reject suggested tags and keywords.

- **6.2.1.1.1.9 Report Harassment**
  - **6.2.1.1.1.9.1.** Users shall be able to report one user who abuses.
  - **6.2.1.1.1.9.2.** Users shall be able to report material which contains sensitive elements.

6.2.2 System requirements

- **6.2.2.1.2.1 Recommedentation**
  - **6.2.2.1.2.1.1** System shall provide recommendation to learners about experts.

- **6.2.2.1.2.2 Search**
  - **6.2.2.1.2.1.1** The system shall provide a mechanism for searching a content semantically.
  - **6.2.2.1.2.1.2** The system shall provide a mechanism for searching a content with exact matching.

- **6.2.2.1.2.3 Education Language**
  - **6.2.2.1.2.3.1** System shall supply materials for learners in Turkish, English, Spanish and German.

- **6.2.2.1.2.4 Commenting and Rating**
  - **6.2.2.1.2.4.1** System should keep comments and votes mentioned in **1.1.7** and evaluate overall ratings for the relevant user profiles.

- **6.2.2.1.2.5 Annotation**
  - **6.2.2.1.2.5.1** System should support an annotation system so that the writing exercise can be annotated by both the learner and the experts.

- **6.2.2.1.2.6 Communication System**
  - **6.2.2.1.2.6.1** System should provide an interface for communication between learner and expert for writing exercises.
  - **6.2.2.1.2.6.2** System should provide an interface for chat with native speakers and it requires permission from both sides.
- **6.2.2.1.2.7 Adding New Learning Materials**
  - **6.2.2.1.2.7.1** System should redirect the materials suggested from users mentioned in **1.1.2.5** to experienced users in order to get approval about materials.
- **6.2.2.1.2.8 Appearance & Privacy**
  - **6.2.2.1.2.8.1** System should maintain the privacy by restricting the user profiles from guest users.
  - **6.2.2.1.2.8.2** System should restrict guest users from rating & commenting for the user profiles.
- **6.2.2.1.2.9 Progress & Statistics**
  - **6.2.2.1.2.9.1** System should provide an interface to let user track and monitor his/her progress.
  - **6.2.2.1.2.9.2** System should also provide statistics of ratio of completed exercises, average grade and achievements.
- **6.2.2.1.2.10 Automatic Grading**
  - **6.2.2.1.2.10.1** System shall automatically grade listening, reading, grammar and vocabulary exercises and shall be capable of highlighting the correct answer if the provided one by the user is wrong.

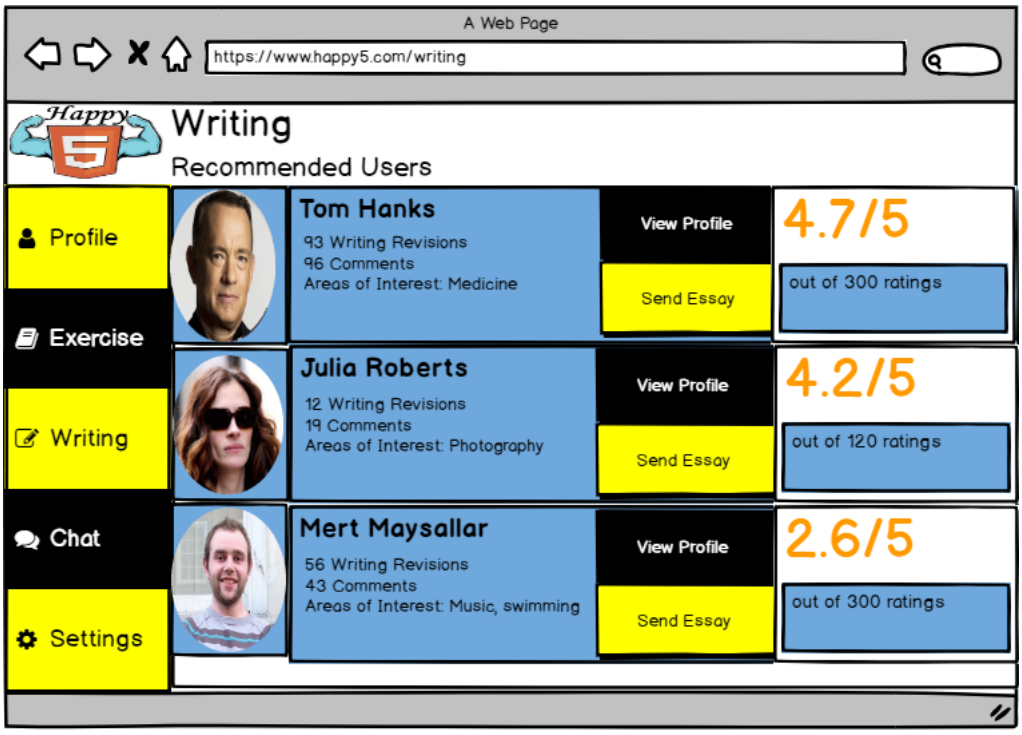
6.3 Non-functional Requirements

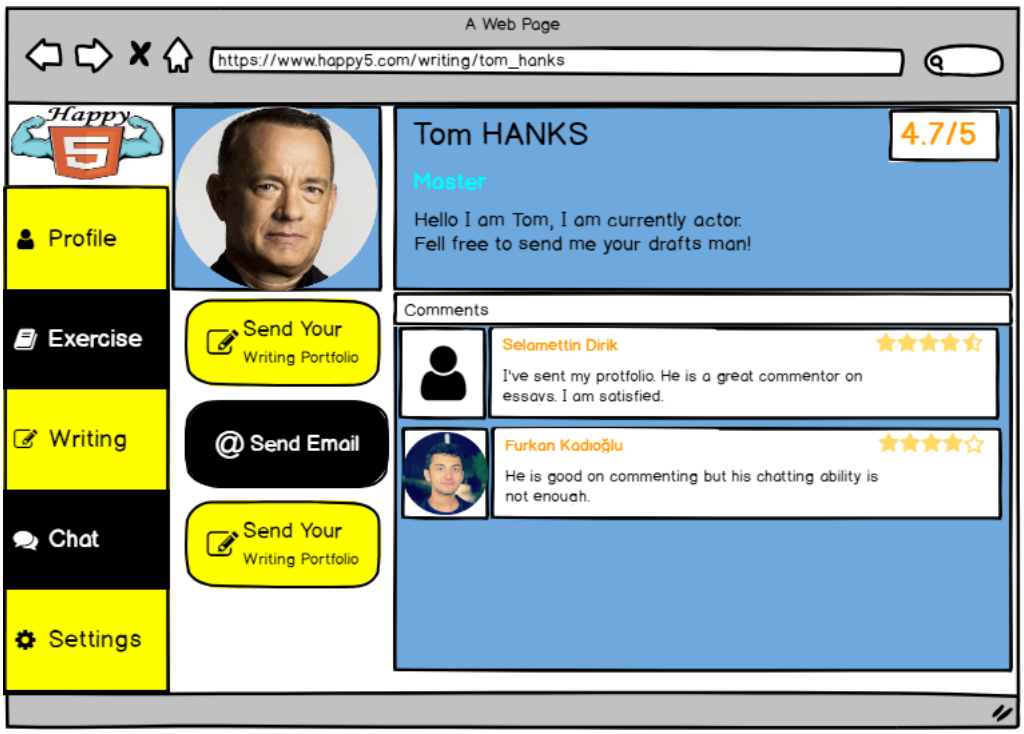
- **6.3.2.1. Availability and Accessibility**
  - **6.3.2.1.1.** The system should work on any web browsers except IE10 and older versions.
  - **6.3.2.1.2.** The application shall be provided for Android 4.3 and later versions.
  - **6.3.2.1.3.** The system should inform the user if the application is not able to provide a service.
  - **6.3.2.1.4.** If a failure happens, the problem should be fixed within 1 hour.
- **6.3.2.2. Performance and Response time**
  - **6.3.2.2.1.** The system shall block an excessive amount of access requests made in a short amount of time.
  - **6.3.2.2.2.** The system shall back up user-expert messages once a month.
  - **6.3.2.2.3.** The system shall use encryption for user messages and passwords.
- **6.3.2.3. Annotations**
  - **6.3.2.3.1.** W3C Web Annotation Data Model shall be used for writing exercises which are annotated by learners and experts.
  - **6.3.2.3.2.** Implementation of this system will follow the standards introduced by the World Wide Web Consortium (W3C).
- **6.3.2.4. Reliability**
  - **6.3.2.4.1.** The system shall endure up to 250 users without breaking.
  - **6.3.2.4.2.** The system shall provide materials to searches within 3 seconds.

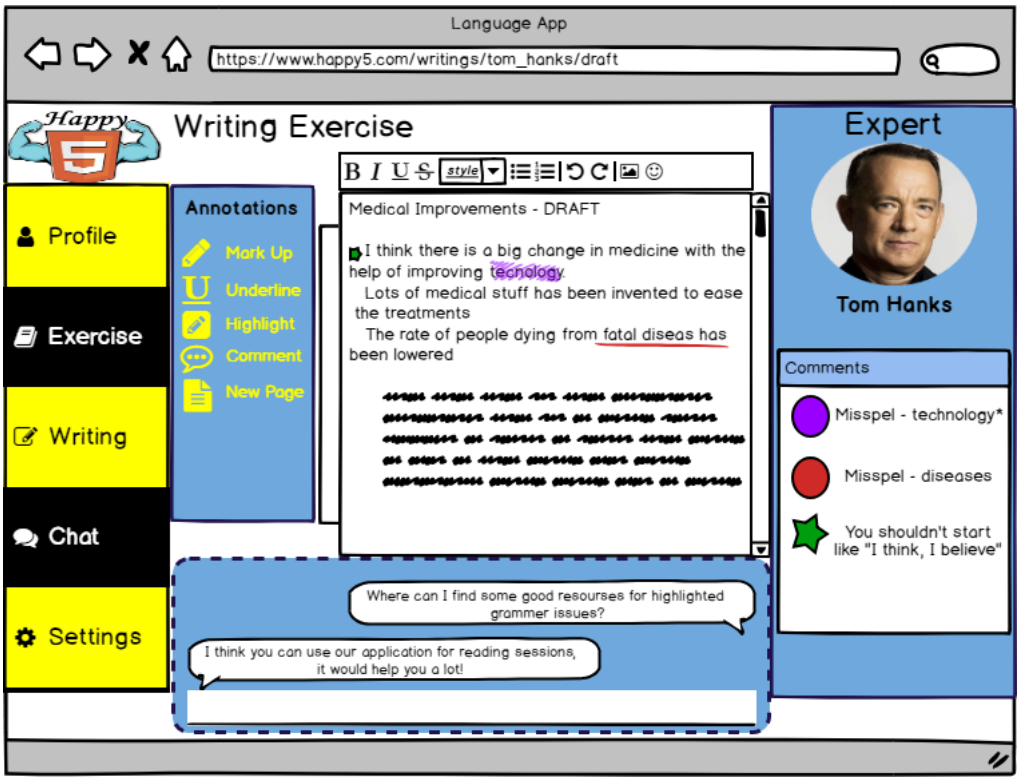
- **6.3.2.5. Security**
  - **6.3.2.5.1.** The system should encrypt the traffic between browser and web server by using HTTPS.
  - **6.3.2.5.2.** The system should use input validation.
  - **6.3.2.5.3.** The authorization should always be done on the server side.
  - **6.3.2.5.4.** The system should not use redirect to prevent header injection.
  - **6.3.2.5.5.** The system should sanitize the user input.
- **6.3.2.6. Privacy and GDPR**
  - **6.3.2.6.1.** The system should have a privacy policy and this policy should be seen easily by users.
  - **6.3.2.6.2.** The user should have right to object processing of data for direct marketing.
  - **6.3.2.6.3.** The user should have right to object processing that is based on profiling.
  - **6.3.2.6.4.** The system should not collect or try to predict users personal data like religious, gender identitiy , race, political leanings.

7 Mockups & Design

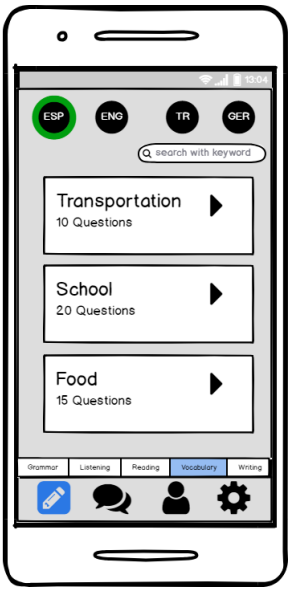
Scenarios' details are available in wikipage.
Class Diagram's details are available in wikipage.
Class Diagram's details are available in wikipage.
Sequence Diagrams' details are available in wikipage.





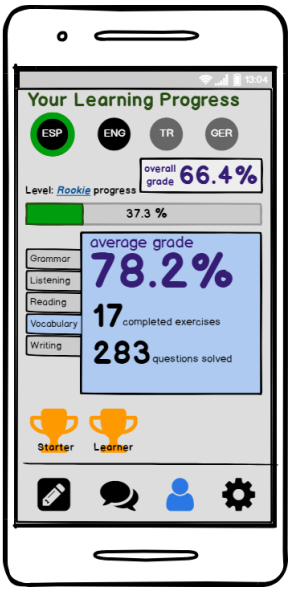

Language App
https://www.happy5.com/writings/tom_hanks/draft
Happy
Writing Exercise
Profile
Exercise
Writing
Chat
Settings
Annotations
Mark Up
Underline
Highlight
Comment
New Page
Medical Improvements - DRAFT
I think there is a big change in medicine with the help of improving technology.
Lots of medical stuff has been invented to ease the treatments
The rate of people dying from fatal diseas has been lowered
Where can I find some good resourses for highlighted grammer issues?
I think you can use our application for reading sessions, it would help you a lot!
Expert
Tom Hanks
Comments
Misspel - technology*
Misspel - diseases
You shouldn't start like "I think, I believe"


Happy
E-mail:
aliye.cicekci@gmail.com
Password:
Login
Forgot password?
Don't have an account yet?
Sign Up
OR continue as a
Guest

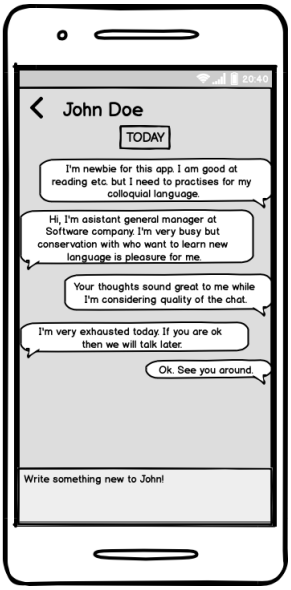

ESP
ENG
TR
GER
search with keyword
Transportation
10 Questions
School
20 Questions
Food
15 Questions
Grammar
Listening
Reading
Vocabulary
Writing

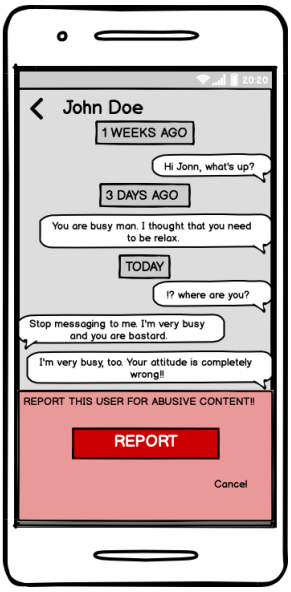

ESP
ENG
TR
GER
Transportation
Question 5
Necesito ir _____ para llenar el tanque.
A) A la estación de servicio
B) Al banco
C) A la farmacia
D) A la biblioteca
Sorry, wrong answer :(
Correct answer should be A
Next
Grammar
Listening
Reading
Vocabulary
Writing


Happy
1
2
3
4
5
6
7
8
9
10
90 % VOCABULARY SUCCESS !
Congratulations !
Question 5
Necesito ir _____ para llenar el tanque.
A) A la estación de servicio
B) Al banco
C) A la farmacia
D) A la biblioteca
Question asks where you should go to full the tank.
A la estación de servicio = Service station
Previous
Next
My Stats
Profile

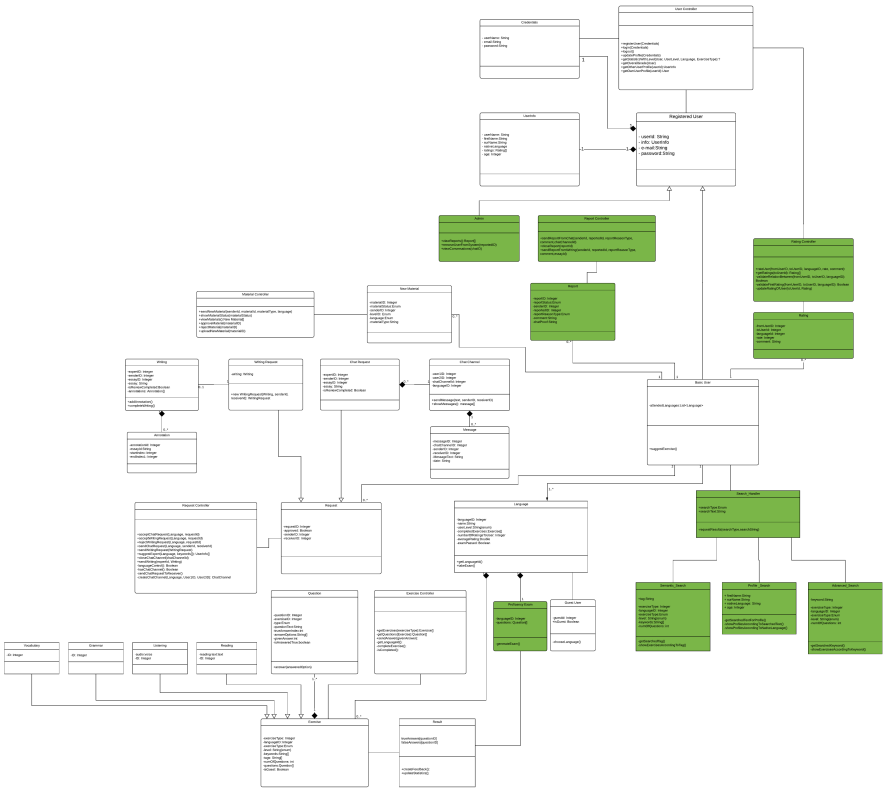

Your Learning Progress
ESP
ENG
TR
GER
overall grade 66.4%
Level: Rookie progress
37.3 %
average grade
78.2%
Grammar
Listening
Reading
Vocabulary
Writing
17 completed exercises
283 questions solved
Starter
Learner


John Doe 3.4/5 ENG
Languages
TR
GER
Send Chat Request
Comments
All Comments (14)
He responds quick but he is a bit informal.
Wathek Allal
He is a cool guy but he seems to be busy and responds a bit aggressively.
Antonia Gigovska

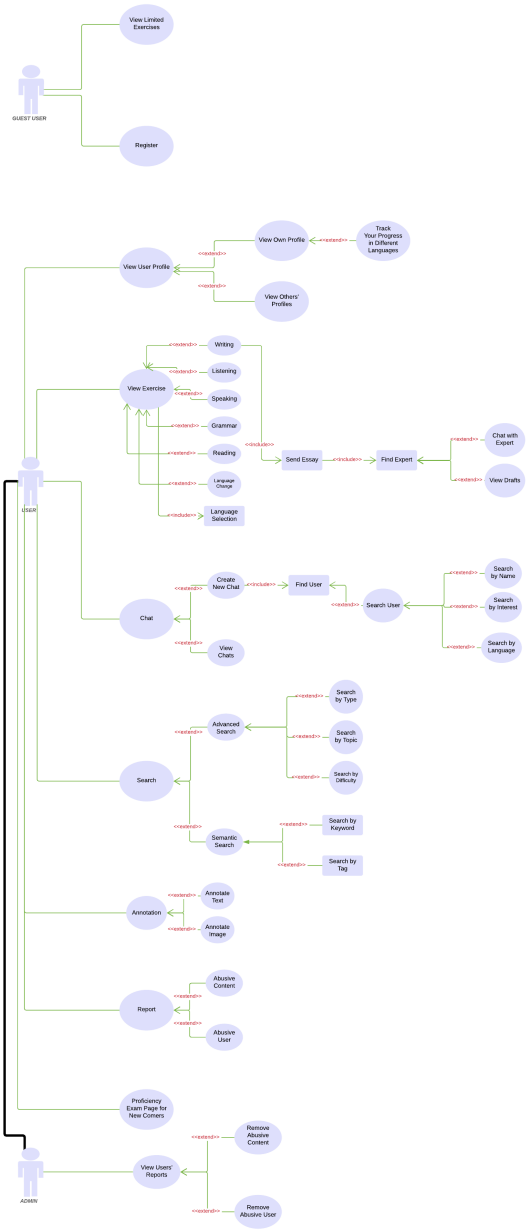

John Doe
TODAY
I'm newbie for this app. I am good at reading etc. but I need to practises for my colloquial language.
Hi, I'm asistant general manager at Software company. I'm very busy but conservation with who want to learn new language is pleasure for me.
Your thoughts sound great to me while I'm considering quality of the chat.
I'm very exhausted today. If you are ok then we will talk later.
Ok. See you around.
Write something new to John!



Class Diagram.png

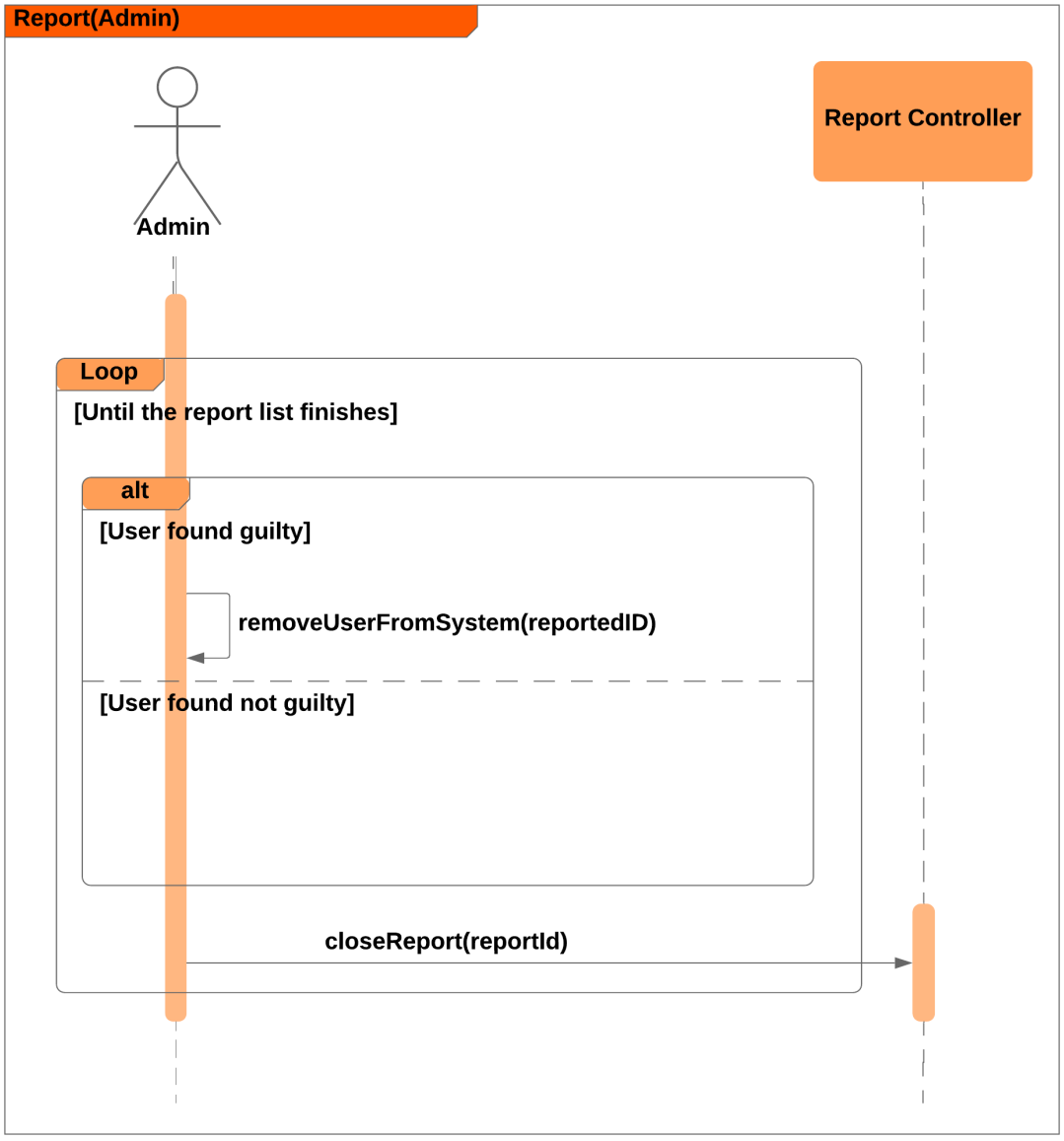


Case Diagram.png

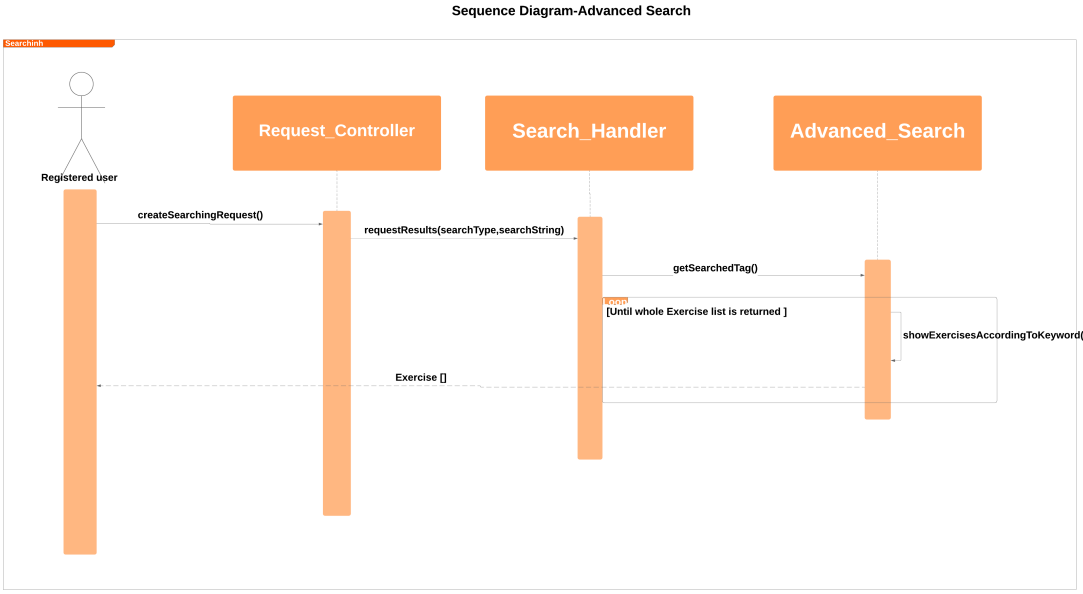


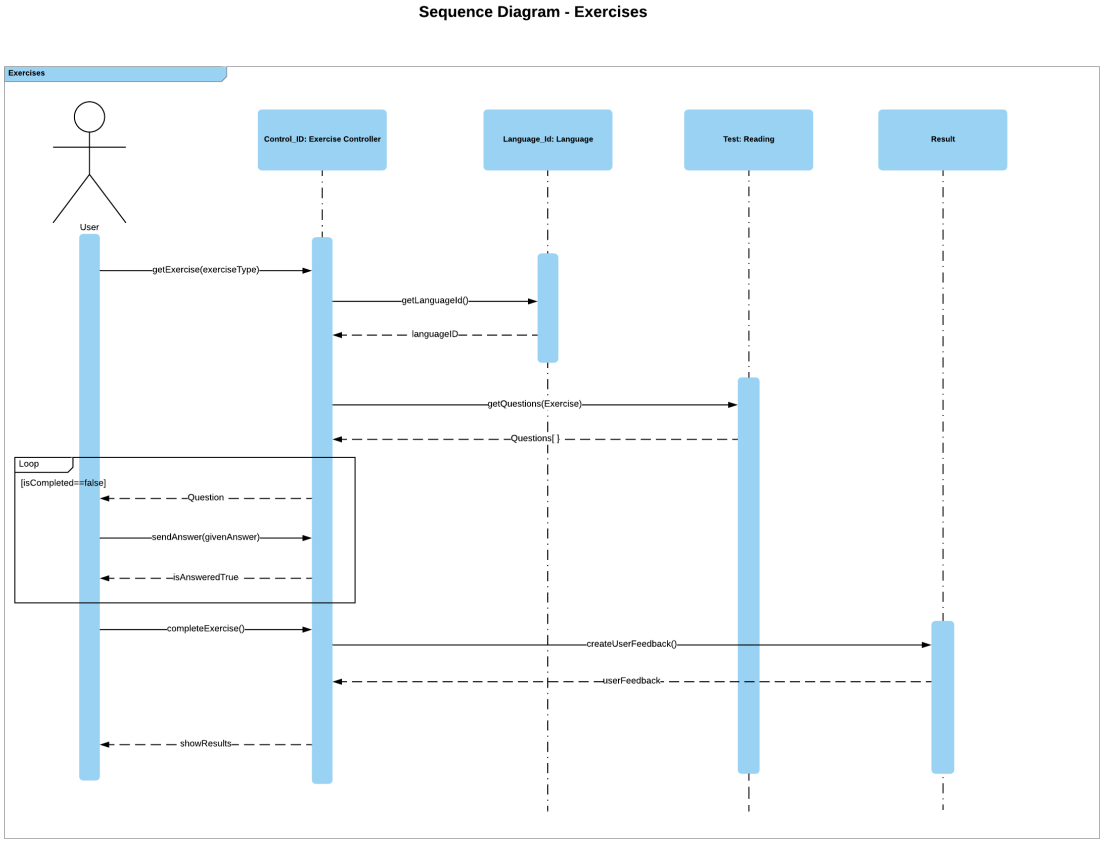
Report.png

Sequence Diagram- Report(Admin)

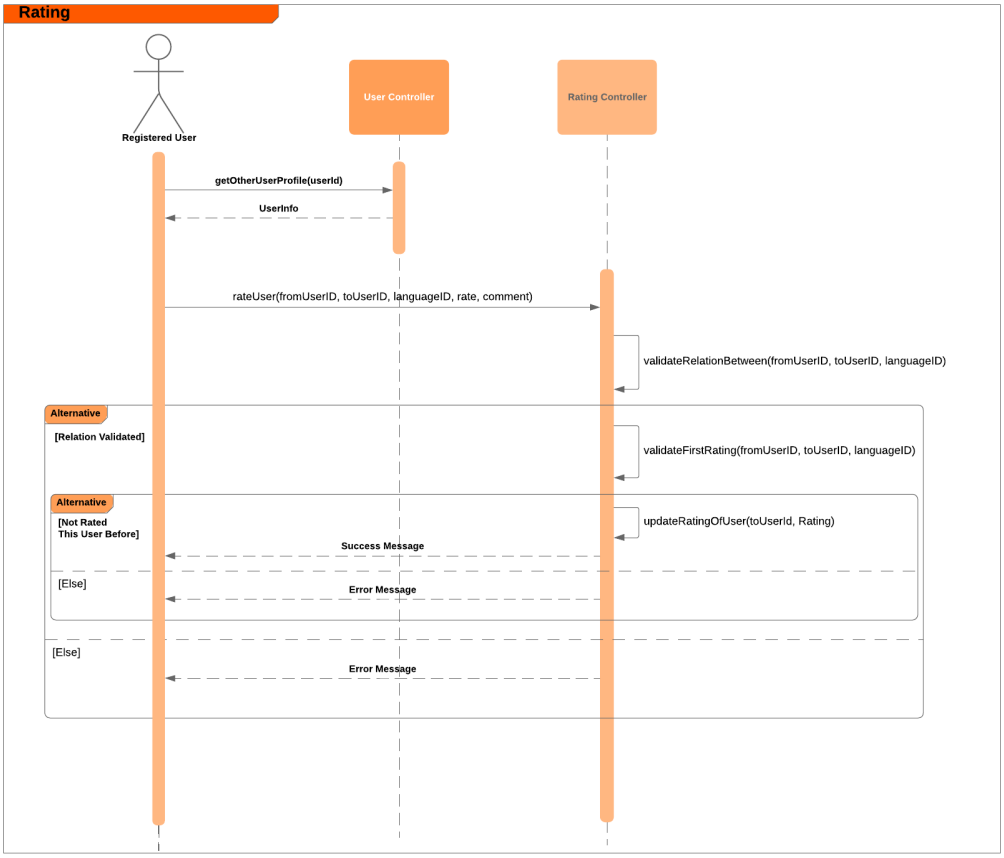


Search Sequence Diagram.png

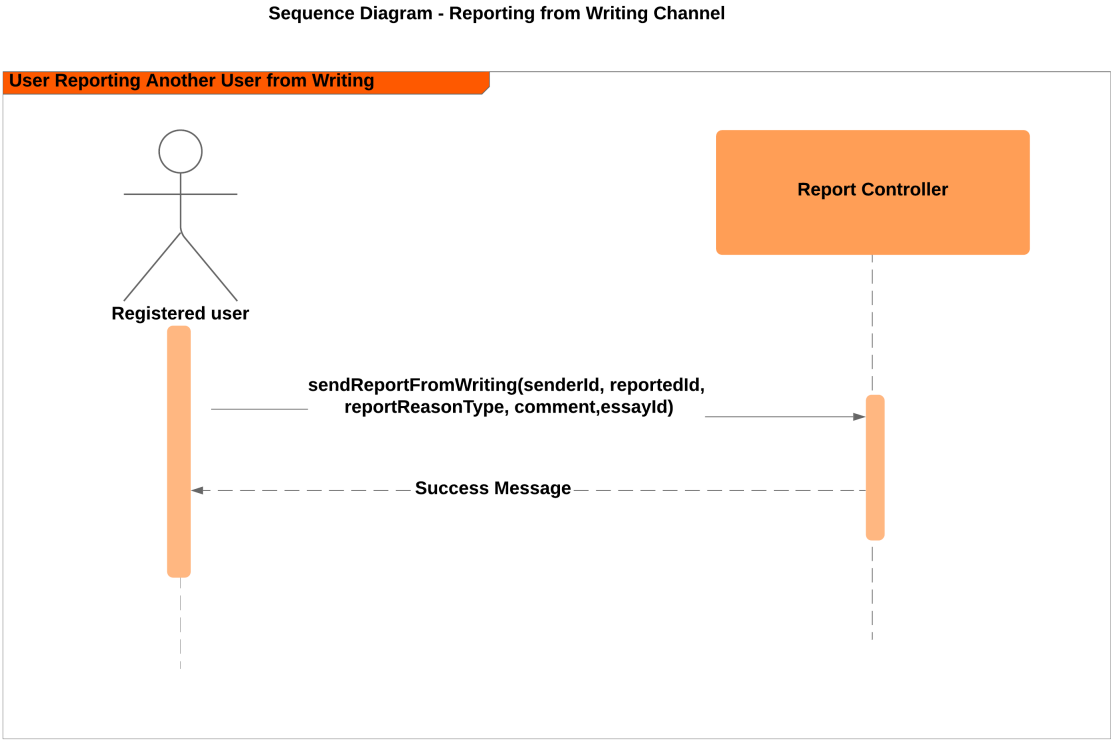




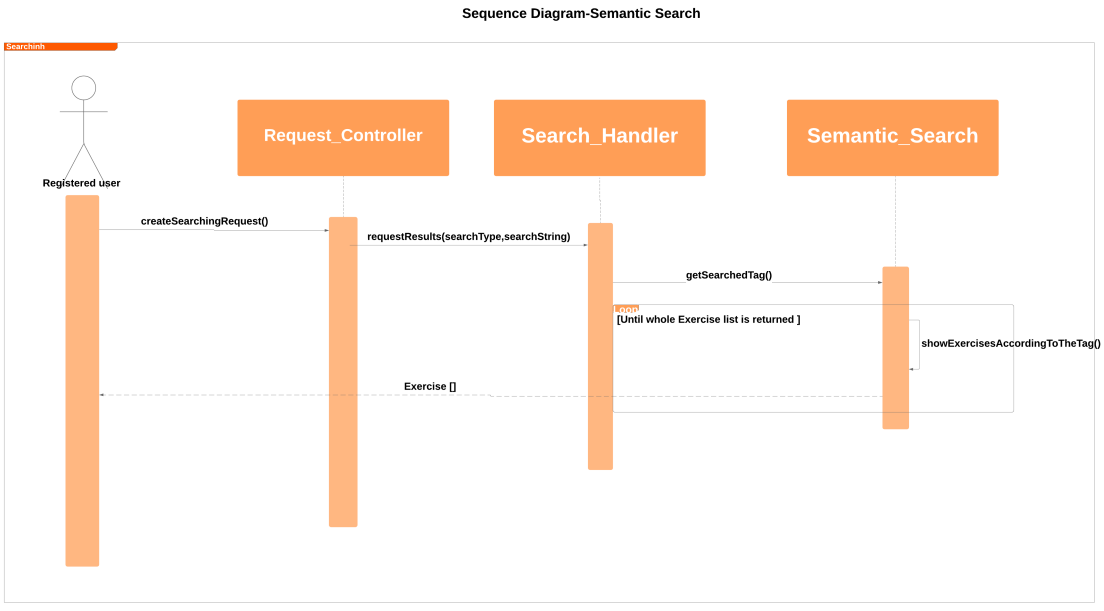
Sequence Diagram.png



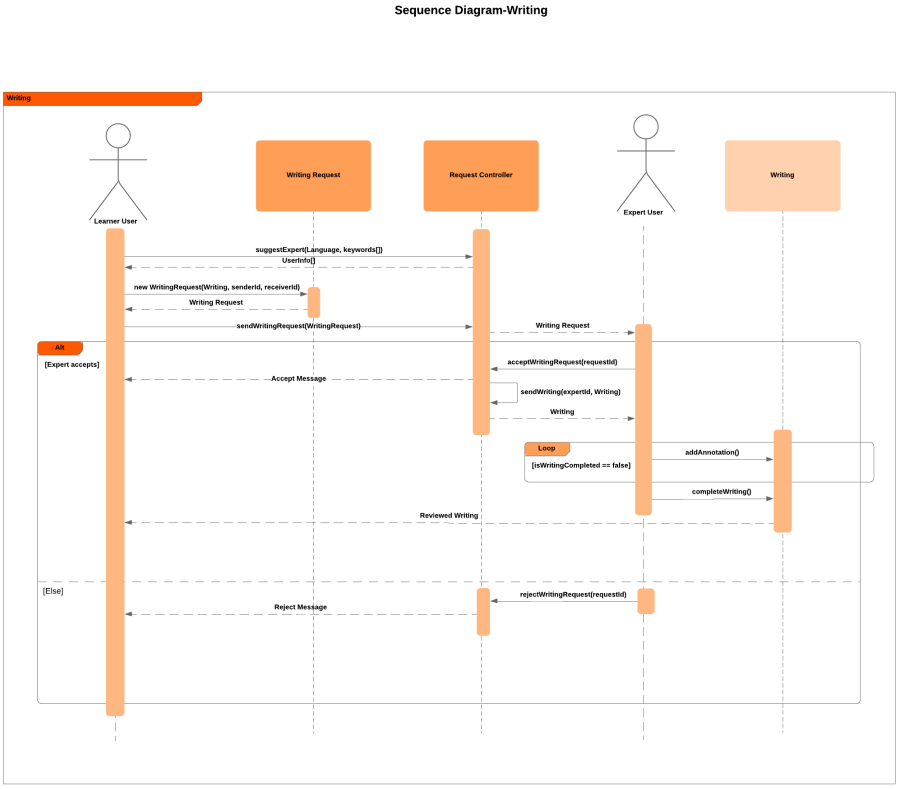
Sequence Diagram.png



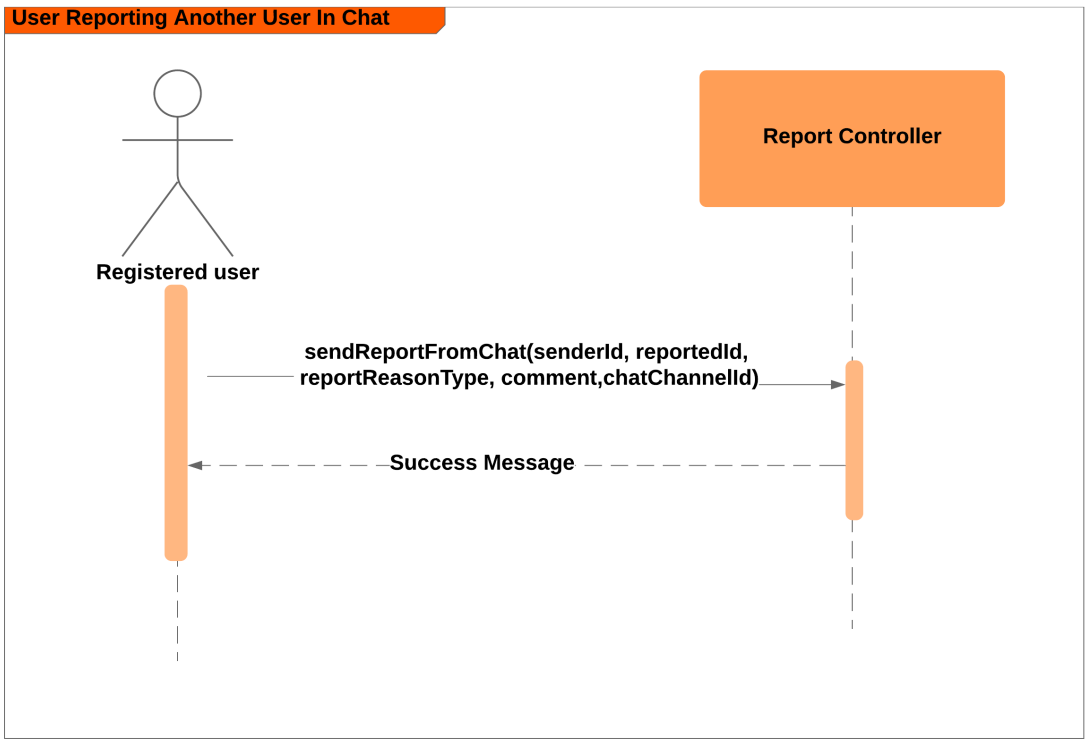
Search Sequence Diagram.png



Writing.png



Reporting Another User In Chat.png



Sequence Diagram-Search-2.png