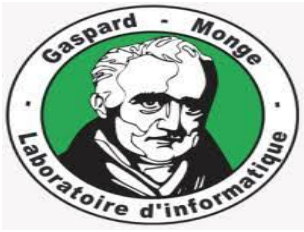

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Report for Service Web course

Eiffel Tutoring solutions

Réalisé

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M2 systeme intelligents et applications

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Table des matières

Table des figures

1 General presentation of the project

1.1 Academic context :

As part of the course entitled “web services “, we are divided into groups of three in order to implement what we have learned throughout this course through a project. This year’s project entitled “Eiffel tutoring solutions”.

1.2 Project Context :

“Eiffel tutoring solutions” is a project that is founded to help answer the needs of students who are in need of academic support and university professors of Gustave Eiffel university who capable of offering this kind of support. This project will be in the form of a platform that enables professors and students both from the university as well as from outside to sign in and offer/book sessions. The latter in regards to specific subjects depending o many factors (subject, time, availability, rate ..) furthermore other services are offered as well such as notifications and payment options .

2 Project objectives

Create an application that :

— Enables professors and students to sign up /sign in.

— Enable professors to schedule sessions while specifying different characteristics.

— Enable students to search for sessions by subject and enroll.

— Enable professor to edit the details in regards to his information as well as for his sessions.

— Enable student to be put on waiting list and be notified when a spot is available.

— Enable student to pay in order to book a place in a session.

3 Project decomposition

The project is divided into two phases the first one is set to use the RMI as a way to communicate between the different sub-projects and the second phase using web services as channel of communication.

3.1 Project architecture :

3.1.1 Use case diagram

The use case diagram describes the different use cases for each actor in our project (professor, student ..) .

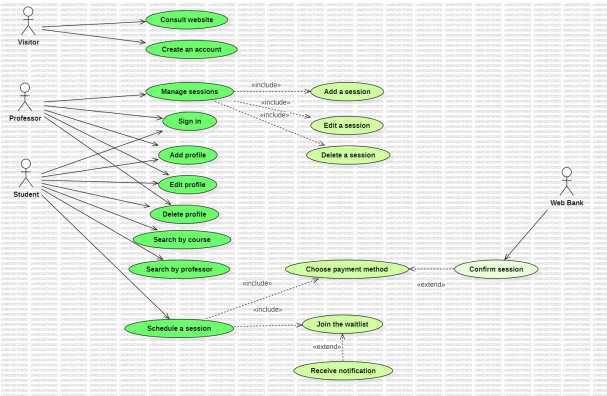


FIGURE 1 – use case Diagram

3.1.2 class diagram

The class diagram describes the classes that are present in our project, their features, methods and interactions between them.

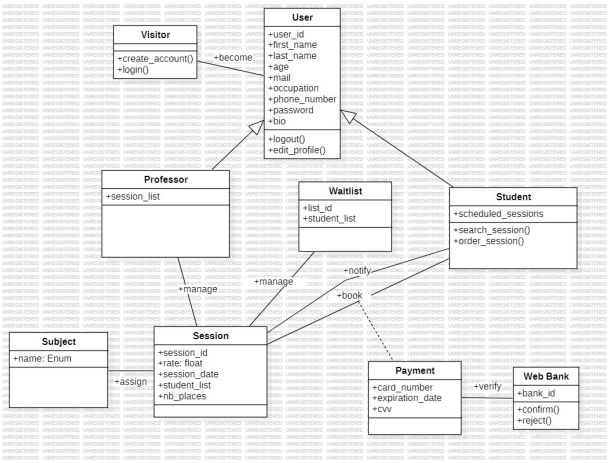


FIGURE 2 – class Diagram

3.1.3 Sub-project architecture

The project is distributed over three different sub projects each of which is on a different JVM . the communication between the professor sub project and the student sub project is established through the registry and with RMI as a communication channel . Furthermore, the communication between the bank sub project and the other subprojects is don't through web service as a channel .

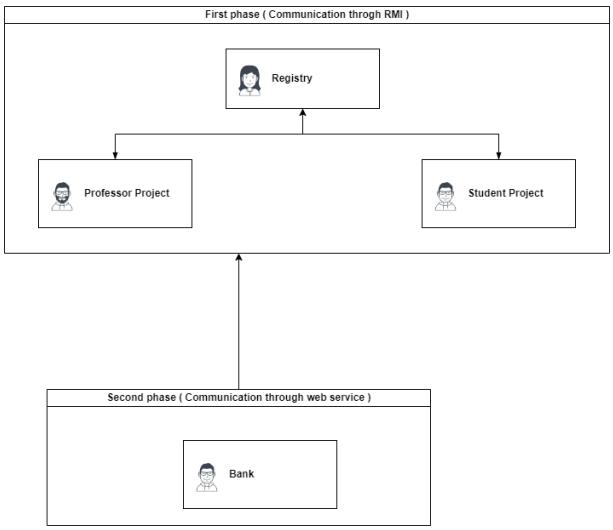


FIGURE 3 – project architecture Diagram

4 User manual /Minimal scenario

4.1 User Manual

we chose an intuitive and simple to use graphic interface with privileges according to the role of the user . Each user given his role will be given a specific interface and in consequence privileges.

4.2 minimal scenario

— Create an account as a professor .

— Log in as a professor

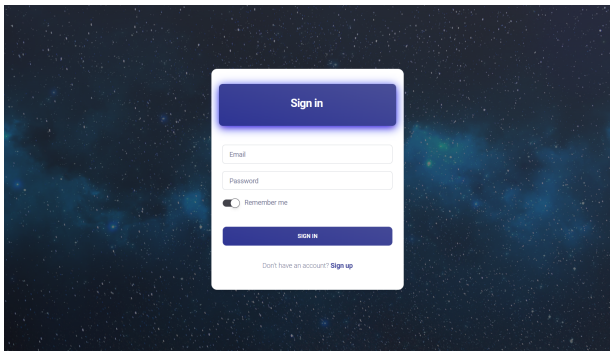


FIGURE 4 – login

— Edit personal information.

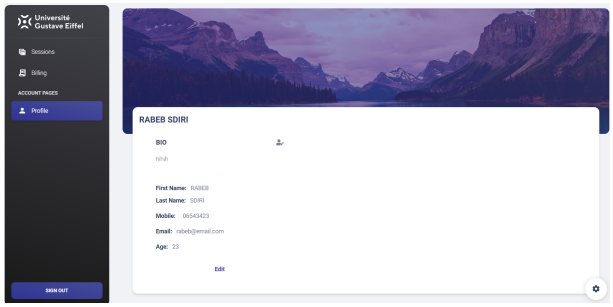


FIGURE 5 – edit profile

— Create sessions .

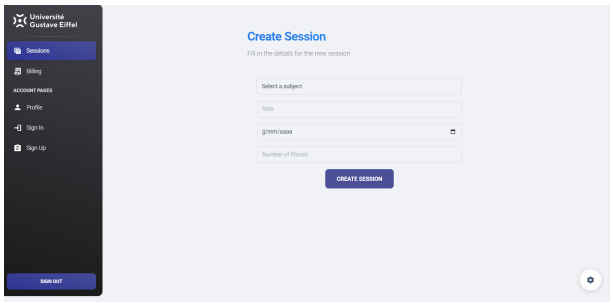


FIGURE 6 – create session

— Modify the details of a session

— Create an account as a professor .

— log out

— sign up as a student

— check the list of available sessions by subject

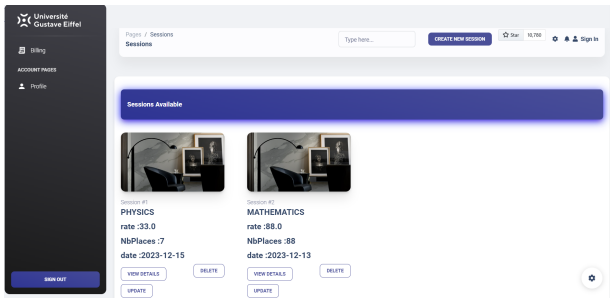


FIGURE 7 – Sessions

— book a session

— proceed with the payment

— book a session that is full and get put on a waiting list.

— modify the capacity as a professor and receive notification as student and then proceed with payment.

FIGURE 8 – dashboard

— log in as professor and check list of sessions and available spots and waiting lists

5 Challenges encountered

— Defining the requirements and boundaries of the project
— The choice of architecture of the project
— The choice of Tools and IDE best suitable for the job
— The choice of a Graphic interface and modifying to suit the specific use cases of the project
— Integrating different parts of the project and insuring communication

6 Tools

6.1 Intellij

IntelliJ IDEA is an integrated development environment written in Java for developing computer software written in Java, Kotlin, Groovy, and other JVM-based languages . We used Intellij as the main IDE for our project where we were able to link it to the sqllite database and our Github repository that way the development process was centered in one environment .

6.2 SQLlite

SQLite is a database engine written in the C programming language. It is not a standalone app ; rather, it is a library that software developers embed in their apps. As such, it belongs to the family of embedded databases. We used this type of database to store all the data generated by our application .

6.3 Github

is a platform and cloud-based service for software development and version control, allowing developers to store and manage their code . We used Github as a version control that allowed us to parallele and distribute tasks and facilitated merging the different versions and features .

7 Axes of improvemet

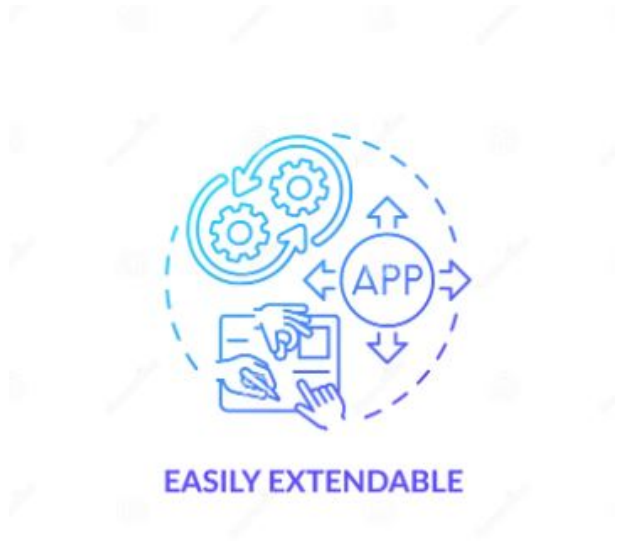
— Adding a space for courses of PDF or video format that teachers can upload for a subscription fee or free for students .

— Adding a newsletter that informs students whenever a professor adds a new session .

— Adding a space where live sessions can be made online for students who want to test the sessions before enrolling .

— Adding a dashboard for student and professors that enable them to follow their performance and other KPI .

— A dedicated forum where Student can exchange expertise and rate their professors .



8 Conclusion and Perspectives

The evolution of technology has allowed for breakthroughs in all aspects of human life .This has allowed for many needs to be fulfilled including those in the educational field where we hope that through our project all the parties involved can benefit. We hope with ever-evolving technologies that numerous features can be added and more impact can be made .