



ALEM

AN E-LEARNING PLATFORM

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Introduction

Alem is an E-learning platform where a user can subscribe to a course or teach a course.

In Alem you can learn new subjects related to science and you can teach the courses that you feel you are good at teaching. A user can get paid if he teaches a course, where other users can subscribe to a course for the pre-determined price from the user who uploaded the course.

Alem is great platform simple and easy to use.

THE REQUIREMENTS

An E-learning platform that enables the user to subscribe and learn new subjects related to science or teach courses and get paid.

The platform should meet these requirements

The platform should:

- Have a simple and easy to use interface.
- Keep the data of the users.
- Uploading new courses should be simple.
- The teacher for the course should be able to determine the cost of the course.
- The teacher should be able to divide the course into sections.
- The student should be able to buy a course.
- The student should be able to register in multiple courses.

USER SCENARIOS

The platform has multiple users.

A user can:

- A user should be able to sign-in and log-in
- Upload a course.
- Upload multiple courses.
- Buy a course.
- Buy multiple courses.
- View the registered courses.
- If a user bought a course, he should be able to watch the lectures of the course.

Now, we have seen what a user should be able to do let's look at some scenarios where the user interacts with the platform:

Scenario 1: A user wants to sign-in to the platform he will first open the website and will be directed to the home page in the home page the user will be able to go to the sign-in page by clicking on sign-in after the user has been directed to the sign-in page there will be some data that are required from the user (1) email address (2) password.

Scenario 2: The user wants to buy a course but he doesn't have an account. First he'll need to sign-up to the platform, where he will go to the home page and click on sign-in, he will be directed to the sign-in page, if the user has an account he will just have to enter his (1) email address (2) password, if not he should click on sign-up. On the sign-up page the user will be asked to enter his (1) first name (2) last name (3) email address (4) password. After the user has signed in or created an account now will be able to buy the desired course. From the navigation bar click on courses, there the user will be able to select a course, after the user has selected the course he will be able to buy the course by clicking on "buy course".

Scenario 3: A user wants to upload a course, after the user has registered, he will be able to create and upload a course to the platform from the menu choose Add course, after that he'll need to fill some data.

THE STRUCTURE OF ALEM

Alem consists of multiple parts that make it effective.

We have the front-end side and the back-end side, on the front-end we used html, css, bootstrap and javascript, on the back-end side we used MongoDB for the database and NodeJS to correlate between the front-end and the back-end.

The front-end

For the front-end we used html to structure the elements of the platform and we used css and bootstrap to give those elements the desired style and aesthetics, bootstrap was also used to make the platform compatible for smartphone screen. We also used JavaScript to control the elements and update them.

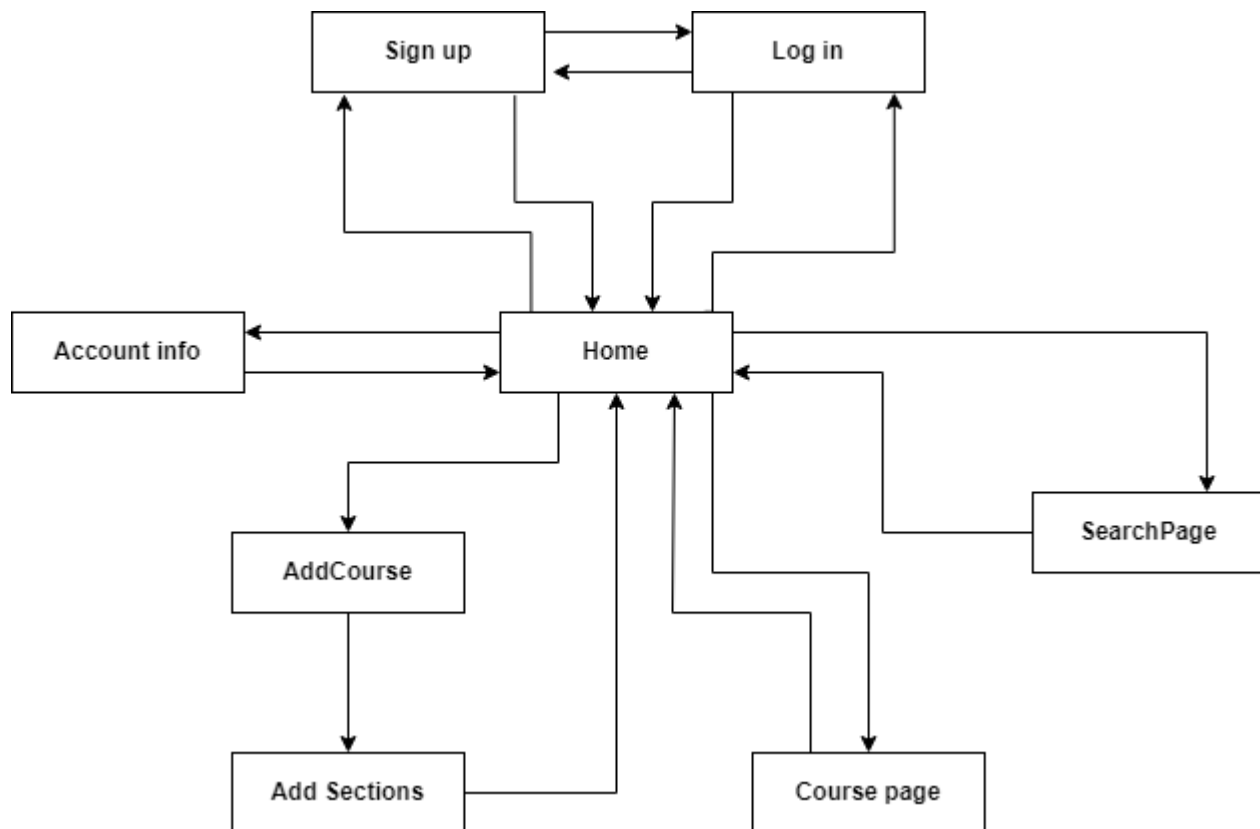


Figure1. Mapping of the Alem website.

The back-end

On the back-end side we used MongoDB as a DBMS and we used Nodejs to correlate between the front-end and back-end, we designed and managed the data base using mongoose library.

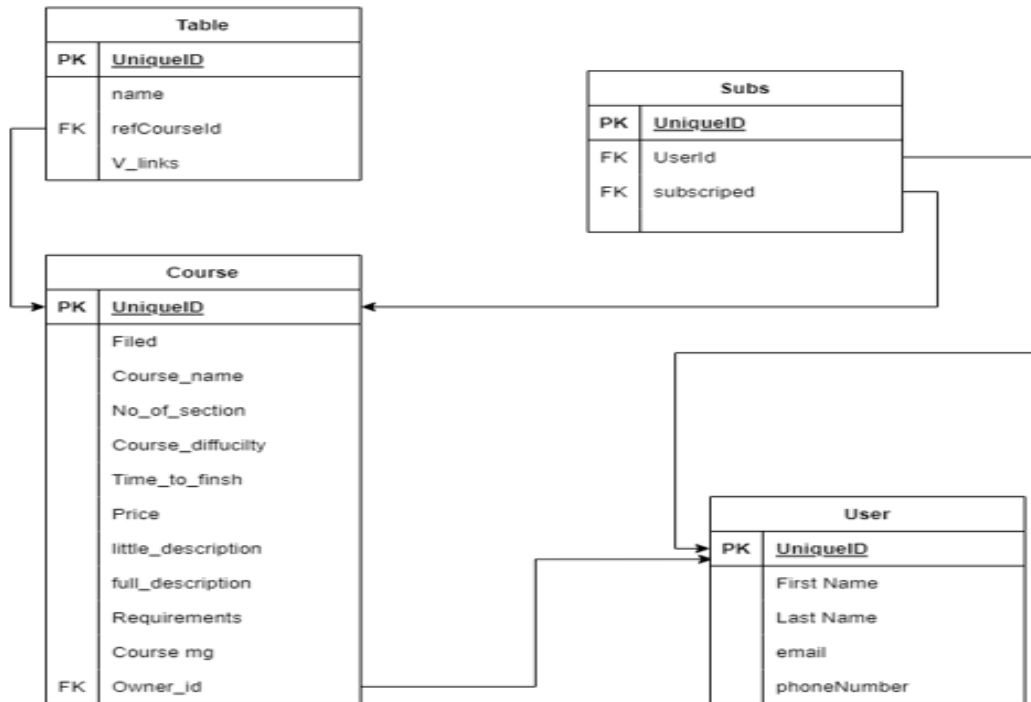


Figure2. This schema shows the mapping of the database

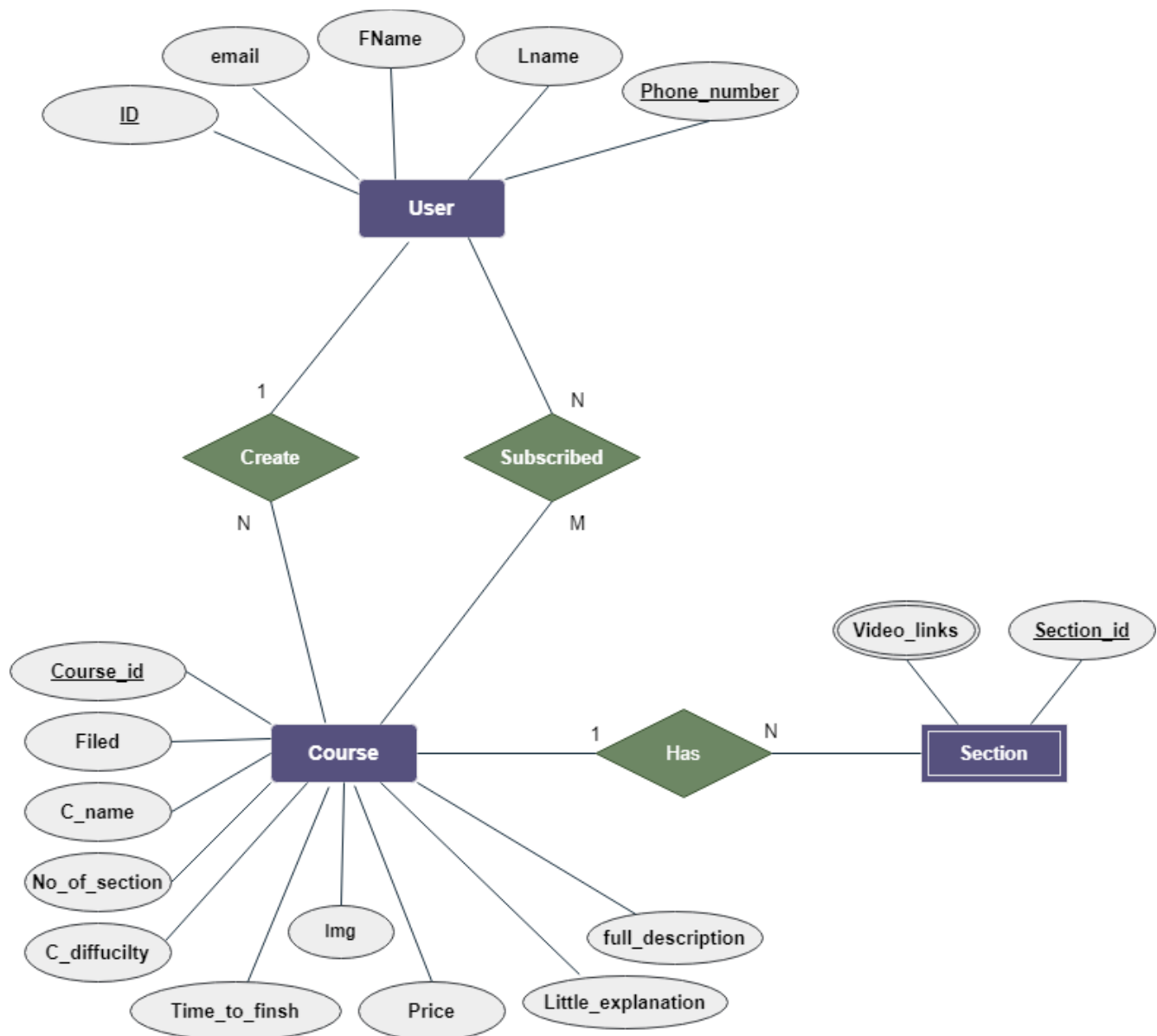


Figure3. ER diagram shows the structure of the database.

TOOLS

The tools that we used for developing the website were:

- Visual studio code (as an IDE).
- Chrome browser for debugging and viewing the results.
- MongoDB compass for the database as a DBMS and to view the database.

CHALLENGES

1. there was and problems with CSS and images we solved using `express.static` function.
2. `req.body` wasn't working properly, we used `bodyparser` package.
3. after the user logged in he will be directed to the home page, the problem was that the courses he subscribed to or created weren't showing up. we solved this proble by sending the user id in the URL to the database and then it brings the courses to the home page.

THE FUTURE OF ALEM

To get started right away, just tap any placeholder text (such as this) and start typing to replace it with your own.

Want to insert a picture from your files or add a shape, text box, or table? You got it! On the Insert tab of the ribbon, just tap the option you need.

Find even more easy-to-use tools on the Insert tab, such as to add a hyperlink or insert a comment.