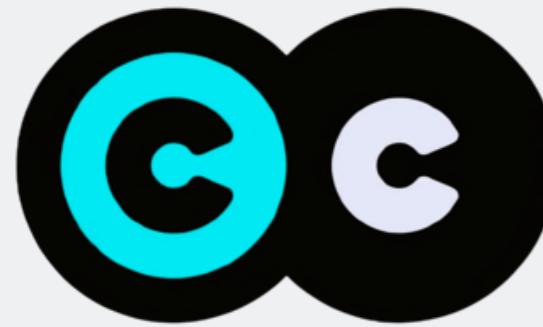




Index.html



← → Q www.ClassCloud.com



ClassCloud Graduation Project

Ameer Jamal & Ahmad Dalala Group 6

Princess Sumaya University for Technology
Supervised By: Abdullah Refai'



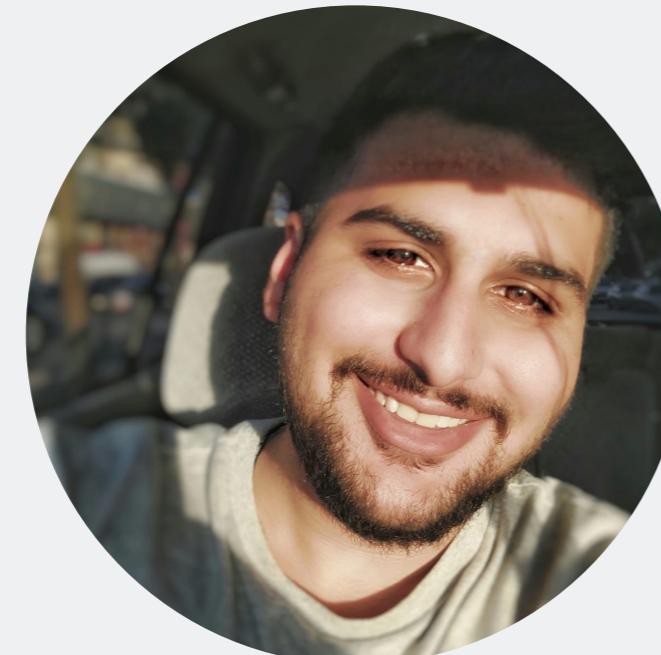
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Team Members



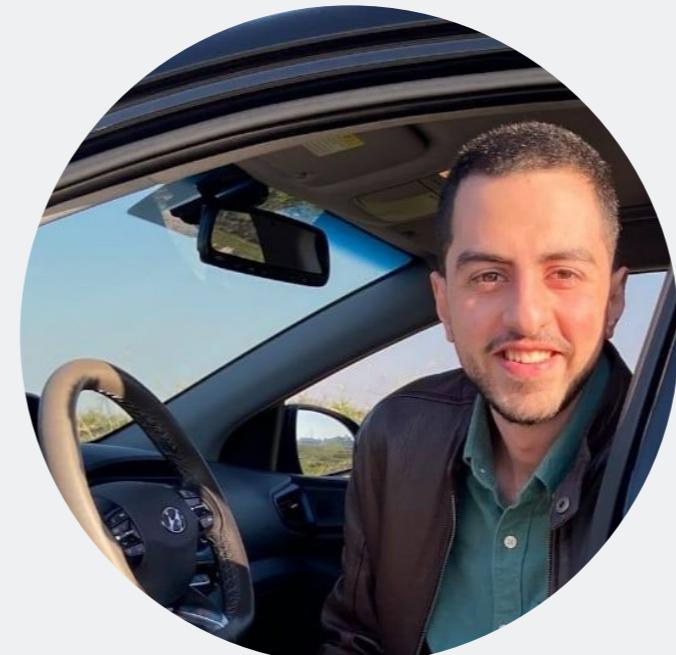
← → Q Q Team Members

Group 6



Ameer Jamal

Team Leader and
Developer



Ahmad Dalala

Software Engineer
and developer

[index](#)[Team
Members](#)[Introduction](#)[X](#)[+](#)[← → Q](#) [Q](#) What is ClassCloud

Introduction

General Overview

ClassCloud is a revolutionary website, that gives power to parents and students throughout Jordan, by allowing students to study progressively and parents to interact with them seamlessly.

ClassCloud focuses on giving students the opportunity to educate and test themselves in a single domain, without the need for exterior distractions.

In hopes of increasing the educational standard and giving parents and students an easy way of studying together.



[index](#)[Team
Members](#)[Introduction](#)[X](#)[+](#)[← → Q](#) [What does ClassCloud Solve](#)

Introduction

Real World Problem

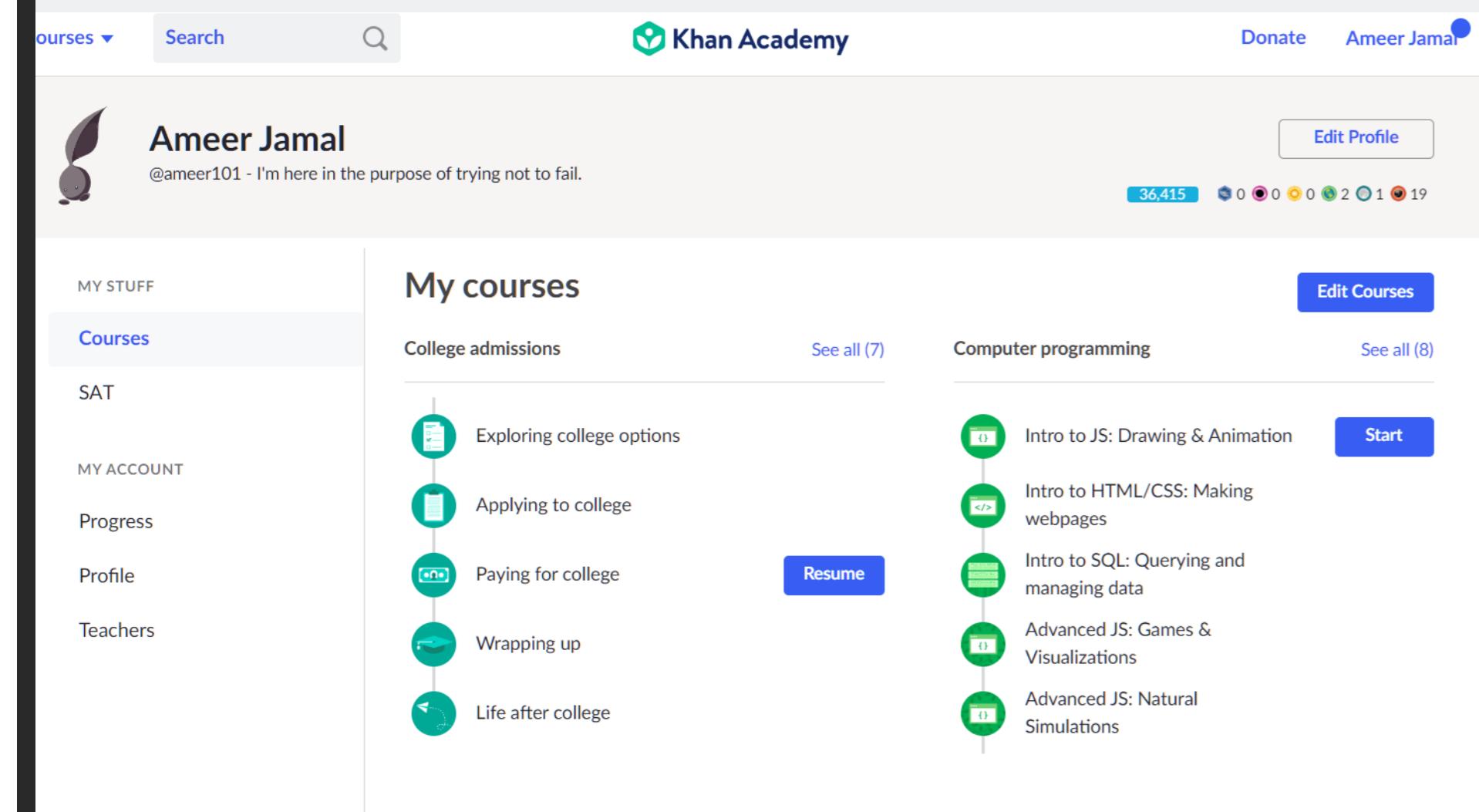
- Parents struggle to understand their children's weak points, and where their children's academic level.
- after the covid pandemic caused the education system to shift online, parents struggle with what the academic needs of their children are
- young students don't know how to structure themselves, how to test themselves, and how to progress in their studies.

ClassClouds Solution

- What we are building can help solve that problem and help children learn how to self-study
- in a structured way that can nail results.
- This can ease stress loads off both children and parents trying to figure out where their struggles are quick.
- Imagine a child not having to constantly have to search for the information he needs to study or having to constantly ask for help in each little topic, or having to figure out how to structure themselves by themselves and instead have it all in a step-by-step single-page website.
- Moreover, imagine a working parent being able to easily monitor, track and understand their child's weak points and strengths by not having to waste time going to their child's school going from teacher to teacher to trying to understand

[Title Page](#)[Team
Members](#)[Introduction](#)[Literature Review](#)[← →](#) [Q](#) [What inspired us](#)

Literature Review



A screenshot of a Khan Academy user profile for 'Ameer Jamal'. The profile shows 36,415 total hours spent, with a progress bar indicating completion of 0% of 19 courses. The 'Edit Profile' and 'Edit Courses' buttons are visible. The 'My courses' section lists 'College admissions' (7 items) and 'Computer programming' (8 items). The 'College admissions' section includes 'Exploring college options', 'Applying to college', 'Paying for college', 'Wrapping up', and 'Life after college'. The 'Computer programming' section includes 'Intro to JS: Drawing & Animation', 'Intro to HTML/CSS: Making webpages', 'Intro to SQL: Querying and managing data', 'Advanced JS: Games & Visualizations', and 'Advanced JS: Natural Simulations'. The sidebar on the left shows 'MY STUFF' with 'Courses' selected, and 'SAT' and 'MY ACCOUNT' sections for 'Progress', 'Profile', and 'Teachers'.

The Ideas that inspired us

The online education revolution inspired ClassCloud after the Covid-19 pandemic, we noticed that sites like khan academy or Duolingo and university elearning platforms have gained tons of traction.

But for Jordanian students, we found a lack of regional educational platforms that provide general education, especially for the younger demographic.

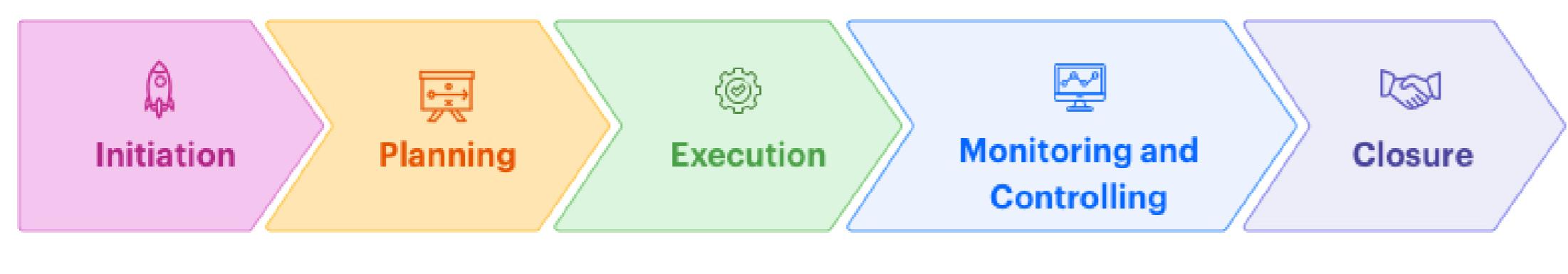
ClassCloud was also inspired by how fitness applications have videos explaining exercises and then ways to input or record your data for these exercises, which lead to the idea of video and quiz simultaneous education.



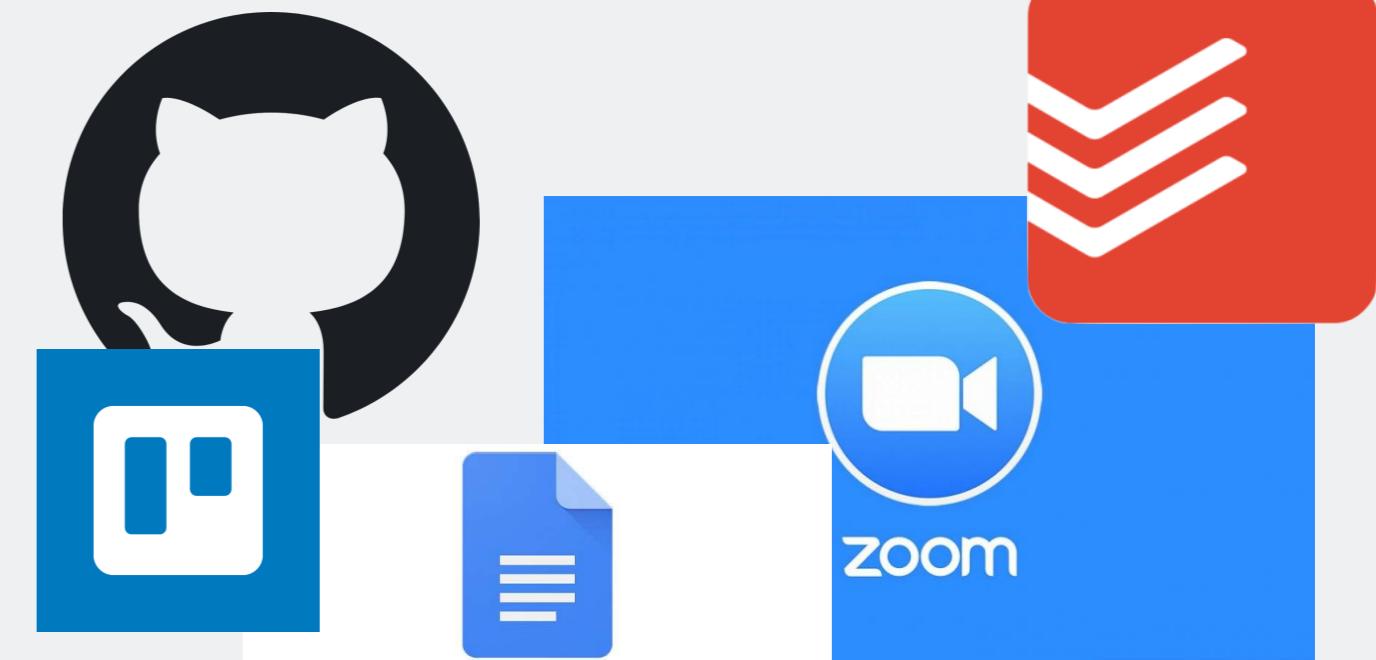
← → Q Projects Need Management

Project Management

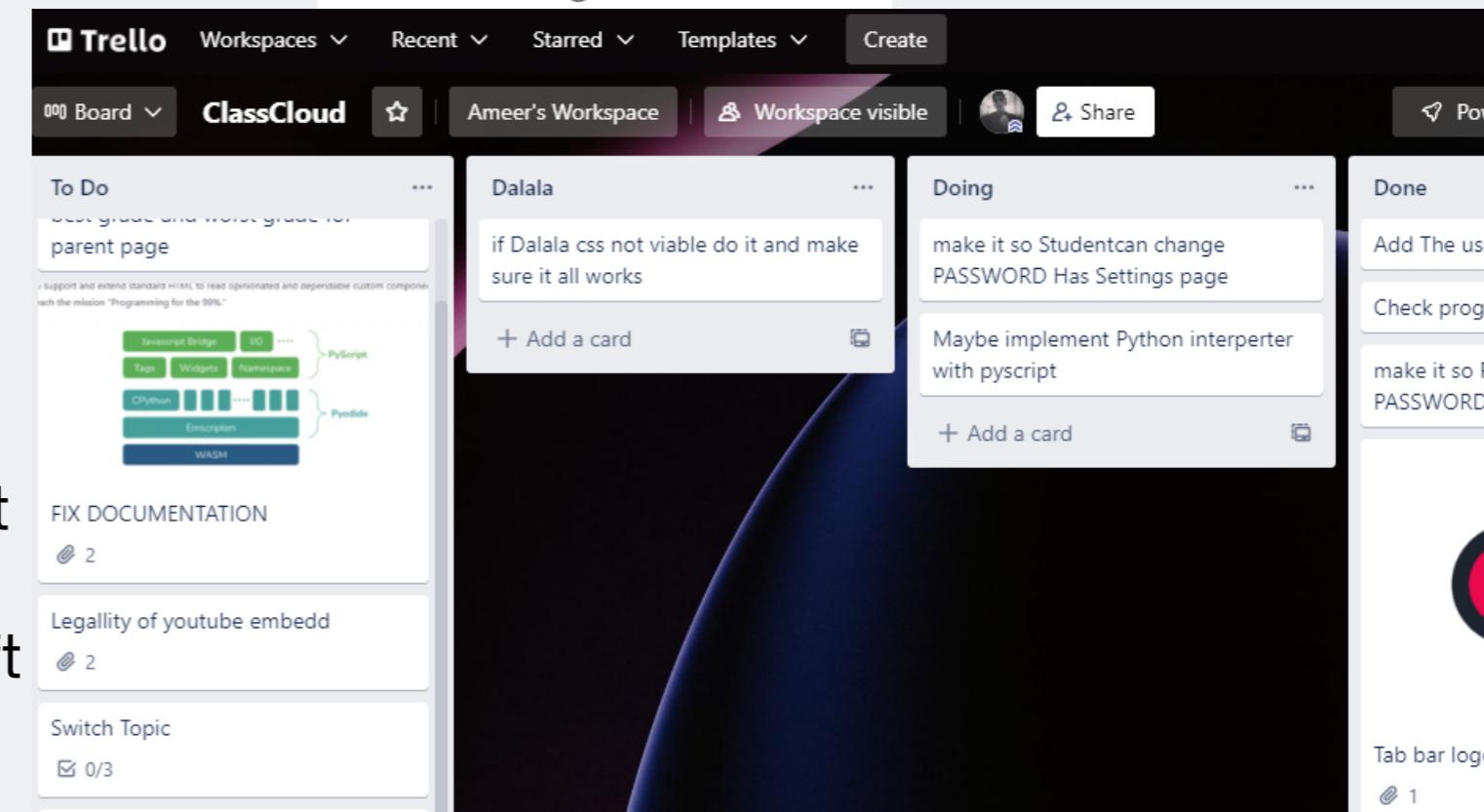
What we used to manage our project and how



- Our idea was in project management was to be able to plan and split the work that needs to be executed as quickly as possible
- As a team of two with an incremental software development lifecycle, we have used various software to divide our increments and work on it as much in parallel as possible to avoid overhang time.
- Trello proved to be an amazing way to interact and progress with our work as it provides images, links, notes, checkboxes,etc in a board-like structure for us to interact with and understand what needs to be prioritized and what is still left to do
- google docs and zoom allowed us to work simultaneously and see each other's progress while staying at home, giving us more time to work.



Google Docs





← → Q Incremental Software Development

The beauty of the incremental approach



Increment 1

Home page and login +
signup pages



Increment 2

Student Functionality and
pages



Increment 3

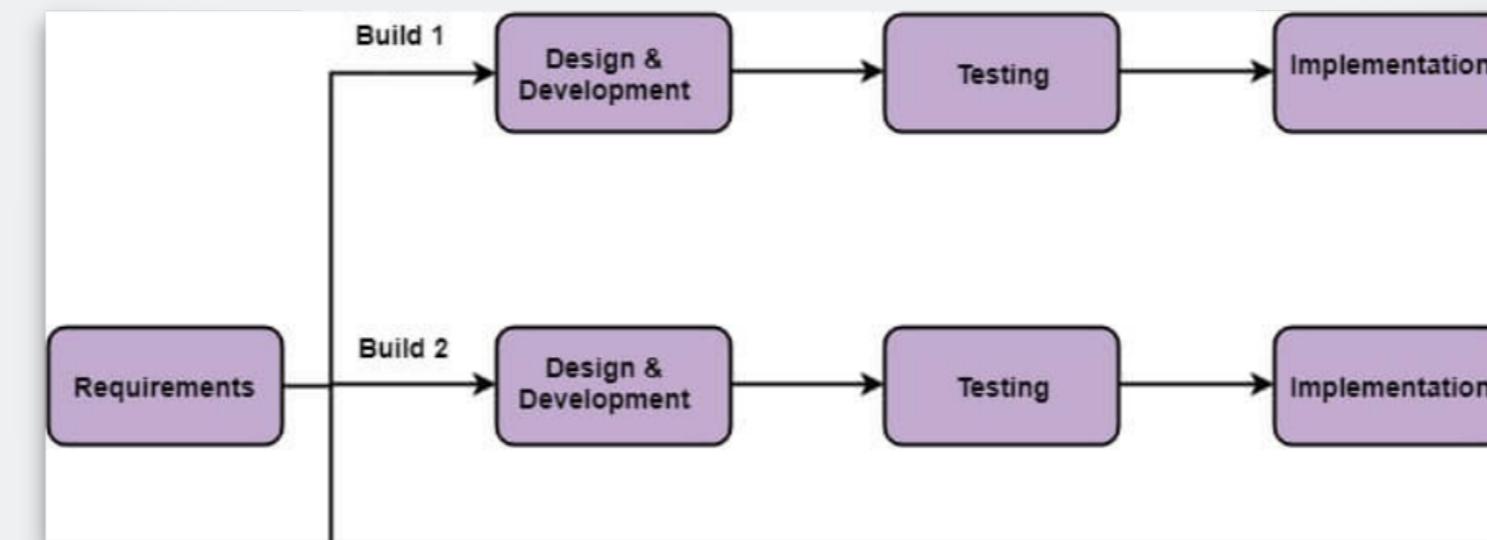
Parent functionality and
Pages



Increment 4

Admin control and
functionality

The incremental Model: is a process of software development where requirements are divided into multiple standalone modules. In this model, each increment goes through the requirements, design, implementation, and testing phases. which allowed us to efficiently split the tasks between each other and work in parallel without overlapping work. The process continued until the complete system was achieved.



[Title Page](#)[Proprietors](#)[Introduction](#)[Literature Review](#)[Methodology](#)[Incremental](#)[X](#) [+](#)[←](#) [→](#) [Q](#) Incremental Software Development

CLASS CLOUD

INCREMENTS

INCREMENT 1

Front end

- Home Page
- Login page
- Signup Page for both parent and student
- choose between parent or student

Backend

- Make tables available for use
- have signup page input data to tables
- make sure login page reads data and authorizes account

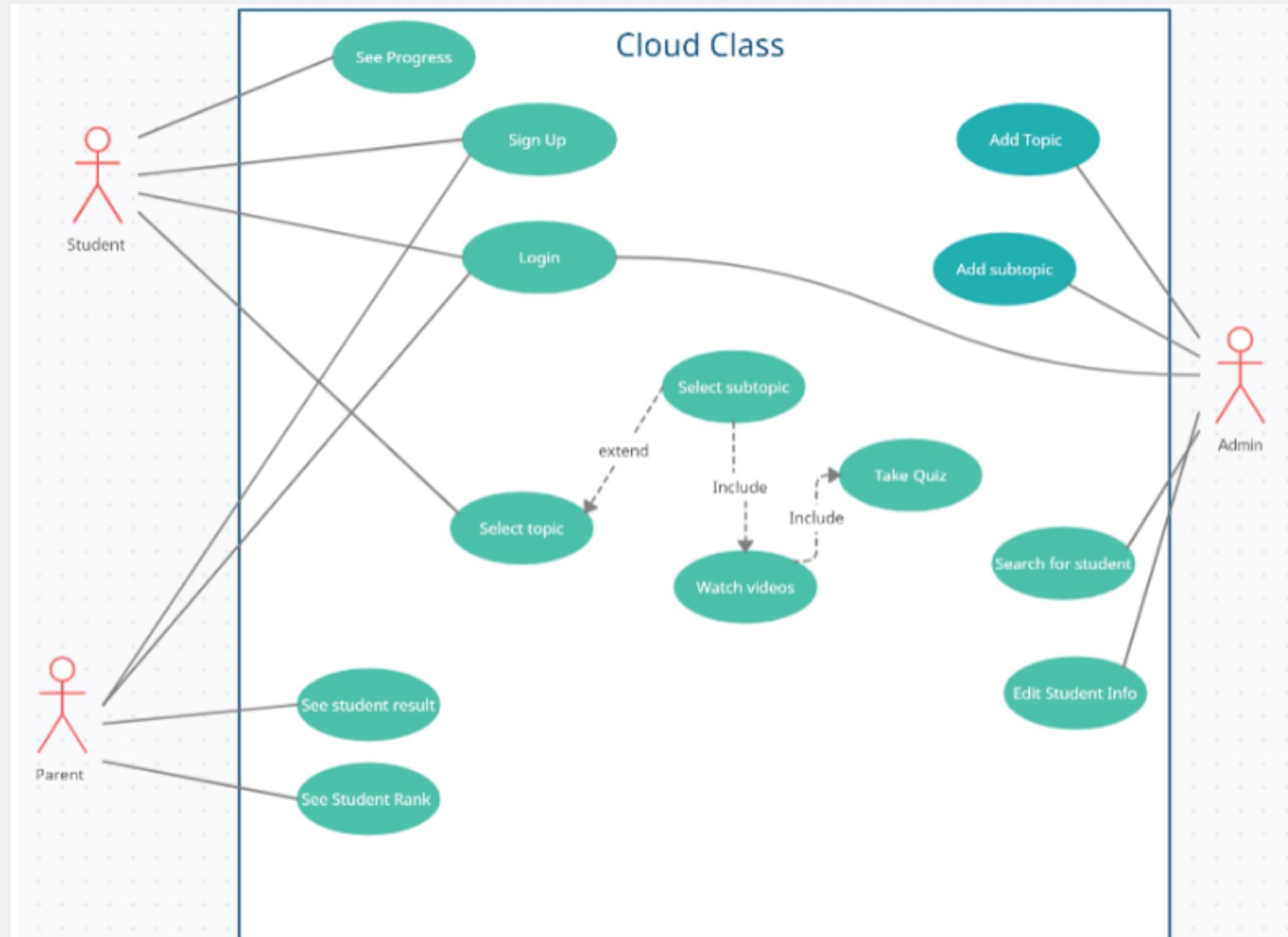
Other

- Work out color scheme
- work out which database to use
- see which requirements need changing



← → Q Q What we need and expect

Requirements and features



We split the requirements into actor based

Students: need to watch videos take quizzes and review their score

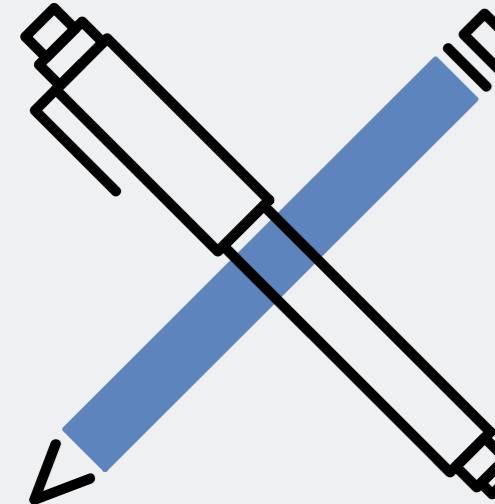
Parents: To keep up with their child's progress and make sure their child is studying

admin: Needs to have full control of the database

Mutually: need to be able to understand the website from the homepage, login signup have settings control account



← → Q How we got our information



Requirement Methodology

Survey Research

We conducted a survey that was sent out across multiple universities to prove the need

Friends and Family

We asked our close friends and family for information on what they would like to see in an elearning platform

Research and Related Ideas

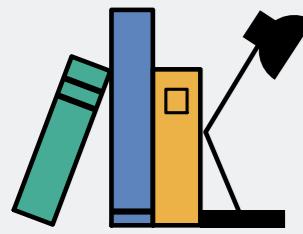
Through browsing the web and personal experience with sites like khan academy and Udemy and even fitness apps we were able to identify many requirements

Our own vision

With This information and brainstorming techniques we were able to build a solid foundation for our user requirements



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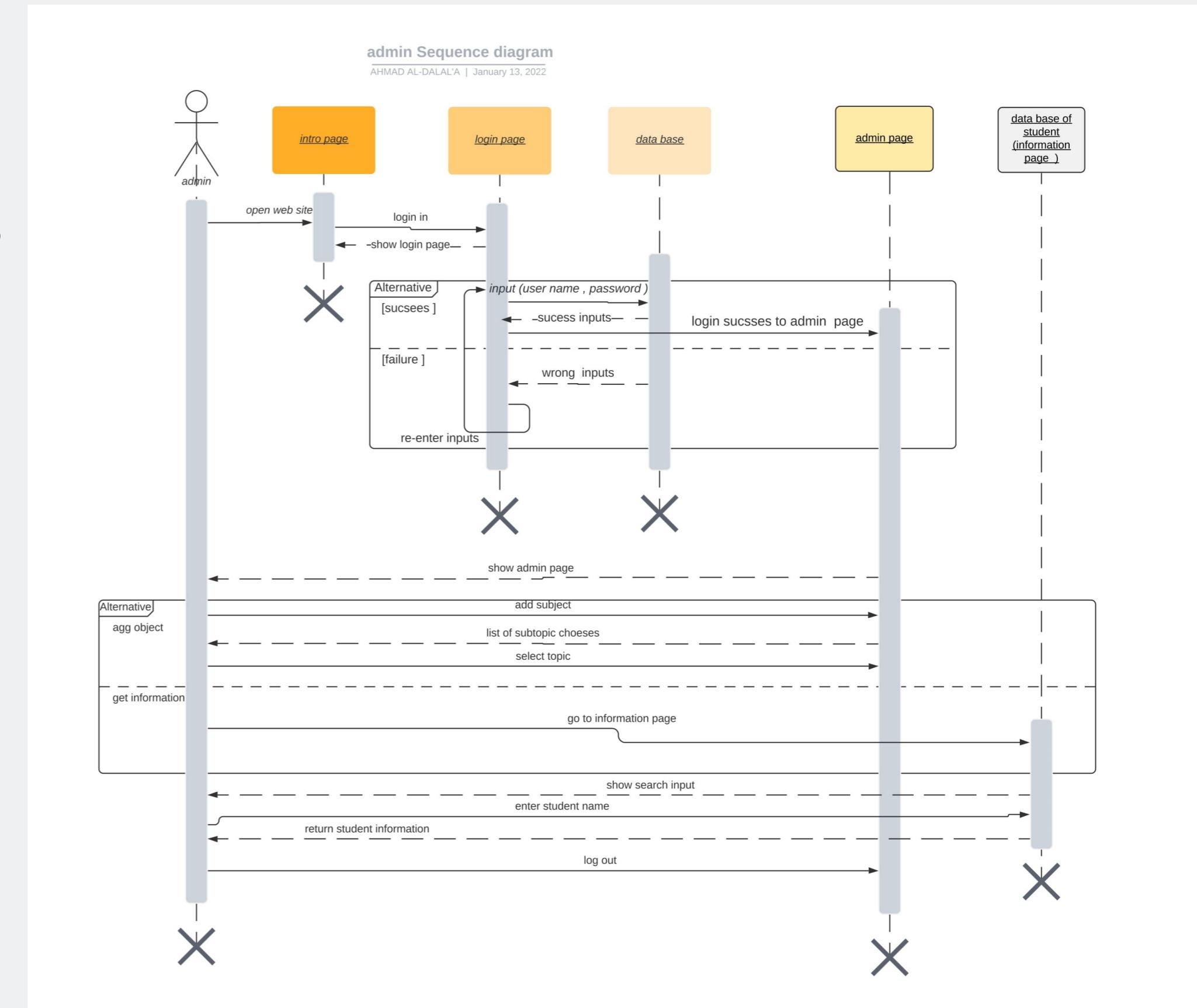


Design

For the design process, we used a series of diagrams like

- multiple sequence diagrams
- an ERD diagram
- a page structure expectation breakdown
- Activity diagrams

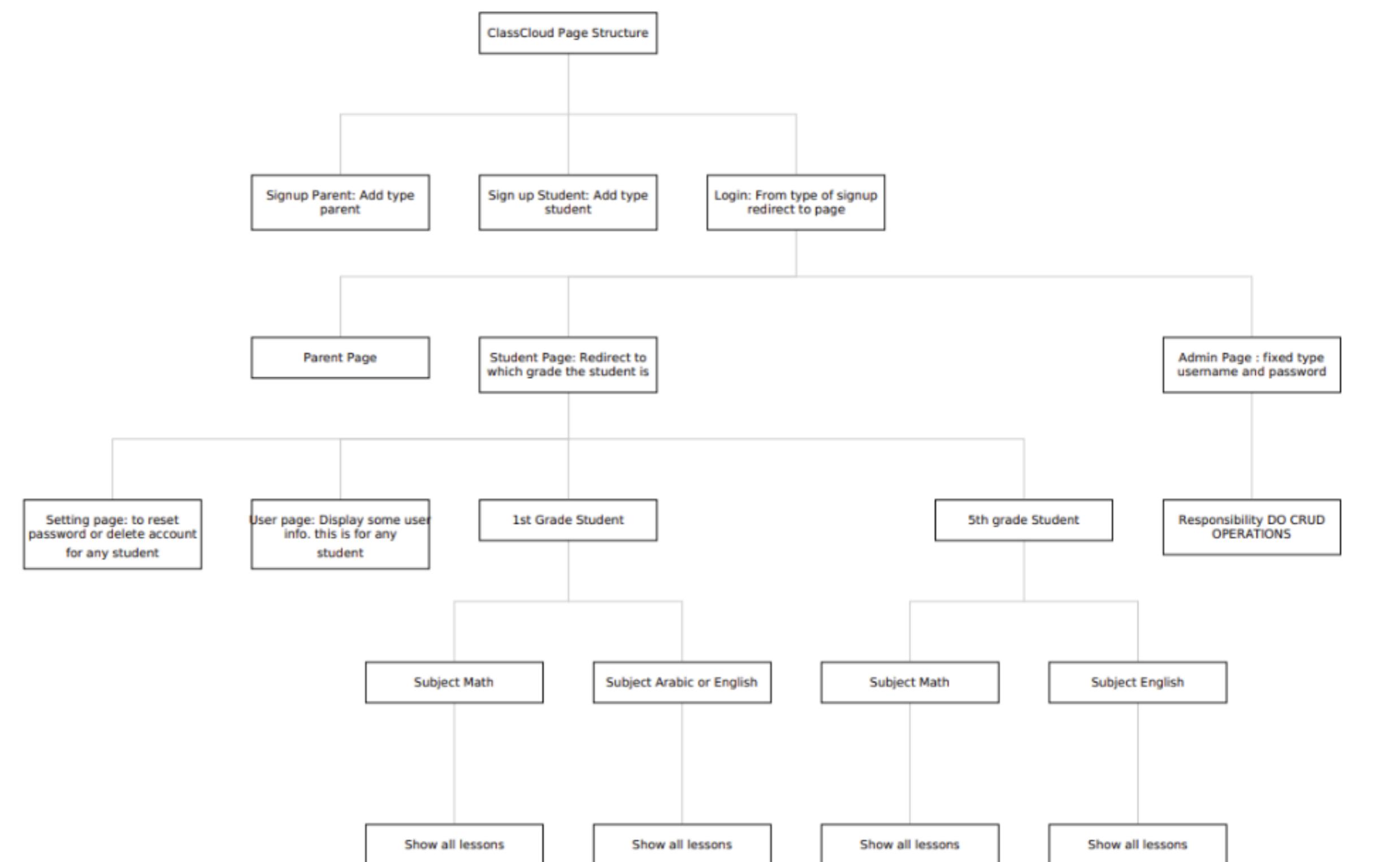
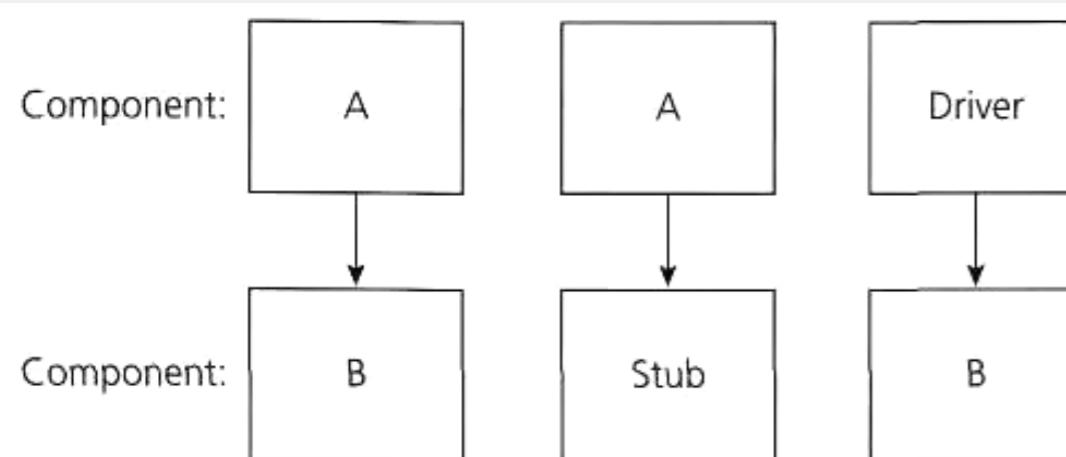
on the right, we can see a snippet of these diagrams which helped us create our website, this is a sequence diagram for the admin page describing how the admin will go through a sequence of events to perform the necessary tasks



[Index](#)[The team](#)[Introduction](#)[Litereture review](#)[Methodology](#)[PM](#)[Features](#)[Design](#)[X](#) [+](#)

← → Q Insert your topic here

The page breakdown structure shows us the way the pages will lead into each other and the expected amount of pages to be made, we can also combine this with our knowledge of our incremental breakdown for which pages need to have drivers or stubs for testing purposes



[Index](#)[The Team](#)[Introduction](#)[Literature Review](#)[Methodology](#)[PM](#)[Features](#)[Implementation](#)[X](#) [+](#)

← → Q Insert your topic here

Software Development Technologies used

- **Github** for the ability to work together quickly and efficiently seeing changes made and merged and pulled and pushed
- **Ajax** for asynchronous updating of the database and timing student's time studying
- **Pyscript** A brand new library (2022) that combines python with javascript allowing the use of a real-time interpreter on-page to teach students programming
- **jquery** for the sending and receiving of data using ajax
- **CSS**: for all the page styling
- **PHP**: for all the database inputs and outputs
- **HTML** for markup and as a base for our website also used Emmet for quick insert of HTML elements with classes/ids etc...
- **Mysql** for manipulation of database

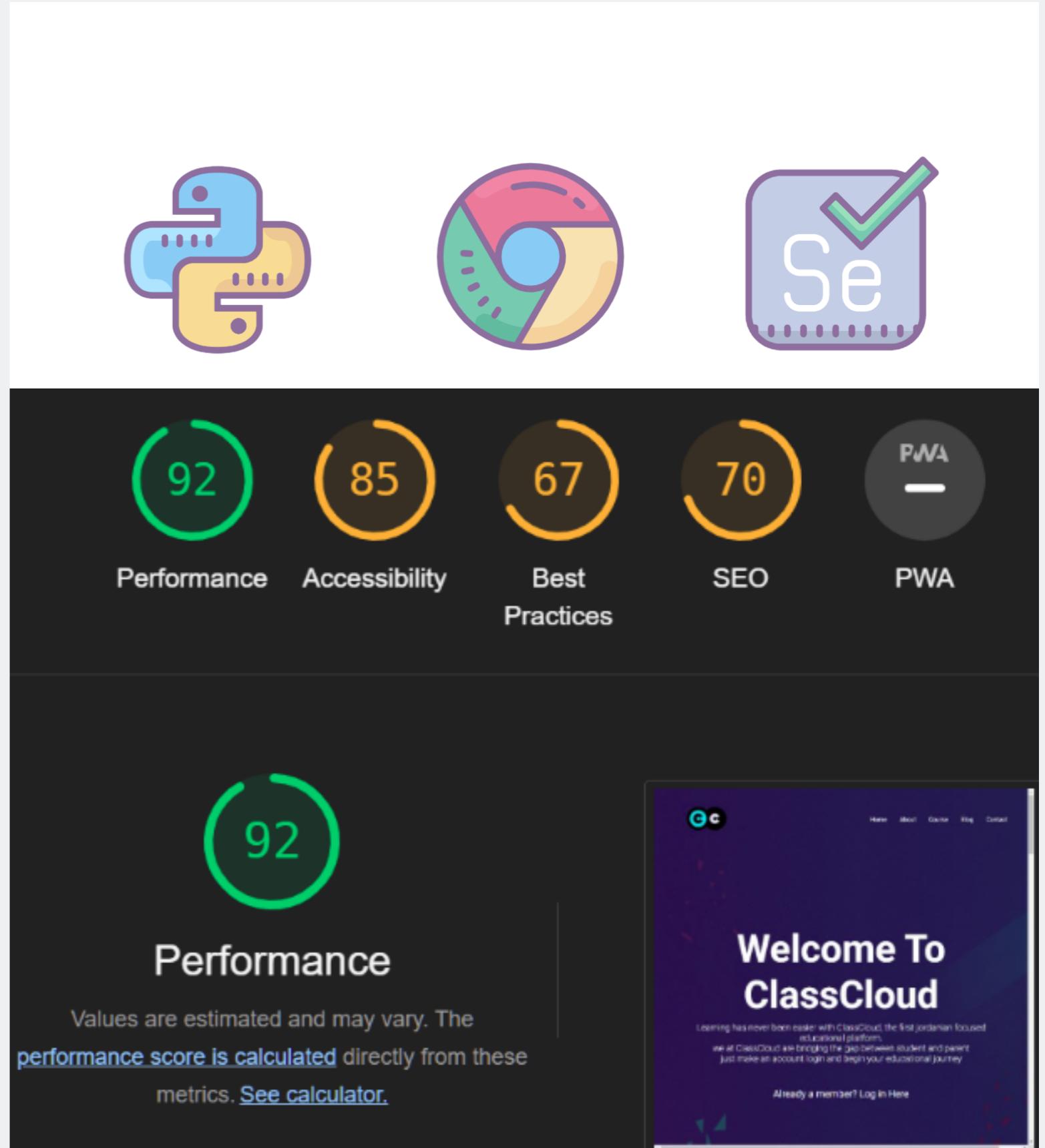
- **Trello** for project management purposes
- Pure **Javascript** for dom-manipulation and the making of functions that add interactivity to the website
- various libraries like **font-awesome** and **bootstrap** to add certain styling elements like Icons for the quiz pages
- **Python** with libraries like **Selenium** for testing purposes
- **Google Lighthouse** for testing purposes
- Various **VS extensions** for quick development and coding productivity
- **CSS Gridbox** and **Flexbox** for proper displaying of subjects and the sidebar
- **REGEX** or regular expressions for validation purposes
- **USBWebServer** for hosting purposes

[Index](#)[The Team](#)[Introduction](#)[Literature Review](#)[Methodology](#)[PM](#)[Features](#)[Testing](#)[X](#) [+](#)

← → Q Insert your topic here

Testing

- Testing was done in multiple ways:
- BlackBox testing by going through our website for every increment we completed
- Unit testing for our functions like the timing function in the student page
- Selenium automated testing for a powerful way of inputting data into our log-in or signup pages to see if we get any errors and if the validation is working and for quick account test data input
- Beta testing by allowing our friends and family to try the website and give us their notes
- Google Lighthouse for Performance testing which gave us an indication of nonfunctional requirements
- Data Testing which includes null testing, boundary testing, and bad testing



[Index](#)[The Team](#)[Introduction](#)[Literature Review](#)[Methodology](#)[PM](#)[Features](#)[Future Work](#)[X](#) [+](#)

← → Q Insert your topic here

Future Work and Requirement Implementation

The main reason for some requirements not being able to be done in time

- **Underestimation of how long each increment should take**
- **time constraints being changed** because of us having to **start training** earlier than expected
- **Smaller size of our team as this was a project meant to be done by three developers** in graduation project one that later became a two people job in graduation project two
- **one-third of the team no longer working on the project, 1/3rd of the work was split on two** we have applied and combined all our possible hours to get as much done as possible and provide an experience to the best of our ability with a high focus on testing and attention to detail, making sure the things we did do work well.

Future Work

- Parent Page displaying ranking between students
- Parent Page seeing best and worst grade for students for subjects
- Completing subject list for student subjects
- Make more quizzes for student page
- An IOS and Android application for the entirety of the website
- Giving a list of references
- Making Achievement's for students
- Forget password system