Learnium

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Capstone Project- Web and Mobile Application Design and Development

Langara College

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www.Learnium.app

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1 About Learnium

Identify the Opportunity

Application Features

Industry Research

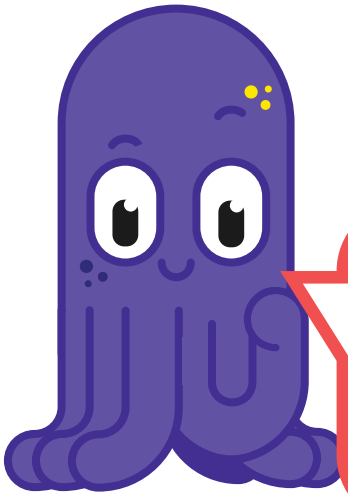
Identify the Opportunity

In today's fast-paced world, the demand for efficient and effective learning solutions is higher than ever before. Traditional passive learning methods, such as reading books or watching videos, often lead to suboptimal understanding and retention of knowledge. Learners are seeking interactive and technology-driven approaches to enhance their learning experiences. "Learnium" aims to bridge this gap by providing a versatile platform that leverages technology to revolutionize the learning process.

Pain Point

"Passive learning" is the dominant way of learning new topics for most people, whether it's by reading a book, watching a video, or listening to a podcast. The problem is that it doesn't result in the best understanding of the topic and the learner cannot memorize key information.

Better results can be achieved through **"Interactive learning"** where learners have opportunities to practice the knowledge with quizzes or flashcards, see their progress and areas of improvement, and customize and research for further content. But this approach is a real hard work.



Learnium is an AI-Powered mobile app in edTech industry. Learnium simplifies the learning process by transforming textbooks into interactive content, provides a dynamic learning schedule, and keeps learners engaged in practice and tests by rewarding their progress.

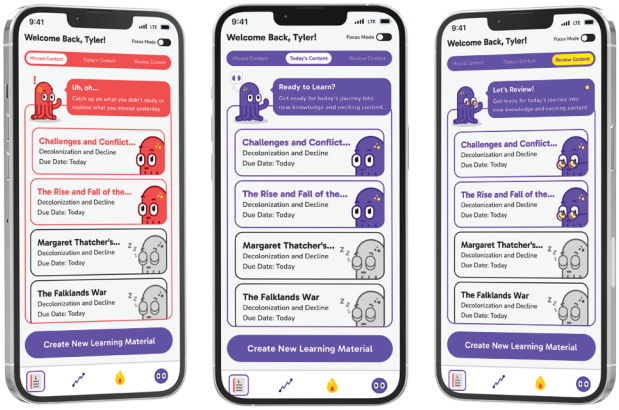
Application Features

Interactive Content

Creating interactive content in Learnium is simple. It's possible through uploading PDF, pasting text from other sources, taking photo of the book pages and using Optical Character Recognition (OCR) technology to turn photo into text. Learnium scans through imported material and generates the key topics that user needs to practice in each learning session. **Key topics are building blocks of a course** and include three specific modules; **quiz**, **flashcards** and **summary**.

Leveraging Generative AI, Learnium analyses content that is provided to the app and then creates key topics, and then generates relevant quiz questions, flashcards, and summaries, based on key topics. These tools align with the content, ensuring accuracy and relevance, and integrate to create a "Structured Learning Material".

To benefit from the power of writing in the memorizing process, learners can write the answer on the flashcard and receive a rough result about how accurate their answer is. This feature makes flashcards even more interactive.

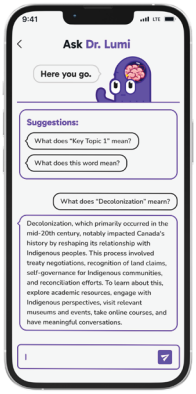


Dynamic Study Planner

Learnium tailors study sessions to user's learning preferences and upcoming exam dates. The study plan is responsive to the learner's progress and quiz results and covers everything that the learner needs to practice to achieve a certain result. While Fixed schedules don't adapt to individual needs. This feature solves this problem by dynamically adjusting schedules based on content, exam date, and quiz performance, reducing overwhelm or boredom.

Progress Tracker

Tracking progress is critical for personalized learning and improvement. Learnium uses the results of the quizzes to show which areas learners did well and which areas need improvement. This feature also keeps track of the learning progress in specific courses and key topics. The app focuses on how well learner performs on quizzes and allows them to take more quizzes on the topics to reach a certain competency level.

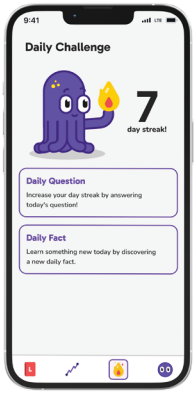


AI Assistant

AI Assistant is a chat bot called Dr.Lumi which searches for the answers only through the imported material to ensure reliability. Whenever the learner has questions or needs clarification on the coursework, Dr.Lumi provides detailed and insightful answers, often accompanied by clarifying examples, allowing the learner to grasp complex concepts with ease.

Daily Challenge

Learnium's daily challenge feature serves a dual purpose for learners. Not only does it help them maintain knowledge retention, but it also brings them back to the app consistently, even when they're not actively learning. In other words, it transforms their free moments into opportunities for productive learning.



Security Features

Security is a top priority for Learnium, as it involves handling user data, personal information, and educational content. The application is designed with multiple layers of security to ensure the privacy, integrity, and confidentiality of user data. Our Key Security Measures are:

User Authentication

Learnium employs Firebase Authentication, a secure and trusted authentication mechanism. Users' login credentials are encrypted and stored securely. Multi-factor authentication options are available to enhance account security.

Data Encryption

All data transmitted between the app and the cloud servers is encrypted using industry-standard encryption protocols (HTTPS). This ensures that user data remains confidential during transmission. Firebase Real time Database and Firebase Storage data is stored in an encrypted format, safeguarding user content and progress.

Access Control

User data access is strictly controlled based on roles and permissions. Firebase's built-in access management tools help limit access to authorized users only.

Secure Storage

User-generated content, such as notes, summaries, and quiz results, is stored securely in Firebase Storage with limited access. This prevents unauthorized access to user-generated data.

AI Integration Security

When integrating with external AI services like OpenAI and LangChain, Learnium follows best practices for secure API communication. API keys and authentication tokens are stored securely.

Data Backups

Regular data backups are performed to prevent data loss due to unexpected events. Firebase's backup and restore functionality ensures data resilience.

Privacy Compliance

Learnium adheres to data privacy regulations, including GDPR and CCPA, to protect user privacy and provide transparency regarding data collection and usage.

Cloud Feature

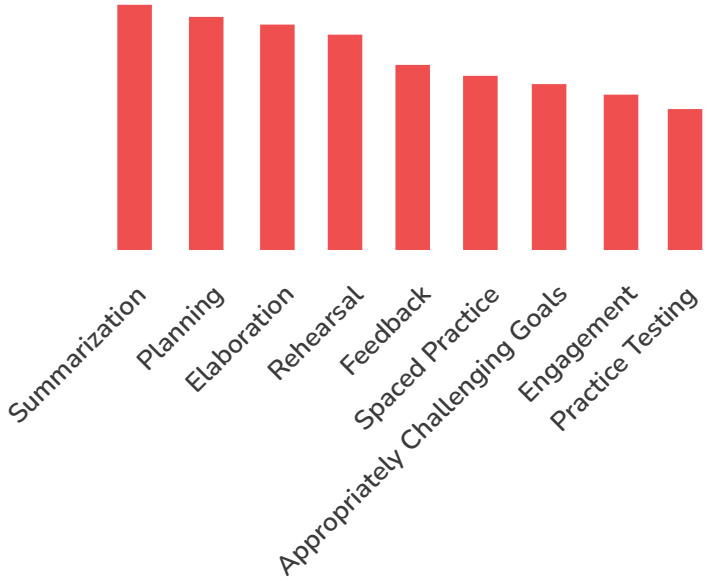
User's data such as their progress, note, quiz, schedule will be stored not only on local devices but also on cloud storage so users can continue their experience across devices. That data will be protected with up-to-date security standards for privacy purposes.

Focus Mode

It temporarily silences notifications, adjusts screen settings for optimal readability, and provides a distraction-free environment for deep learning.

Industry Research

In an extensive research involving 300 million students around the world, Professor John Hattie of the University of Melbourne has evaluated 252 variables and their effect sizes related to student achievement. Hattie was curious about which variables would have the biggest impact. ”Although almost everything we do improves learning, why not prioritize the ones that will have the greatest effect?” Hattie calculated a score or effect size for each according to its impact on the students’ learning and took into account any aspects that could be taken into account as regards implementation costs.



In this list, around half of the variables have Potential to accelerate or considerably accelerate student achievement. We have been focusing on nine of these variables in our project, which we combined with user interviews result to come up with the application’s features.

Project Viability

The traditional education and learning landscape are evolving rapidly. With the rise of e-Learning platforms, on-demand content, and remote education, there’s a growing need for innovative solutions that cater to the diverse learning preferences of users.

Technology Integration

Today’s learners are tech-savvy and prefer digital solutions that adapt to their needs. The integration of generative AI, OCR technology, and cloud-based learning tools is a compelling proposition for modern learners seeking more interactive and personalized learning experiences.

Efficiency

Technology enables the automation of time-consuming tasks like content summarization, quiz generation, and study schedule creation. This automation enhances learning efficiency, allowing users to cover more material in less time.

Personalization

The Progress Tracking and Responsive Study Planner features provide personalized learning paths. Users can identify their strengths and weaknesses, focus on challenging topics, and receive tailored recommendations for improvement.

Competitive Analysis

While there are existing e-Learning platforms and tools, “Learnium” differentiates itself through its unique combination of features:

AI-Powered Content Generation

Few competitors offer AI-generated quizzes, flashcards, and summaries from user-uploaded content.

Structured Learning Material

Learnium identifies key topics in an imported material and based on that creates learning sessions for the user. This feature brings a school-like structure to the learning experience and simplifies acquiring process and is unique to Learnium.

Dynamic Study Plan

Learnium tailors study sessions to user’s learning preferences and upcoming exam dates. The study plan is responsive to the learner’s progress and quizzes results and covers everything that learner needs to practice for achieving a certain result. This feature is unique to Learnium as well.

AI assistant

AI Assistant is a chat bot which searches for the answers only through the imported material to ensure reliability. Whenever the learner has questions or needs clarification on the coursework, the AI Assistant provides detailed and insightful answers, often accompanied by clarifying examples, allowing user to grasp complex concepts with ease. Among the existing applications, only Learnium offers this feature

Focus mode

It temporarily silences notifications, adjusts screen settings for optimal readability, and provides a distraction-free environment for deep learning. Only Learnium offers this feature to maximize the learning efficiency.

Progress Tracker

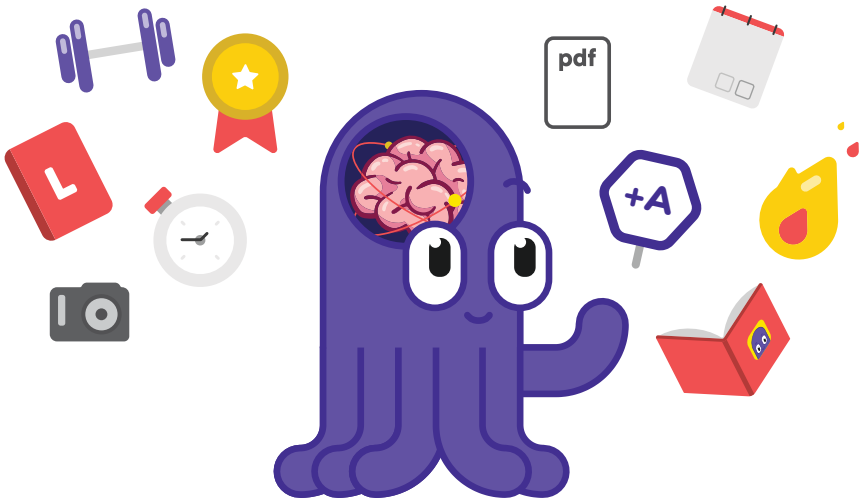
Learnium uses the results of the quizzes to show which areas user did well and which areas need improvement. It also keeps a track of the learning progress in specific courses and key topics. Other existing applications also provide this feature in different forms.

Motivation Factor

We designed Learnium to be an engaging and motivational application. Learnium’s mascot, Dr.Lumi, appears on different screens with relevant and motivational messages to encourage learners to strive for better results. Daily challenge is another feature that is designed to keep learners engaged in learning, even when they’re not actively studying. All other competitor have a method to keep the users engaged.

By embracing cutting-edge technology and addressing the evolving demands of today’s learners, “Learnium” aims to offer a more engaging, efficient, and inclusive learning solution. The project’s viability lies in its ability to tap into the changing educational landscape and provide a unique, technology-driven approach to active learning.

	Learnium	Quizizz	Quizlet	Kahoot
AI-Powered Content Generation	✓	✗	✓	✗
Structured Learning Content	✓	✗	✗	✗
AI Assistant	✓	✗	✗	✗
Progress Tracker	✓	✓	✓	✓
Responsive Study Planner	✓	✗	✗	✗
Motivation Factor	✓	✓	✓	✓
Focus mode	✓	✗	✗	✗



2 Technology & Timeline

Tech Stack

Project Timeline

Tech Stack

Design

We utilized Figma to create user flow, wireframe, mockup, and design system. To design the logo, icons, illustration, and marketing assets we used Adobe Illustrator and Photoshop. Adobe After Effects and Premiere Pro were used to produce components' interaction, logo animation, and application teasers. The proposal and other printed collaterals were created using Adobe InDesign.

Development

Our mobile app is developed employing a versatile array of technologies. React Native, in conjunction with Expo, significantly facilitated the development process, providing a robust platform for enhanced efficiency. Front-end components were meticulously styled using Vanilla CSS, and for seamless transitions, the implementation of Reanimated was pivotal. On the back-end, we adopted Node.js with Express to proficiently manage logic and API endpoints.

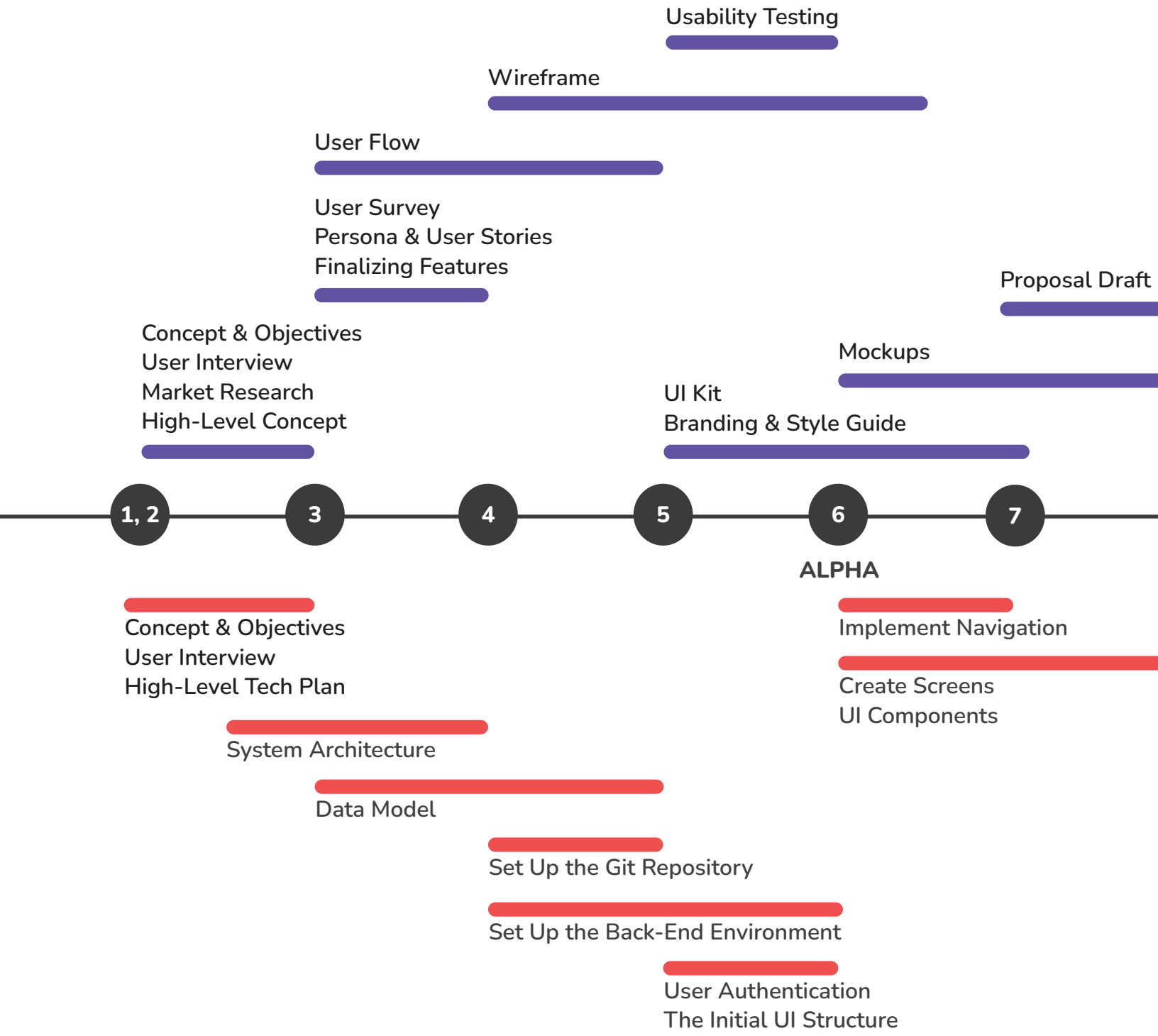
Data storage constituted a crucial component of our architecture, and we opted for MongoDB as our preferred NoSQL database solution, ensuring adaptability and scalability for effective data management and processing.

Incorporating auxiliary technologies, we integrated third-party libraries for visualization and data processing. Notably, the inclusion of OpenAI library and Langchain, alongside a vector database, empowered us to handle and train a proprietary model based on user-uploaded data.

Project Management

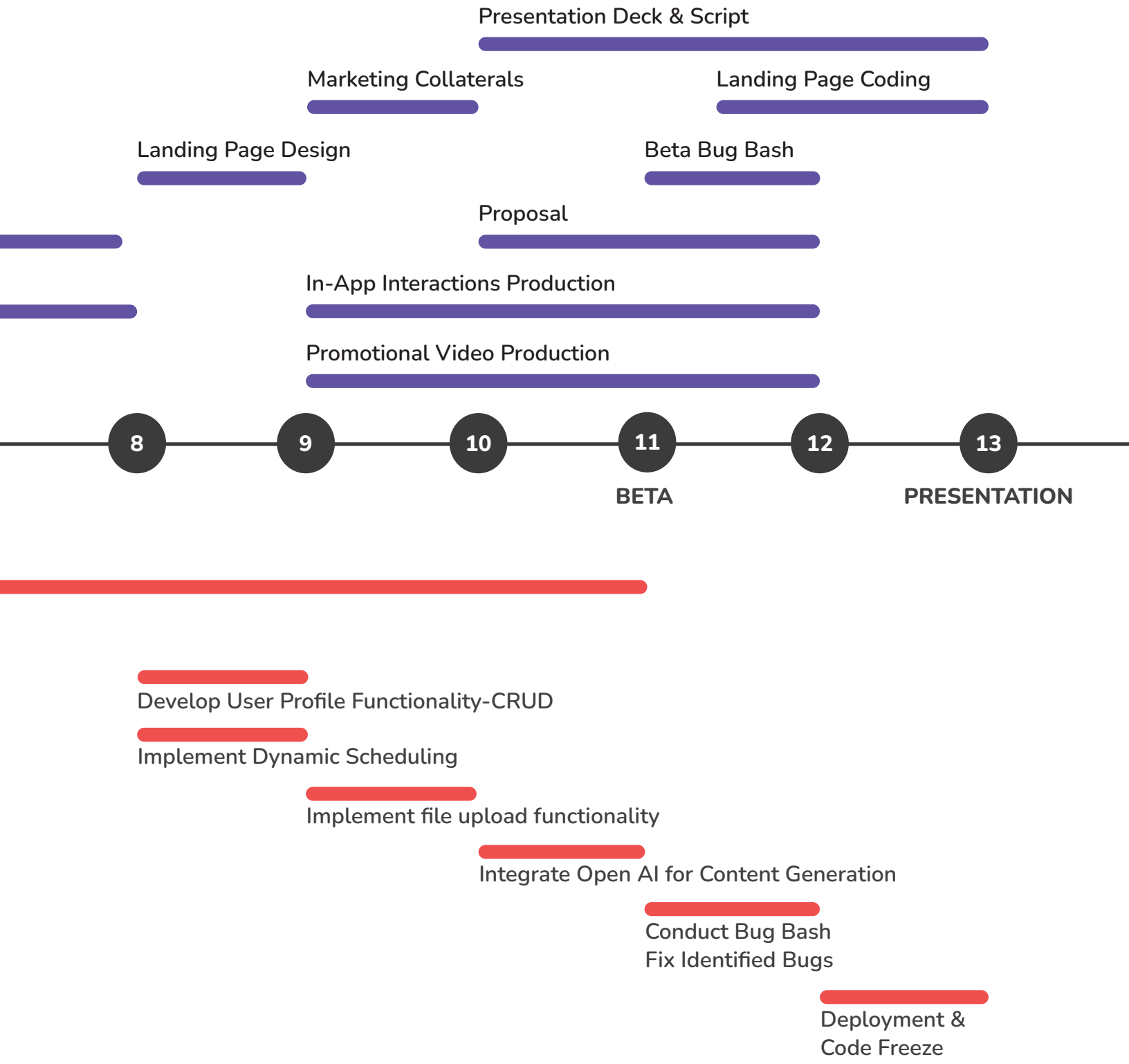
Our development workflow is fortified by robust tools. GitHub serves as our version control repository, ensuring seamless collaboration. Slack facilitates efficient communication among team members, while Jira meticulously oversees project management. This comprehensive tech stack underscores our commitment to leveraging the latest and most effective solutions throughout the app development lifecycle.

Project Timeline



Development Timeline (Weekly Sprints)

Design Timeline (Weekly Sprints)



3 Design Process

User Research

Identify Persona

User Flow

Wireframe

Mockup

Style Guide

UI Kit

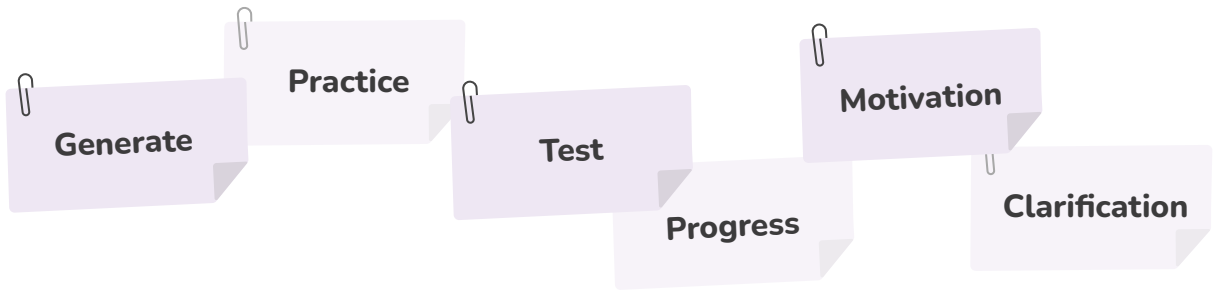
User Research

User Interview

To gather qualitative data about the users, we conducted a user interview process. Our main objective was to identify our user persona, their pain points, goals, and stories. We began with a pre-assumption of the user's demography and categorized the users into three main learner types: high-school students, college or university students, and professionals who are studying for a career shift or promotions. We designed the interview questions to gain a deep understanding of our users' needs, frustrations, and goals in the following areas:

- What are their frustrations when studying topics that require reading and memorizing?
- What method of studying works best for them?
- How do they keep engaged in learning a specific topic without getting bored and quitting?
- How do they ensure that they are competent after studying a topic?
- How do they prepare for an upcoming exam?
- What assistive methods do they use to learn more efficiently?

We conducted and recorded nine user interviews and analyzed the answers using the thematic method in which we reviewed the answers, summarized key points, categorized and clustered them to define themes. This helped us to identify the key pain points and goals of our users and led to defining user persona and main features that meet the needs of our users and address their pain points.



Survey

In another research, we designed a survey and gathered answers from 40 college and university students. The purpose of this survey was to modify the quiz feature where we asked the questions in the following areas:

- Frequency of taking quizzes or practice questions when preparing for exams
- The optimal number of questions in a preparing exam in the learning apps
- Relationship between the difficulty of the exam material and the number of questions in a quiz
- Types of regular academic tests(MCQ, Written, True/False, Other)
- Relationship between taking quizzes/practice sessions and competency

Research Persona

Thea

22 years old
Second-year college student majoring in History

I want a tool with interactive flashcards and quizzes as part of my study routine, so that I can practice and test my knowledge, identify areas that need further review, and improved my academic performance, effectively.

Tech familiarity: Thea is relatively tech-savvy, using smartphones, laptops, and web applications for her studies and communication.

Cultural Status: Thea comes from a middle-class background that values education, and she's culturally open to diverse perspectives.

Learning Environment: Thea studies on campus, often in quiet places like libraries or cafes, enjoys collaborative learning, and is comfortable with online and hybrid classes.

Learning Style: Thea prefers absorbing information through lectures and textbooks while taking notes and using visual aids to deepen her understanding.

Learning Goals: Thea's primary learning goals are improving her grades and enhancing time management skills to balance academics and hobbies.

Learning Challenges: Thea faces challenges in time management, a tendency to procrastinate, and improving her concentration in a quiet study environment.

Social Media: Instagram, Twitter, LinkedIn, Facebook

Core Needs:

Academic Success: Thea is determined to excel academically and maintain a high GPA to pursue a successful career in history or related fields.

Social Connection: Despite her busy schedule, Thea values her social life and the connections she's made with fellow students. She seeks a balance between academics and social activities for her mental and emotional well-being.

Career Aspirations: Thea is eager to make a meaningful contribution to the field of history and aspires to engage in research and teaching.

Time Management and Stress Reduction:

With a demanding academic load, Thea needs effective time management strategies and stress-reduction techniques to avoid burnout and stay motivated.

Ava

24 years old
Third-year bachelor's student majoring in Art History

I want a tool that summarizes my course books, so that I can practice the most important concepts easily and get prepared for exams. It would be great if it has an intelligent Q&A system that provides detailed and reliable answers to my questions.

Tech familiarity: Tech-savvy when it comes to learning content and uses different apps and websites to improve her learning process.

Cultural Status: A second-generation immigrant who likes to study her mother language to keep in touch with her cultural roots.

Learning Environment: Primarily studies in a quiet and organized home environment. However, she spends long time commuting to school or work and she prefers to study during this time.

Learning Style: Visual learner who prefers interactive and visually engaging content.

Learning Goals: Her short-term learning goal is maintaining a high GPA and her long-term goal is pursuing a career in art curation or museum management.

Learning Challenges: Time management due to packed academic and extracurricular schedule.

Social Media: Instagram, LinkedIn, YouTube

Core Needs:

Motivation: Ava requires a learning platform that inspires her to excel in her studies. Personalized progress tracking and achievement recognition are essential to keep her motivated and driven to succeed.

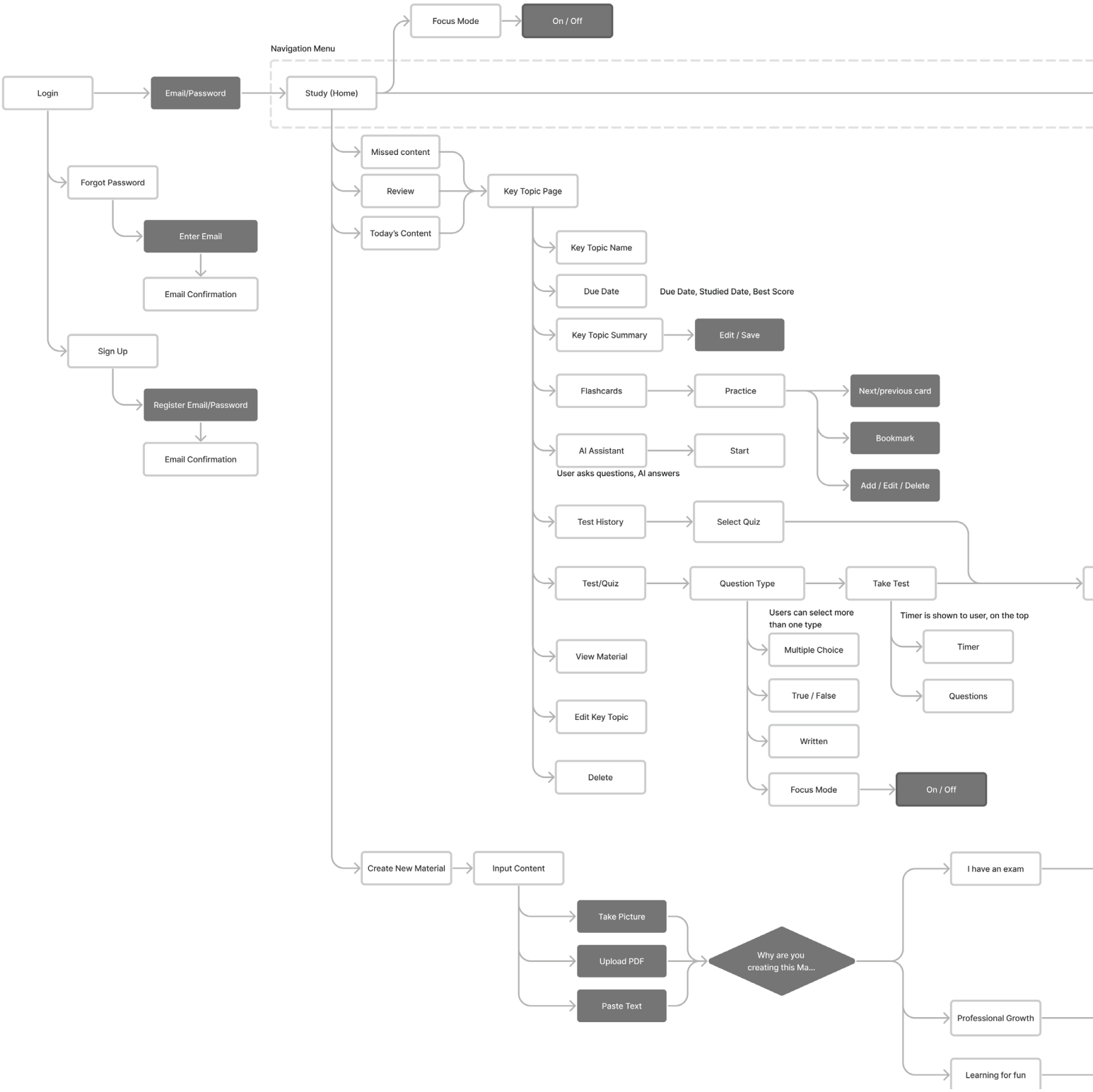
Focus: With a busy schedule balancing school coursework and online language classes, Ava needs a learning environment that helps her maintain focus. So, a distraction-free interface is crucial, as well as tools that allow her to manage her time effectively, set study goals, and track her progress.

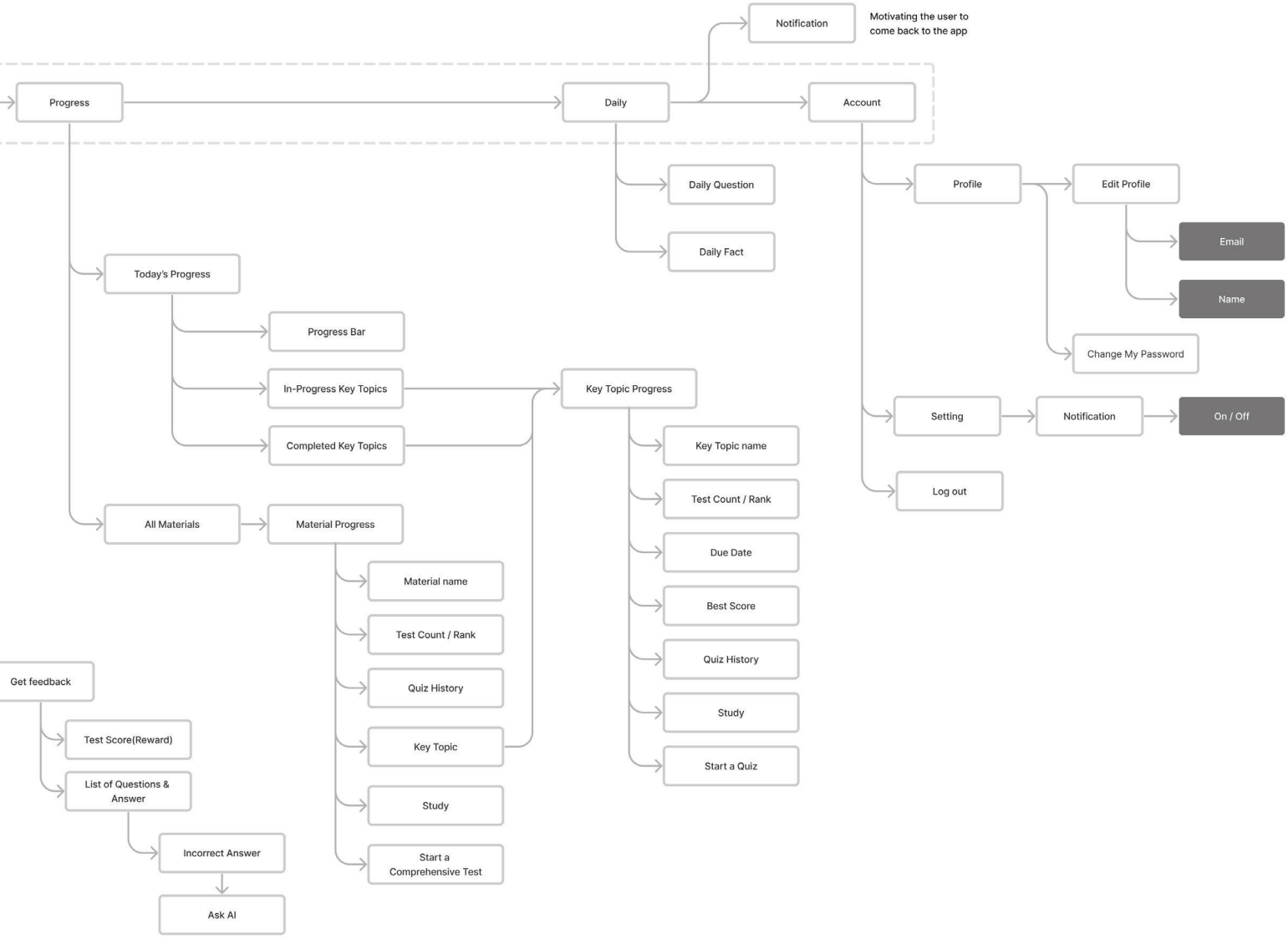
Reliable Source: Ava needs a learning platform that offers accurate content. This ensures she learns with confidence and avoids incorrect information.

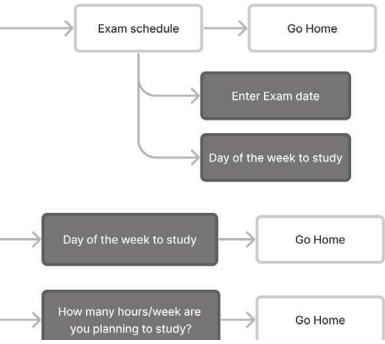
Tech-Assisted Learning: Ava is comfortable with digital tools. She looks for features such as interactive lessons, multimedia resources, and adaptive learning experiences that help her grasp concepts efficiently.

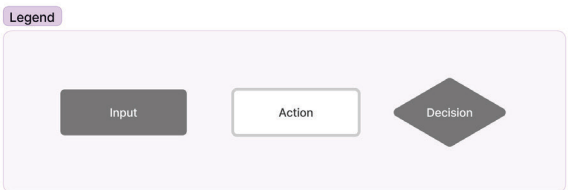
Clarification: Ava needs a platform that clarifies complex concepts and resembles an instructor in her learning process.

User Flow


Focus Mode
On / Off
Navigation Menu
Login
Email/Password
Study (Home)
Missed content
Review
Today's Content
Key Topic Page
Forgot Password
Enter Email
Email Confirmation
Sign Up
Register Email/Password
Email Confirmation
Key Topic Name
Due Date
Due Date, Studied Date, Best Score
Key Topic Summary
Edit / Save
Flashcards
Practice
Next/previous card
Bookmark
Add / Edit / Delete
AI Assistant
Start
User asks questions, AI answers
Test History
Select Quiz
Test/Quiz
Question Type
Take Test
Users can select more than one type
Timer is shown to user, on the top
Multiple Choice
Timer
Questions
True / False
Written
Focus Mode
On / Off
View Material
Edit Key Topic
Delete
Create New Material
Input Content
Take Picture
Upload PDF
Paste Text
Why are you creating this Ma...
I have an exam
Professional Growth
Learning for fun


Notification
Motivating the user to come back to the app
Progress
Daily
Account
Daily Question
Daily Fact
Profile
Edit Profile
Email
Name
Change My Password
Today's Progress
Progress Bar
In-Progress Key Topics
Completed Key Topics
Key Topic Progress
Key Topic name
Test Count / Rank
Due Date
Best Score
Quiz History
Study
Start a Quiz
Setting
Notification
On / Off
Log out
All Materials
Material Progress
Material name
Test Count / Rank
Quiz History
Key Topic
Study
Start a Comprehensive Test
Get feedback
Test Score(Reward)
List of Questions & Answer
Incorrect Answer
Ask AI


Exam schedule
Go Home
Enter Exam date
Day of the week to study
Day of the week to study
Go Home
How many hours/week are you planning to study?
Go Home


Legend
Input
Action
Decision

Wireframe

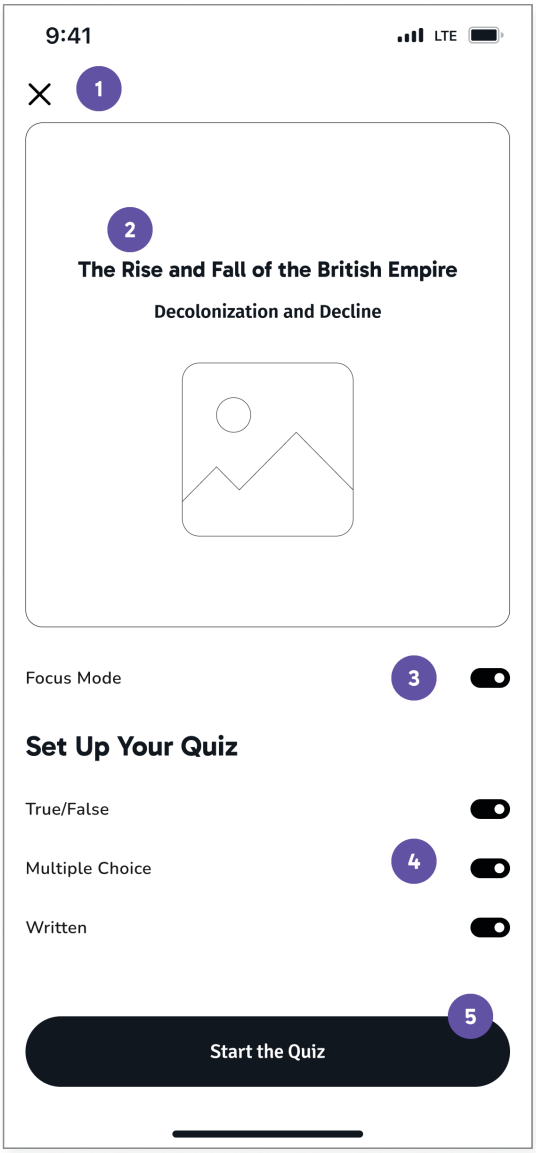
Based on the user flow and modified features, the wireframes are categorized as followed:

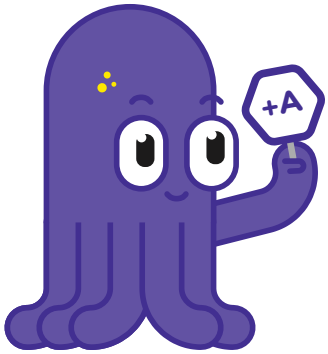
- Create New Course & Access Permissions
- Study (Home Screen)
- Material & Editing
- Key Topic & Editing
- Summary & Flash Cards
- AI Assistant
- Quiz and Result
- Check Progress
- Daily Challenge
- Profile

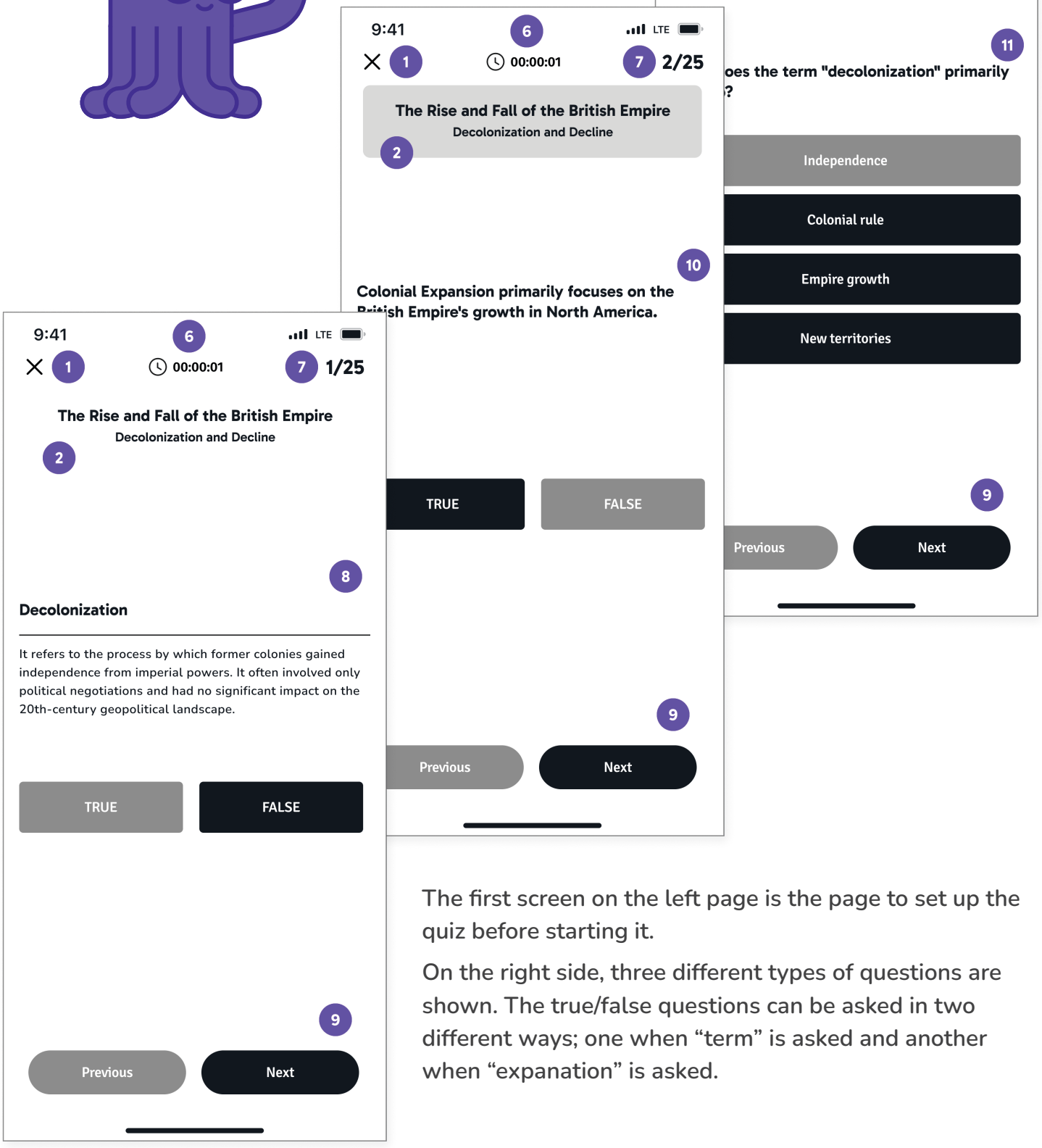
We annotated the wireframes to make all flows and interactions clear.

Quiz and Result Flow

1. Takes user back where they come from :) and opens pop-up 1
2. Name of course and key topic (if this test is for course, it means it's a comprehensive test and only name of course appears here)
3. The initial condition of focus mode in this page is what the user already has set on the home page. It can be toggle on/off here as well
4. Choosing the type of questions that user want to answer. At least one must be toggled on. All of them can be on as well
5. Starts quiz
6. Timer takes the time of exam. Time is not limited
7. Number of current questions comparing the total number of questions
8. First form of true/false question. It's similar to flash card concept
9. After answering user has to hit next to go forward. They can go backward to check previous questions as well. On the first question, back button takes user to the set up page
10. Second form of true/false question
11. Multiple choice question

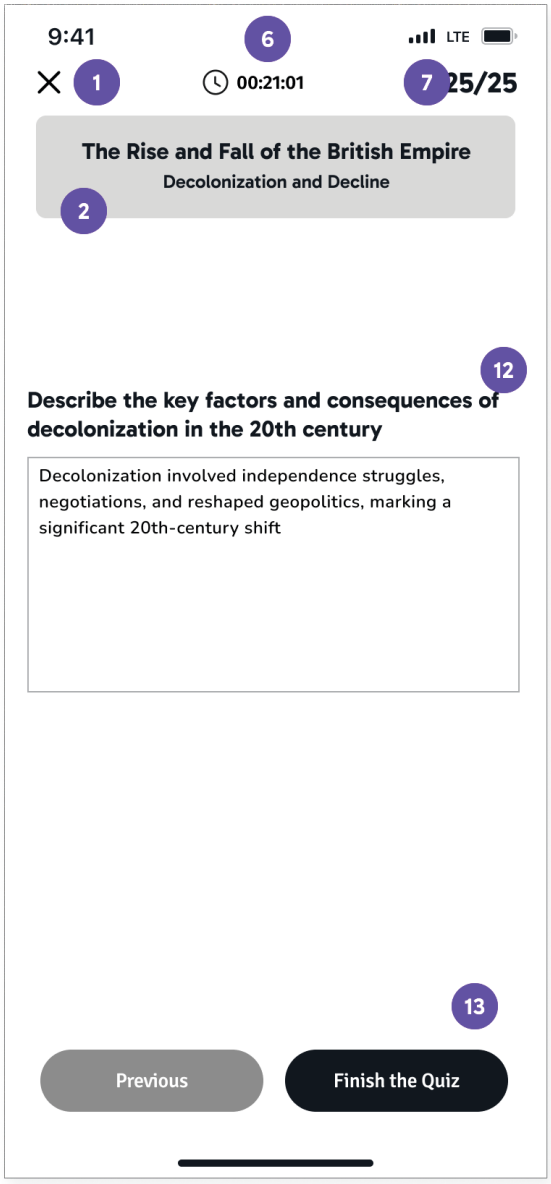


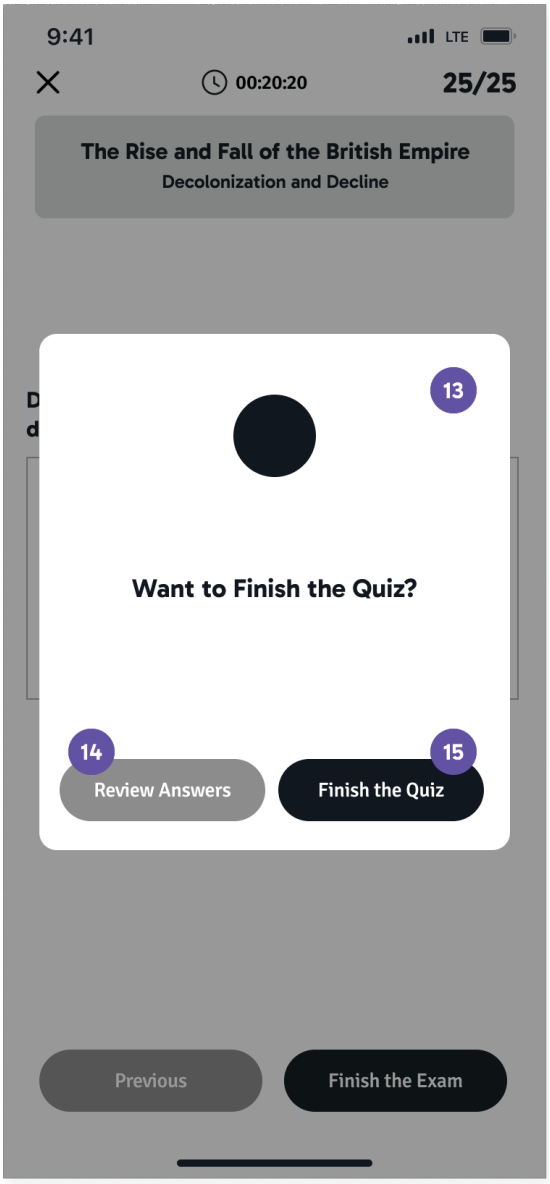




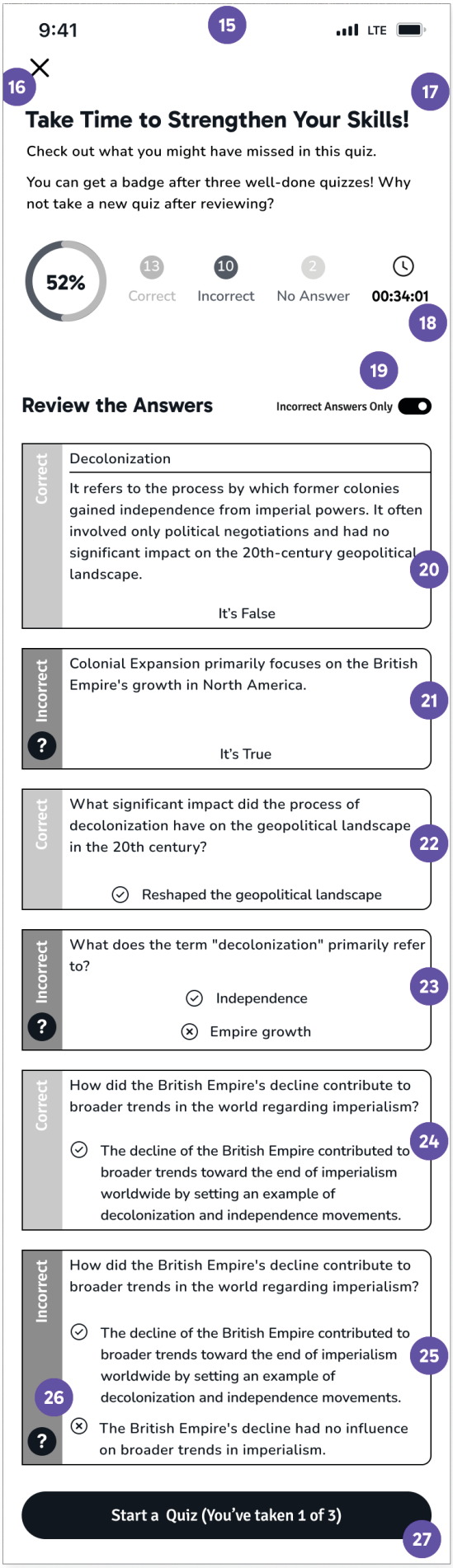
The first screen on the left page is the page to set up the quiz before starting it.

On the right side, three different types of questions are shown. The true/false questions can be asked in two different ways; one when “term” is asked and another when “expanation” is asked.



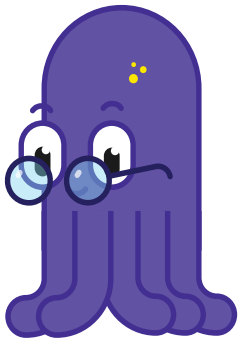


Continuing on the quiz flow, the left screen on this page is the written question type. The second screen shows the modal that pops up after the last question is answered. The right screen is the quiz result page where all different scenarios for correct and incorrect answers are considered.



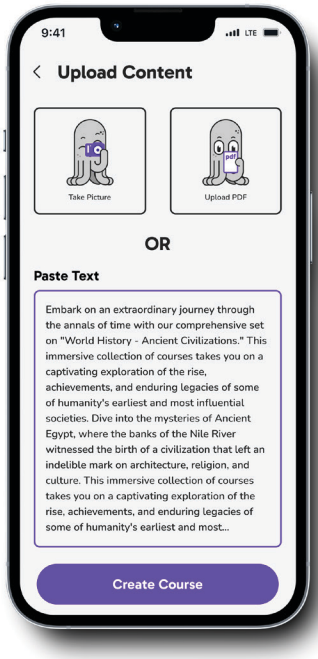
Quiz and Result Flow-Continued

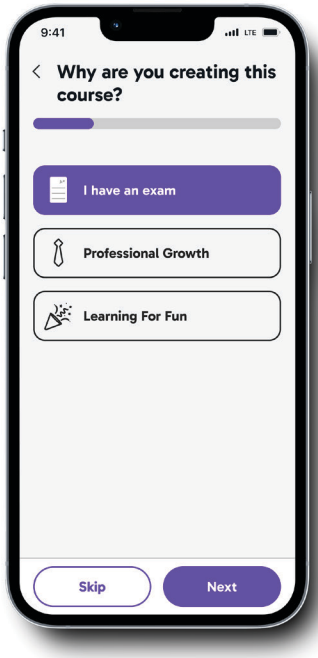
12. Written question
13. This button appears on the last question to give a hint this is the final question. After hitting, the pop-up 13 opens up
14. Goes back to the final question shows the result, page 15
15. Goes to the home page
16. A customized message base on the exam result
17. Exam score, number of correct, incorrect and no-answer questions, as well as total exam time
18. Filters the answers to show only the incorrect and no-answer questions or show all the questions
19. A correct answer to true/false question
20. An incorrect answer to true/false question
21. A correct answer to MCQ
22. An incorrect answer to MCQ
23. A correct answer to written question
24. An incorrect answer to written question
25. On incorrect answers a sign appears to use
26. AI assistant. It opens Ask AI and asks the related exam question from AI
27. Start a new quiz. On the button text, the number of taken quizzes/tests for this specific key topic/course is shown

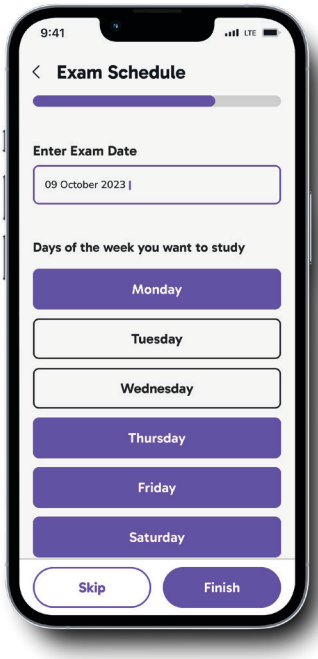


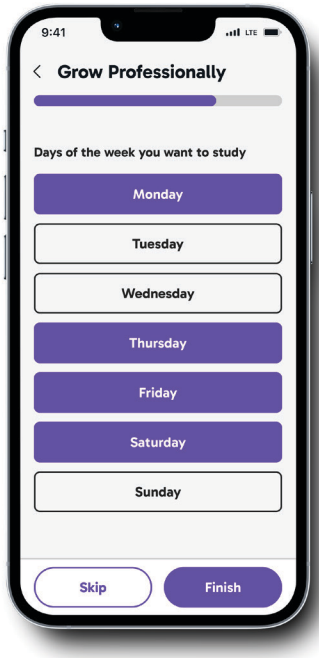
Mockup

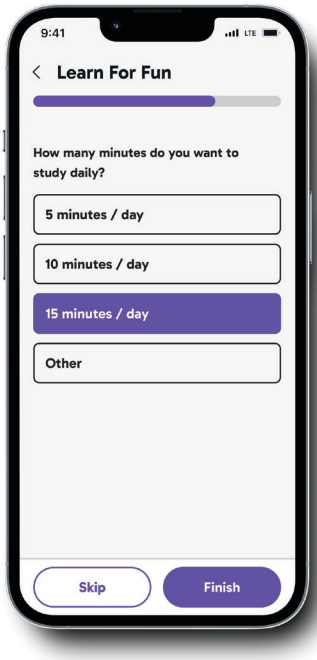
Create New Course Flow







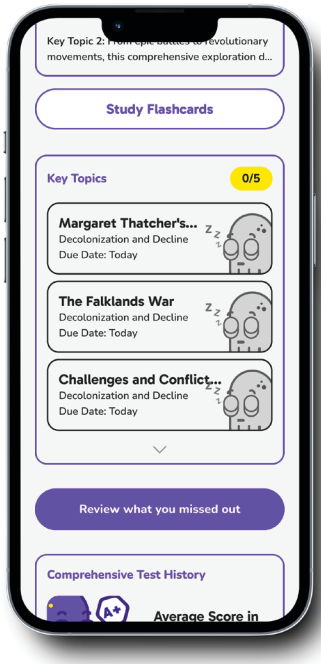


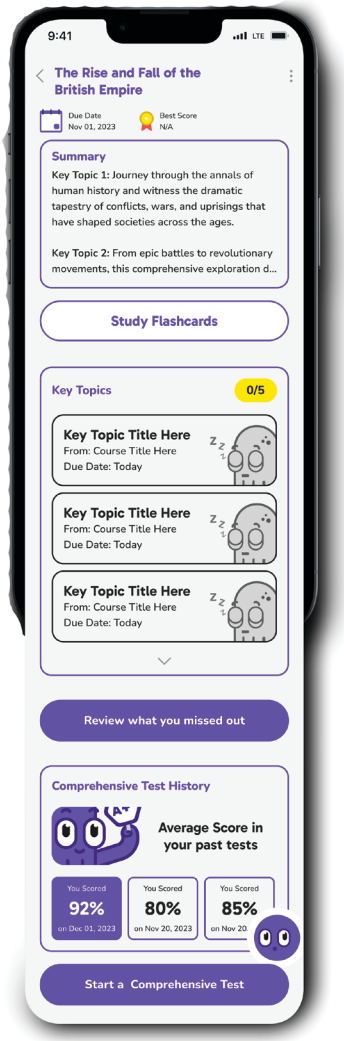


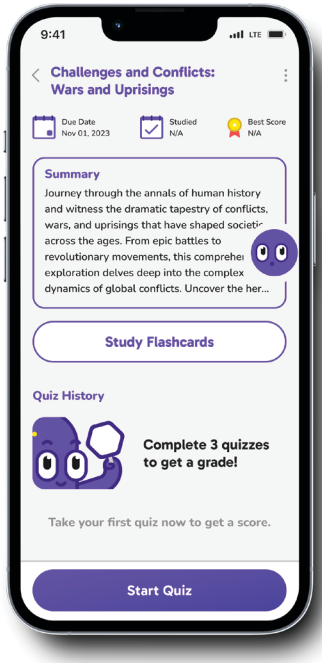
Study Flow

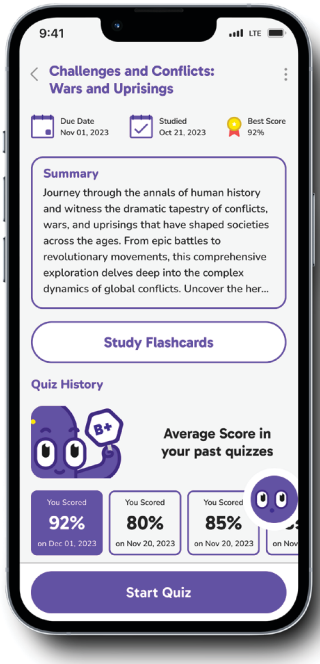
9:41
Welcome Back, Tyler!
Focus Mode
Missed Content
Today's Content
Review Content
Uh, oh...
Catch up on what you didn't study or explore what you missed yesterday
Challenges and Conflict...
Decolonization and Decline
Due Date: Today
The Rise and Fall of the...
Decolonization and Decline
Due Date: Today
Margaret Thatcher's...
Decolonization and Decline
Due Date: Today
The Falklands War
Decolonization and Decline
Due Date: Today
Create New Learning Material

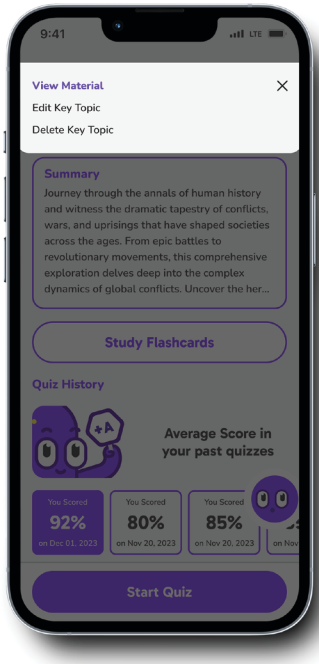
9:41
Welcome Back, Tyler!
Focus Mode
Missed Content
Today's Content
Review Content
Ready to Learn?
Get ready for today's journey into new knowledge and exciting content.
Challenges and Conflict...
Decolonization and Decline
Due Date: Today
The Rise and Fall of the...
Decolonization and Decline
Due Date: Today
Margaret Thatcher's...
Decolonization and Decline
Due Date: Today
The Falklands War
Decolonization and Decline
Due Date: Today
Create New Learning Material


movements, this comprehensive exploration d...
Study Flashcards
Key Topics
0/5
Margaret Thatcher's...
Decolonization and Decline
Due Date: Today
The Falklands War
Decolonization and Decline
Due Date: Today
Challenges and Conflict...
Decolonization and Decline
Due Date: Today
Review what you missed out
Comprehensive Test History
Average Score in


9:41
The Rise and Fall of the British Empire
Due Date
Nov 01, 2023
Best Score
N/A
Summary
Key Topic 1: Journey through the annals of human history and witness the dramatic tapestry of conflicts, wars, and uprisings that have shaped societies across the ages.
Key Topic 2: From epic battles to revolutionary movements, this comprehensive exploration d...
Study Flashcards
Key Topics
0/5
Key Topic Title Here
From: Course Title Here
Due Date: Today
Key Topic Title Here
From: Course Title Here
Due Date: Today
Key Topic Title Here
From: Course Title Here
Due Date: Today
Review what you missed out
Comprehensive Test History
Average Score in your past tests
You Scored
92%
on Dec 01, 2023
You Scored
80%
on Nov 20, 2023
You Scored
85%
on Nov 20
Start a Comprehensive Test


9:41
Challenges and Conflicts: Wars and Uprisings
Due Date
Nov 01, 2023
Studied
N/A
Best Score
N/A
Summary
Journey through the annals of human history and witness the dramatic tapestry of conflicts, wars, and uprisings that have shaped societies across the ages. From epic battles to revolutionary movements, this comprehensive exploration delves deep into the complex dynamics of global conflicts. Uncover the her...
Study Flashcards
Quiz History
Complete 3 quizzes to get a grade!
Take your first quiz now to get a score.
Start Quiz

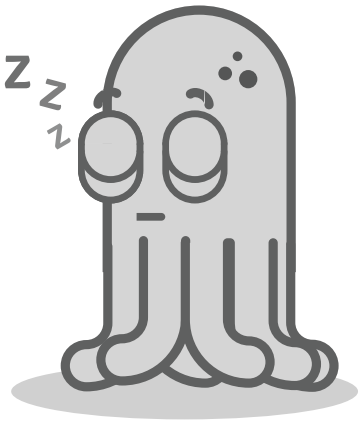

9:41
Challenges and Conflicts: Wars and Uprisings
Due Date
Nov 01, 2023
Studied
Oct 21, 2023
Best Score
92%
Summary
Journey through the annals of human history and witness the dramatic tapestry of conflicts, wars, and uprisings that have shaped societies across the ages. From epic battles to revolutionary movements, this comprehensive exploration delves deep into the complex dynamics of global conflicts. Uncover the her...
Study Flashcards
Quiz History
Average Score in your past quizzes
You Scored
92%
on Dec 01, 2023
You Scored
80%
on Nov 20, 2023
You Scored
85%
on Nov 20, 2023
Start Quiz


9:41
View Material
Edit Key Topic
Delete Key Topic
Summary
Journey through the annals of human history and witness the dramatic tapestry of conflicts, wars, and uprisings that have shaped societies across the ages. From epic battles to revolutionary movements, this comprehensive exploration delves deep into the complex dynamics of global conflicts. Uncover the her...
Study Flashcards
Quiz History
Average Score in your past quizzes
You Scored
92%
on Dec 01, 2023
You Scored
80%
on Nov 20, 2023
You Scored
85%
on Nov 20, 2023
Start Quiz

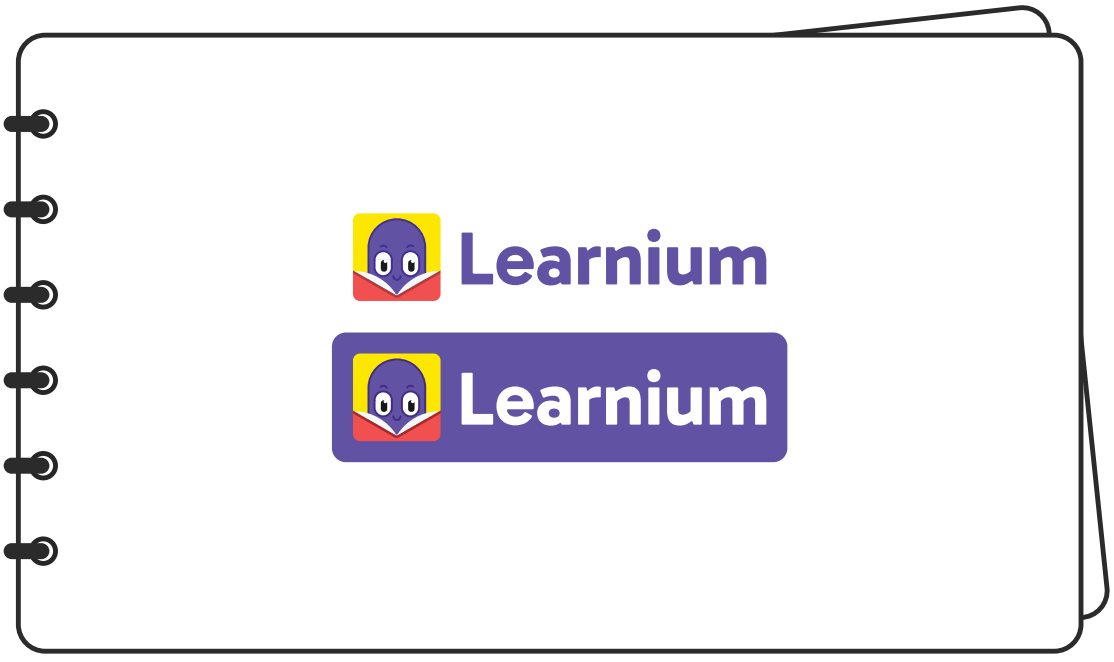
Style Guide

Mascot and Logo

Learnium is a platform to make the learning process, efficient. Learnium is a combination of the word “Learn” and the suffix “ium” which can be used to indicate the setting where a given activity is carried out. To make our application more engaging for the target user, we chose an octopus as the brand mascot. Octopuses are known for their adaptability and problem-solving skills. Similarly, Learnium aims to adapt to individual learning styles and provide solutions to various educational challenges. On the other hand, octopuses are capable of multitasking and have several arms to handle different tasks simultaneously. This symbolizes the app’s ability to offer various learning features and assist with multiple aspects of the learning process.



Our mascot is called Dr.Lumi and creates a playful and approachable theme to prevent boredom due to study. To keep the brand consistent and memorable, we incorporated Dr.Lumi in our logo sign. Combined with the book, the logo sign has the essence of the Learnium app.

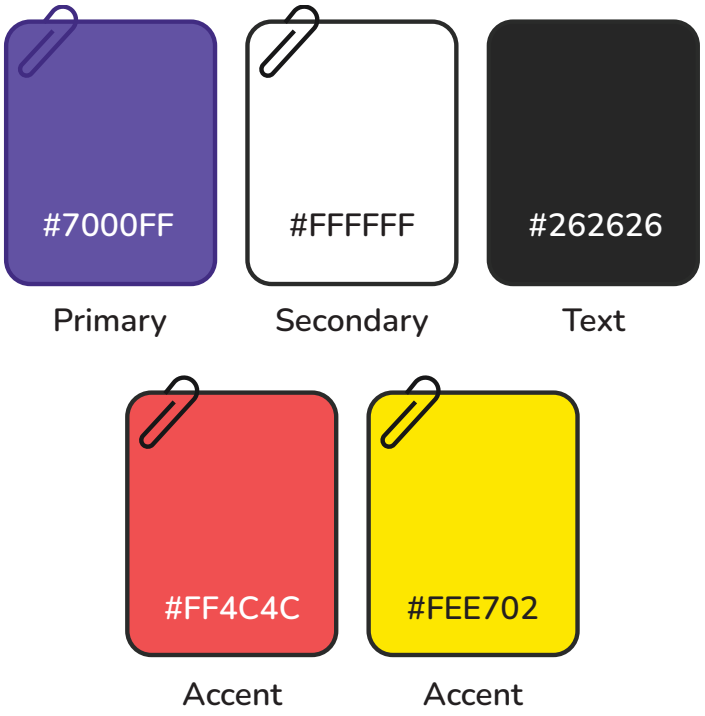


Color

The primary color is Purple which is associated with creativity and wisdom. It can evoke a sense of innovation and intelligence, aligning well with the educational nature of Learnium.

White as our secondary color creates a clean and modern aesthetic, providing a visually appealing background that allows other colors to stand out.

Yellow as an accent color adds a touch of playfulness and fun to the app. The other accent color is coral which complements well with purple and yellow and is used for special conditions such as incorrect answers or overdue schedules.



Typography

We chose “Gabarito Bold” for the headings to add a touch of formality to the app. Because Learnium is a heavy-text application, “Nunito” typeface is an appropriate choice for the body text because of its legibility. Its soft edges are easy on the eyes and help users keep studying on the app.

Gabarito Bold

Heading 1

Heading 2

Heading 3

Nunito ExtraBold Semibold

Body Title

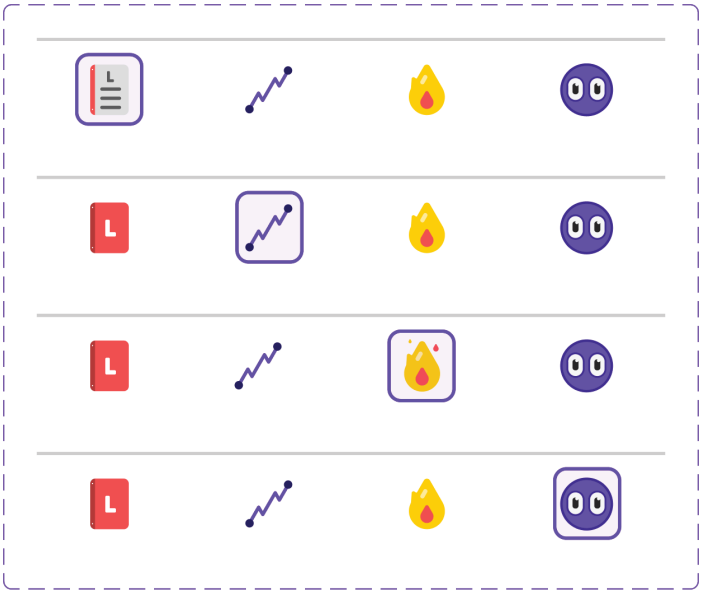
Body

Challenges and Conflicts: Wars and...

Embark on an extraordinary journey through the annals of time with our comprehensive set on "World History - Ancient Civilizations."

UI Kit

Navigation Menu

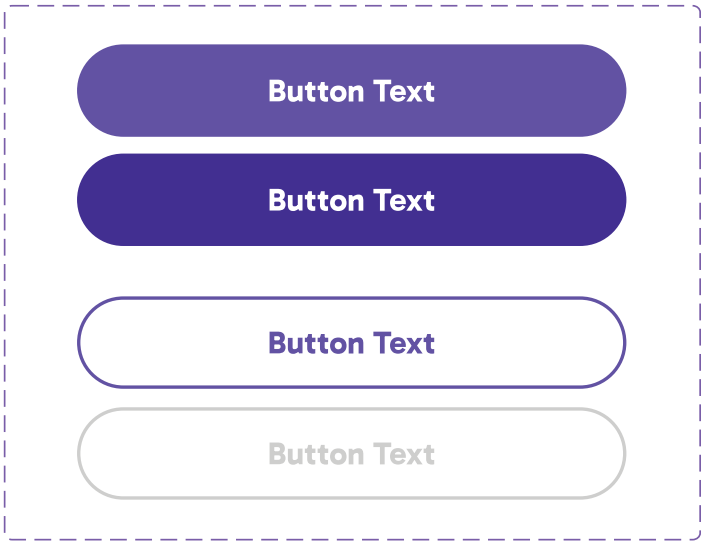


For the icons, we wanted to move away from the standard and traditional icons. We made them more visually appealing and made them gamified by adding micro-interactions. Even with special design for the icons, they're easily recognizable to the users.

All the components in the UI kit are designed with the learners' motivation in mind.

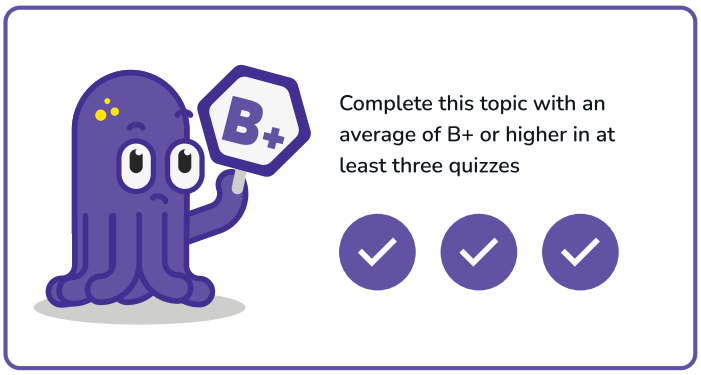
Toggles

Buttons



Primary buttons are used for the primary actions such as "Create Material", "Start Quiz", and "Next" in quiz. Secondary buttons are used for other actions such as "Cancel", "Previous" and etc.

Progress



The header on the Progress page contains different information. It shows the number of taken quizzes on this topic, the average score of the quizzes, and an informative and motivational comment. Also Dr.Lumi's facial expression aligns with the average score.

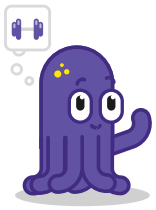
Tabs

Missed Content | Today's Content | Review Content

Missed Content | Today's Content | Review Content

Missed Content | Today's Content | Review Content

Messages

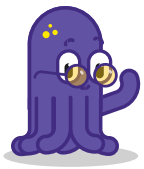


Ready to Learn?

Get ready for today's journey into new knowledge and exciting content.

Uh, oh...

Catch up on what you didn't study or explore what you missed yesterday



Let's Review!

Get ready for today's journey into new knowledge and exciting content.

These tabs and messages appear on the home page and separate the overdue content, today's schedule, and the content which needs review, according to the quiz results.

Test Result Details

Three different states for the test result including correct and incorrect answers and not-answered. Incorrect answers have a link to the Ask AI page for more explanation.

Title

Mauris et odio purus. Nullam quis ante quam. Nulla gravida pharetra ligula sed sollicitudin. Duis tincidunt tempor volutpat. Nulla vel cursus elit.

Title

Mauris et odio purus. Nullam quis ante quam. Nulla gravida pharetra ligula sed sollicitudin. Duis tincidunt tempor volutpat. Nulla vel cursus elit.

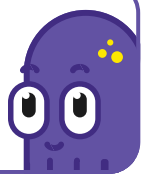
Explanation

Title

Mauris et odio purus. Nullam quis ante quam. Nulla gravida pharetra ligula sed sollicitudin. Duis tincidunt tempor volutpat. Nulla vel cursus elit.

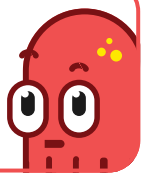
Topic Cards

Key Topic Title Here
From: Course Title Here
Due Date: Today



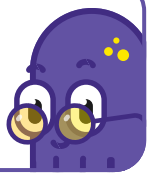
Key Topic Title Here
From: Course Title Here
Due Date: Today

Key Topic Title Here
From: Course Title Here
Due Date: Today

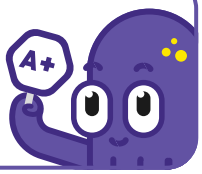


Key Topic Title Here
From: Course Title Here
Due Date: Today

Key Topic Title Here
From: Course Title Here
Due Date: Today

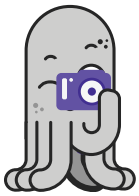


Key Topic Title Here
From: Course Title Here
Due Date: Today

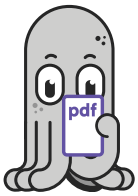


Topic cards appear on the home screen and reveal different information. Their color indicates whether they're overdue content, today's content, or review content. They contain the topic name, parent material, and exam date.

Upload Buttons



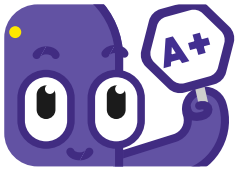
Take Picture



Upload PDF

Test History

Comprehensive Test History



Average Score in your past tests

You Scored	You Scored	You Scored
92%	**80%**	**85%**
on Dec 01, 2023	on Nov 20, 2023	on Nov 20, 2023

Includes all previous test results and the date quiz was taken.

Flashcard

It refers to the process by which former colonies gained independence from imperial powers. It reshaped the geopolitical landscape and marked a significant turning point in the 20th century.

Term

Write term here

Decolonization

Flashcard has two sides which is indicated by color. The bookmark icon on top of the card saves it as important to be shown more frequently. The text box on the first side allows users to input the answer if they want. However, it's not mandatory and by tapping on the card, they can see the other side of the card. Also swiping to right and left navigates the cards back and forth.

Chips

Professional Growth

Learning For Fun

Professional Growth

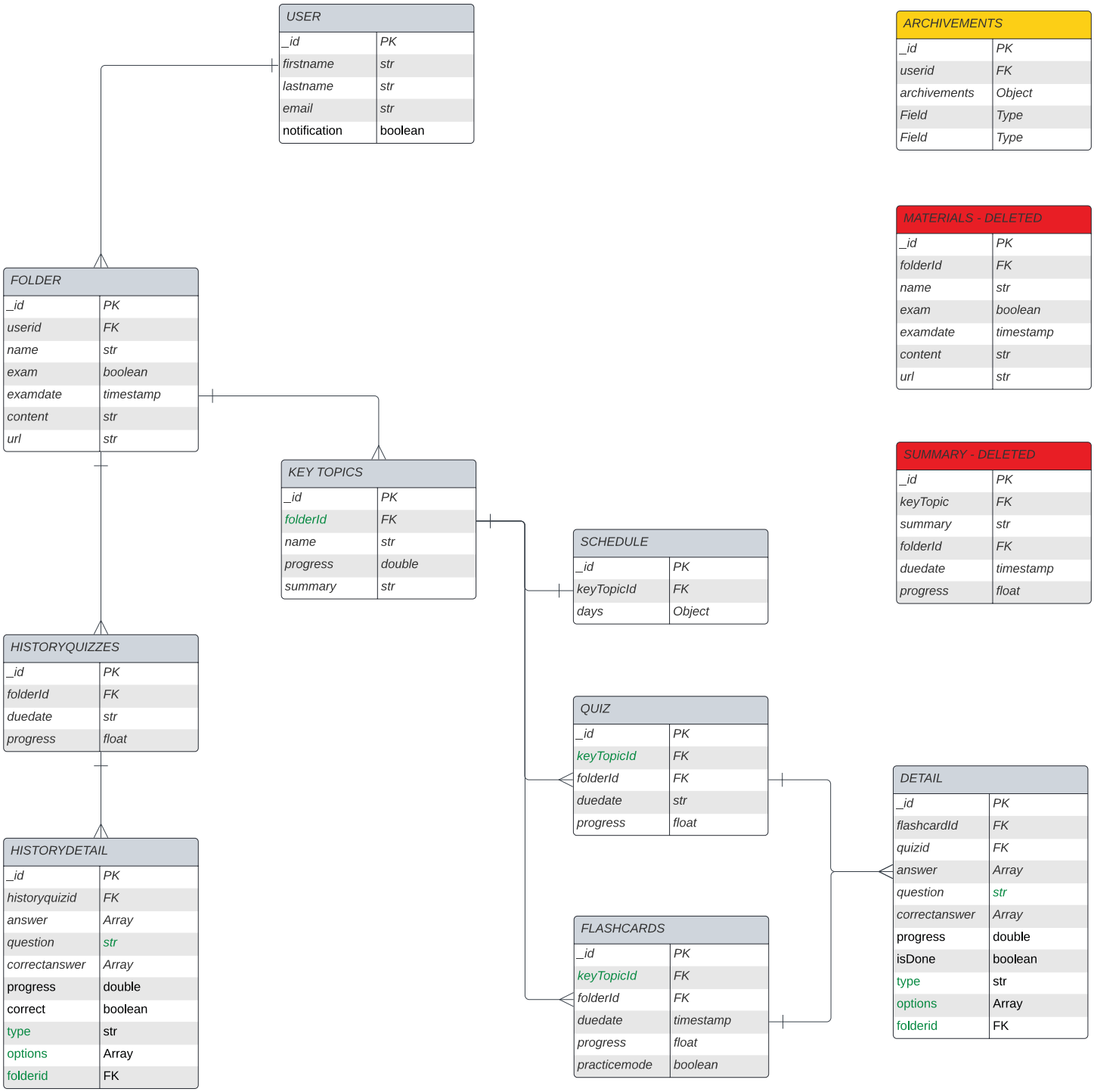
Learning For Fun

4 Development Process

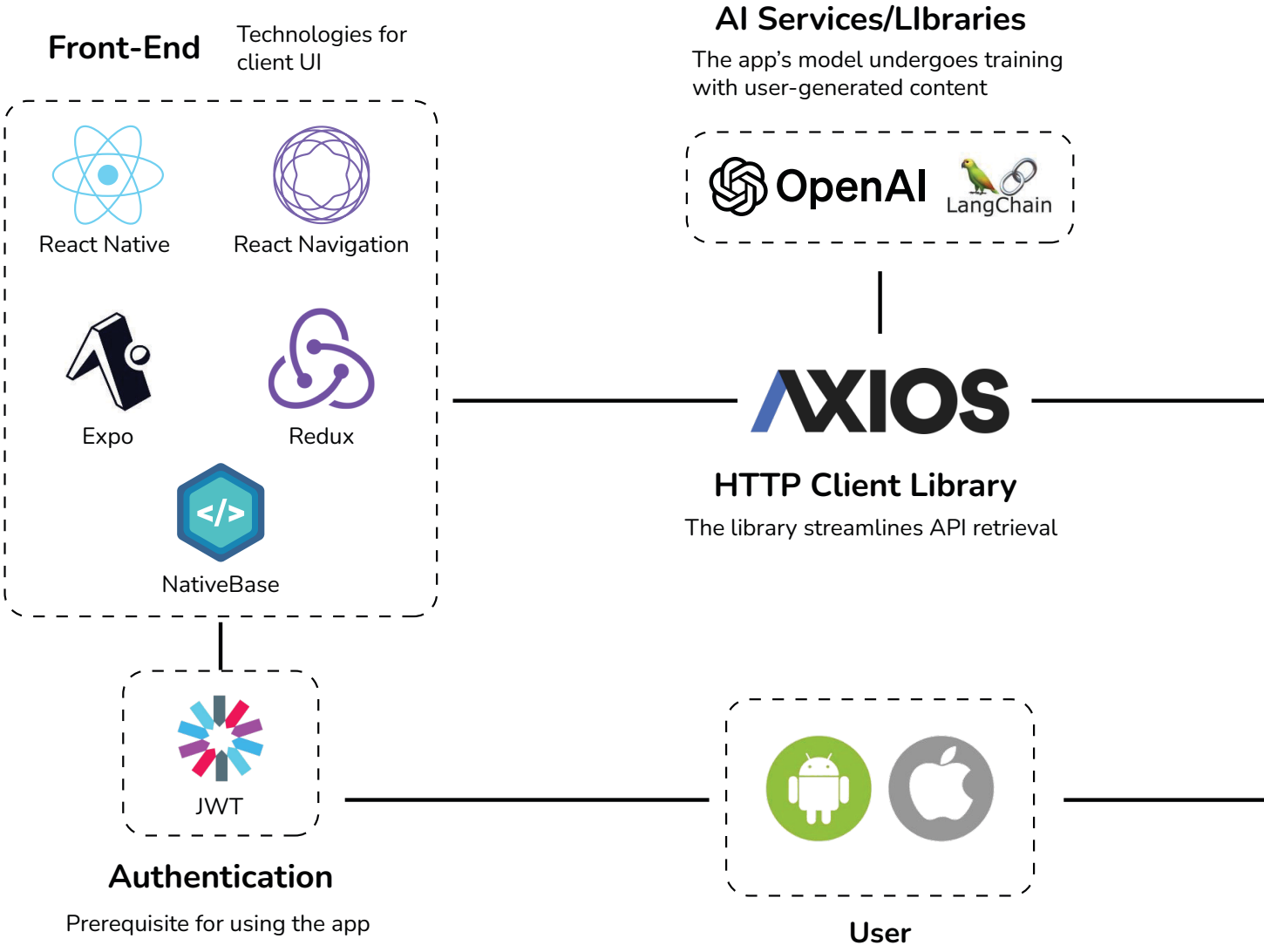
Data Model

System Architecture

Data Model

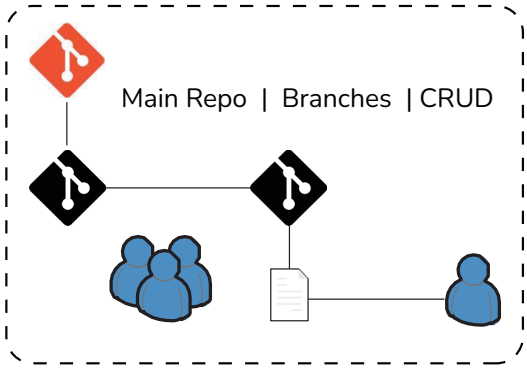

USER
_id PK
firstname str
lastname str
email str
notification boolean
ARCHIVEMENTS
_id PK
userid FK
archivements Object
Field Type
Field Type
MATERIALS - DELETED
_id PK
folderId FK
name str
exam boolean
examdate timestamp
content str
url str
FOLDER
_id PK
userid FK
name str
exam boolean
examdate timestamp
content str
url str
KEY TOPICS
_id PK
folderId FK
name str
progress double
summary str
SUMMARY - DELETED
_id PK
keyTopic FK
summary str
folderId FK
duedate timestamp
progress float
SCHEDULE
_id PK
keyTopicId FK
days Object
HISTORYQUIZZES
_id PK
folderId FK
duedate str
progress float
QUIZ
_id PK
keyTopicId FK
folderId FK
duedate str
progress float
DETAIL
_id PK
flashcardId FK
quizid FK
answer Array
question str
correctanswer Array
progress double
isDone boolean
type str
options Array
folderid FK
HISTORYDETAIL
_id PK
historyquizid FK
answer Array
question str
correctanswer Array
progress double
correct boolean
type str
options Array
folderid FK
FLASHCARDS
_id PK
keyTopicId FK
folderId FK
duedate timestamp
progress float
practicemode boolean

System Architecture



Back-End

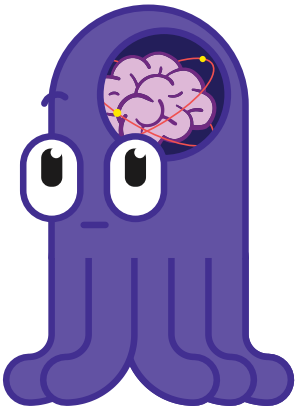
All APIs are secured through the implementation of JWT tokens



Git

All codebase modifications underwent version control

The main function of our application is leveraging user-uploaded content to train a custom model. We use several libraries to accomplish this, with LangChain serving as a foundation. A sophisticated framework called LangChain is intended to integrate AI and its machine learning subset with ease. Large language models can be combined with this framework to create an application that is empowered by Language Models (LLMs). Furthermore, to effectively handle and store high-dimensional embedding representations of data, we construct a robust vector data store. By using a strategic approach, document queries become more effective since the system can determine which document is the most similar to the query that was provided. Our application guarantees a strong and accurate user experience in information retrieval and analysis by utilizing these cutting-edge technologies.



5 Meet the Team

Introduction to the Team

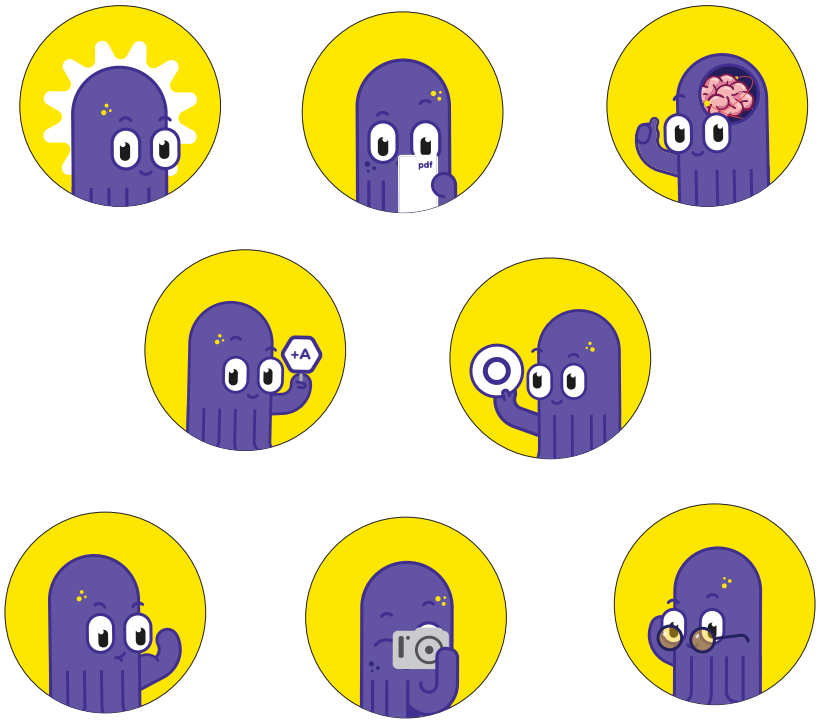
Introduction to the Team

Learnium is a team of eight members from diverse backgrounds with different working experiences in graphic design, marketing, engineering, project management, business, and computer science. Together, our team is enthusiastic about using technology to solve everyday issues and about using our solutions to positively influence the community. Having cooperated on other academic projects, we had a solid understanding of one another, and with common interests and commitment, we teamed up once more to develop an ambitious product.

This journey started with a common goal to transform the way people approach learning.

We saw the necessity for an inventive and user-centric learning platform by utilizing our combined skills. The idea behind Learnium was to bridge the gap between traditional educational methods and the dynamic, tech-driven world we live in.

Each team member brought a unique set of skills and perspectives and collaborated effectively and committed to make this project happen. Through countless brainstorming sessions, late-night coding marathons, and iterative design processes, Learnium has evolved into a platform that we are proud to share with the industry.



After completing three comprehensive projects in our academic journey, we now feel competent and ready to tackle industry projects with a blend of theoretical knowledge and practical skills.

Nahla Niavarani

UX/UI Designer

/in/nahlania

nahlania.com

With an engineering background and ten years of experience in digital media and design, I specialize in developing human-centered solutions that seamlessly blend technical mindset with artistic flair.
UX Research | User Flow | Wireframing | Design System | SASS

Vaibhav Malhotra

UI/UX Designer

/in/vaibm

vibingmotion.com/

Experienced product and motion designer with a mechanical engineering background. Skilled in HTML, CSS, Figma, After Effects, Illustrator, Photoshop, Indesign, and Premiere Pro, passionate about creating visually appealing and user friendly products, and adept at crafting captivating motion graphics.

Wakana Kaneiwa

UI/UX Designer

/in/wakanakaneiwa

wakanakaneiwa.com

I'm a UI/UX designer with 4 years of project manager experience in agile development of SaaS products. I oversee all processes related to the design of this project, especially the UX area.

Pablo Montoya Varela

UI/UX Designer

/in/palimv

palitriestodesign.com

After transitioning from Industrial Design, I am now fully dedicated to UI and UX, progressing as a UI designer, Front-end enthusiast, and passionate UX explorer.
Ai | Ae | Ps | Figma | HTML | CSS | SASS | JS

Edgar Velandia

Full Stack Developer

/in/edgarvelandia

/alvelx

I am a Microsoft Dynamics F&O technical consultant and Microsoft Power Platform developer, I have helped companies improve their business processes using the latest Microsoft technologies. In the WMDD program, I am learning full-stack technologies, focusing on the backend.

Thawatchai-Tony-Saengthamchai

PM - Full Stack Developer

/in/tony-sa/

/tony-Thawatchai

Full-stack developer, ex-advertising CEO specializing in social issue campaigns with over 15 years of experience. Build product people love with a strong understanding of user experience.
React | Next JS | Material UI | Express JS | Node JS | Mongo DB

Ievgeniia Chornobai

Full Stack Developer

/in/ievgeniia-chornobai

/eugenia-chornobai

Full-Stack Web & Mobile Developer with 20 years of experience in Psychology teaching and counselling. Also, experienced in running training educational centres, organizing educational conferences and public events, managing teams and processes.

Mario Cesena

Full Stack Developer

/in/mario-cesena

/mariocc22

Bachelor's degree in Mechatronics Engineering. Worked as a Manufacturing and Equipment Engineer for almost 4 years in Mexico. My main expertise relies on automation and PLC programming for production equipment.

References

Research References

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