Quizify: An Automated Quiz Generator for Lesson Plans

Buenaflor, Ma. Cristina D.

Diaz, Charles Anrei

Gozo, Jhon Francis P.

Maramag, Matthew

Satam, Ace

Queroda, Renzo

Velicaria, Rosary Mae C.

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**Introduction**

In the fast-paced environment of student life, students need efficient tools to improve their study habits. “Quizify” offers a solution by allowing students to upload lesson plans and automatically create quizzes, giving them constant access to study materials. The use of technology in learning has been a game-changer, providing students with tools to help them manage their time, organize their materials, and prepare for exams more effectively.

“Quizify” is a web-based application created to tackle these challenges by offering an automated quiz generation system. Students can upload their lesson plans or modules, and “Quizify” will generate personalized quizzes, providing ongoing access to study materials and interactive review sessions. This will not only strengthen students’ understandings but it will also encourage consistent and efficient study habits, making exam preparation more engaging and manageable.

**Objectives**

The primary goal of “Quizify” is to improve or enhance students’ study habits by making it more fun, easy, interactive, and accessible. With its automatic quiz-making feature, the application offers a personalized tool to help students stay on track with their exam preparation.

* Develop a user-friendly platform where students can easily upload lesson plans.
* Automatically generate customized quizzes based on uploaded material.
* Promote consistent study habits through personalized quizzes that are available anytime.
* Improve students’ retention and understanding of the lesson plans by offering a review system
* Offer flexibility in quiz format, including multiple choice, true/false, and identification questions, catering to different learning preferences.

**Methodology**

In this section explains how we will create *Quizify*, a web-based app. It covers the steps, tools, and methods we will use for development.

**Development Approach**

* **Agile Method**
* We will use the Agile method to develop the app, which helps make changes quickly and lets the team work closely with each other.
* **Sprint Planning**: Each sprint will focus on a few features that will design, develop, and test.
* **Iterations**: We will keep improving the app over several rounds, adding feedback after each step to make it better.
* **Frequent Reviews**: Regular meetings will be held to review progress and get feedback from users and team members.

**Phases of Development**

**Phase 1: Planning and Gathering Requirements**

* The developers will understand the goals of the project and collect information on what features the app should have.
* Research will also be done to know who the users are, how they will use the app, and what similar apps exist.

**Phase 2: UX/UI Design**

* The developers will design simple crafts (called wireframes) of what app will look like and create interactive versions.
* User testing will be done to make sure the app is easy to use.

**Phase 3: Development**

* **Frontend Development**: The team will build the user-facing part of the application using web technologies like HTML, CSS, and JavaScript (such as React.js or Vue.js).
* **Backend Development**: The backend (the part users don’t see) will be developed using tools like Node.js, Django, or Ruby on Rails, and it will be connected to databases like MySQL or Firebase.
* We will make sure the app works well on different devices like desktops, tablets, and smartphones.

**Phase 4: Testing**

* The team will test the app to find and fix any problems. This includes checking if all parts of the app work well together and making sure users can use it easily.
* The app will also be tested on different browsers (Chrome, Firefox, etc.) and devices to ensure it works everywhere.

**Phase 5: Deployment**

* The application will be launched on a cloud hosting service like AWS or Heroku so it can handle many users.
* After launch, the team will continue to monitor and update the app, fixing bugs and adding improvements based on feedback.

**Tools and Technologies**

**Development Tools:**

* Since our application is web-based we will be using HTML, CSS, and JavaScript for the frontend. For the backend we will be using Node.js to manage data and sever tasks.

**Database:**

* The developers will store the data using databases like Firebase, SQLite, or MySQL.

**Version Control:**

* The developers will use GitHub to manage and share our code, so team members can work together easily.

**Project Management Tools:**

* The developers will organize tasks using Basecamp, ClickUp, Jira, or Trello, which may help us stay on schedule.

**Quality Assurance (QA)**

**Testing**

* The developers will perform tests to ensure the web application works correctly and meets user needs.
* Tools like Selenium or Cypress will help us conduct automated testing
* The developers will also do manual testing to check how the application performs and looks on different web browsers and devices.

**Application Features**

**Functional Features:**

* **User Registration/Login** – Users can sign up and log in to their accounts safely.
* **Automated Quiz Generation** – Students can upload their lesson plans, and the app will create quizzes for them automatically.
* **Performance Tracking** – Users can see their scores and track their progress over time.
* **Custom Quiz Settings** – Users can choose how many questions they want and set time limits for their quizzes.
* **Study Materials Repository** – A space for users to keep and access their lesson plans and study materials.

**Non-Functional Features:**

* **Responsive Design** – The app will look good and work well on all kinds of devices, such as phones and tablets.
* **User Feedback Systems** – Users can give feedback or suggestions to help improve the app.
* **Integration with Social Media** – Users can share their quiz scores or achievements on social media platforms (Facebook, X, Instagram, Threads).

**User Interface (UI) and User Experience (UX) Design**

* **User Flow Diagram:**

This diagram shows how a user moves through the app, starting from signing up to finishing a quiz and checking their scores.

* **Wireframes:**

Simple sketches of the main screens, like the home screen, quiz page, and user profile.

* **Design Principles:**
* **Simplicity** – the application should be easy to understand, so users can focus on studying without distractions.
* **Consistency** – Using the same colors and fonts throughout the app to make it feel more united.
* **Accessibility** – Making sure the app is usable for everyone, including people with disabilities, by following important guidelines.

**Technology Stack**

**Frontend Technologies:**

* **HTML/CSS** – For building and styling the web app.
* **JavaScript** – To make the app interactive and fun to use.
* **React**.**js** – A cool library that helps build the user interface, making it easy to update content without reloading the page.

**Backend Technologies:**

* **Node.js** – This is great for running JavaScript on the server side, making it quick to handle many requests at once.
* **Express**.**js** – A framework for Node.js that helps make setting up the server easier.
* **Database** – Using MySQL and SQLite to store user information and quiz data.

**API Integration:**

* **Social media APIs** – To let users share their quiz result on platforms like Facebook or Instagram
* **Analytics Tools** – To help track how people use the app and how well it’s working.

**Development Timeline**

The development of our app will go through five (5) phases, each of its own goals and timeframes.

* **Phase 1: Research**

*Estimated Time: 1 week*

In this first phase, the team members will look into what users want in app. The team will study similar apps and ask potential users about their needs and preferences.

* **Phase 2: Design**

*Estimated Time: 1 week*

Next, the team members will create some designs for how the app will look. This is to make sure that using the app is accessible and enjoyable for everyone.

* **Phase 3: Development**

*Estimated Time: 2 ½ weeks*

During this phase, the team members will actually build the app. The team will do different kinds of testing and also ask users for feedback to make the app better.

* **Phase 4: Testing**

*Estimated Time: 1 week*

In this step, the team will test the app to find any problems and fix them. We’ll do different kinds of testing and also ask users for feedback to make the app better.

* **Phase 5: Deployment**

*Estimated Time: 1 ½ weeks*

Finally, the team will launch the app online. After it goes live, we’ll keep monitoring it to ensure everything runs smoothly.

**Key Milestones:**

* End of Research Phase
* Completion of Design Phase
* Development Finished
* Testing Completed
* Application Launched

**Budget and Resources**

**Development Costs**

Here’s a quick look at how much money we expect to spend on building our application.

|  |  |
| --- | --- |
| **Development Costs** | **Price** |
| Labor Costs | ₱5000 |
| Tools and Software | ₱2000 |
| **Total Estimated Budget** | **₱7000** |

Here’s our Team Members.

|  |  |
| --- | --- |
| **Team Members** | **Role** |
| Project Manager | Charles Anrei Diaz |
| Developer | John Francis Gozo |
| Analysts | Cristina Buenaflor and Rosary Velicaria |
| Design | Ace Satam and Matthew Maramag |
| Specialist | Renzo Queroda |

**Security Considerations**

The team cares a lot about keeping the user data safe. Here’s how the team plan to protect it:

|  |  |
| --- | --- |
| **Plan** | **Description** |
| Data Protection | The team will use encryption to keep sensitive information secure. |
| Secure Authentication | Users will need to create strong passwords, and the team will have safe login methods to stop unauthorized access |
| Privacy Policies | The team will write a clear privacy policy that tells users how the team will use and store their data. |
| Compliance | The team will make sure our app follows all important laws, like GDPR, which protects user privacy. |

**Testing and Quality Assurance (QA)**

**Types of Testing**

To make sure the app works well and is accessible, we will do different types of testing

* **Unit Testing** – This will check if each part of the app works on its own, so the developers can find and fix the small problems early.
* **Usability Testing** – The developers will have some users to try the app and tell us if it’s easy to use or if anything needs improvement.
* **Security Testing** – This test will make sure the app keeps user data safe from any hacking or unauthorized access.

**Tracking Bugs** – The team will use tools like **Trello** or **Jira** to keep track of any bugs or issues that come up during testing. This will help our team fix them quickly and make sure the application runs smoothly.

**Conclusion**

The main aim of this project is to create an app that helps students’ study more easily by automatically generating quizzes based on their lessons. This will help students keep up with their studies and prepare better for exams.

Our success will depend on making the app simple to use and useful for students. In the future, the team plans to add more features and updates based on what students needs to keep improving the application.