

Questly

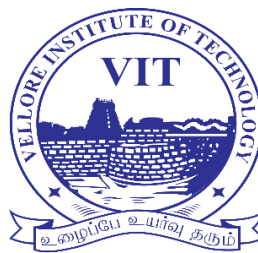
*A Mini Project Report
Submitted in Partial Fulfilment for the award of*

BACHELOR OF TECHNOLOGY
IN
COMPUTER SCIENCE AND ENGINEERING
(Specialization in Gaming Technology)

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Abstract

Questly is a task management productivity app that aims to gamify the to-do scheduling and completion process where users get rewarded to complete tasks and goals so that they are vastly incentivized for being productive. It is a web app intended to gamify your task management.

It is a gamified productivity app which is composed of three functionally distinct subunit types, Quests (A customizable To-do list), Notes (a component that records personal notes), and the Stats section (a section that shows how well the user is doing with the help of *Experience Points*, *Levels*, and *Ranks*). All the components communicate with each other through an application-level state system where the data is pulled and stored onto Google Cloud Firestore (a realtime, document-based NoSQL database).

The app features a level up system, intended to stimulate you for completing tasks. It is dependent on the XP you gain from completing tasks and will help you increase your mental fortitude in relevance to yourself.

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Introduction

A. Objective: -

To provide a simple and easily accessible task management system that encourages the users to complete more tasks by gamifying the process and rewarding the user with points, giving them a sense of progression.

B. Brief of existing work: -

Existing web applications like “Habitica” achieve the objective by deploying a reward system like games that reward the user with virtual coins and experience points whenever the user completes tasks. It provides features like habits, daily tasks, to-dos, etc. It also provides the option to the user to connect to other users using the platform’s guild tab.

C. Limitations of existing work: -

- User cannot take side-notes
- Overly complicated user-interface for a simple job
- Bloated feature set which is not required for the objective concerned and may feel obtrusive
- Too many obtrusive notifications and pop-ups.

Proposed work

A. A brief of Proposed Approach: -

Questly is a productivity task management software that seeks to achieve the concerned objective in which users are incentivized for completing assignments and milestones so that they are more inclined to be productive. The web application has a straightforward approach towards gamifying the objective without any unnecessary extended features.

The users create, manage, and complete their tasks which are referred to as “*Quests*”. Each Quest consists of a base task, a due date, difficulty, and an optional checklist. Completing Quests gives the user “*Experience Points*”, collecting a defined number of which lets the user level up and get an upgraded “*Rank*”.

Each user is even given a “*Rank*” based on their current level and the Rank improves by gaining more “*Experience Points*” and leveling up. The goal of this system is to give the user more incentive to complete their tasks by giving them a sense of achievement.

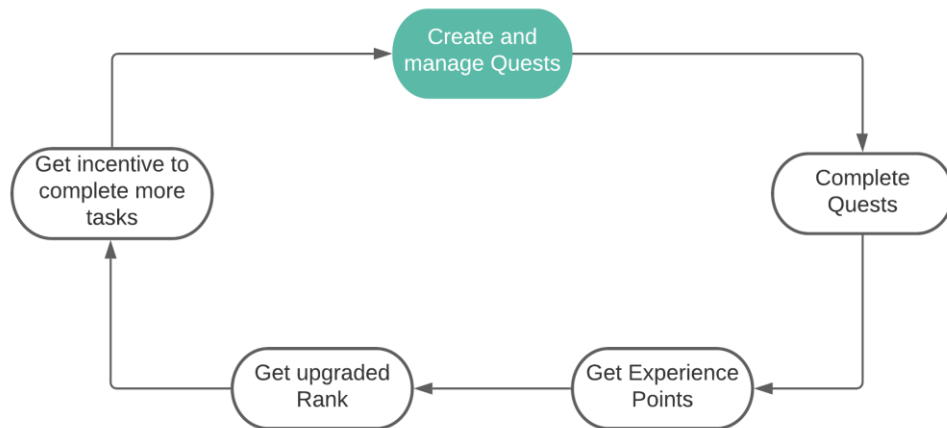


Figure 1: User Interaction Cycle

The app also lets the users create and manage short notes which can help them keep track of certain things that they might need to remember later.

The notes are also stored in the database so that users can see and manage notes from any device just by logging into their account.

In addition to these main features, the users are also presented with random quotes from an external API to keep the users motivated throughout the process.

B. Advantages of the proposed system:

- i. It provides a simple and easy-to-use interface to manage tasks.
- ii. It provides a side note system for the user to make important notes.
- iii. The tasks and notes are synced on a realtime database, so the user can access the tasks and notes across various devices.
- iv. It uses a reward system to encourage the user to complete more tasks.
- v. The user doesn't lose his/her data unless he/she deletes it intentionally.
- vi. It uses a SPA (single page application) architecture where the browser does not refresh when navigating between pages, the page content is swapped dynamically.
- vii. It does not have any obtrusive elements which can hinder the user's tasks.

Software and Hardware Requirements

Software Requirements:

- A modern web browser that supports the new collection types like Maps and Sets, preferably Chrome, Firefox, Safari, and IE 11 or above.

Hardware requirements:

- A device capable of running a modern web browser like Chrome/Firefox/IE 11 or above.
- To use Chrome/Firefox/IE 11 Browser on Windows, you'll need:
 - Windows 7, Windows 8, Windows 8.1, Windows 10 or later
 - An Intel Pentium 4 processor or later that's SSE2 capable

UML Activity Diagram

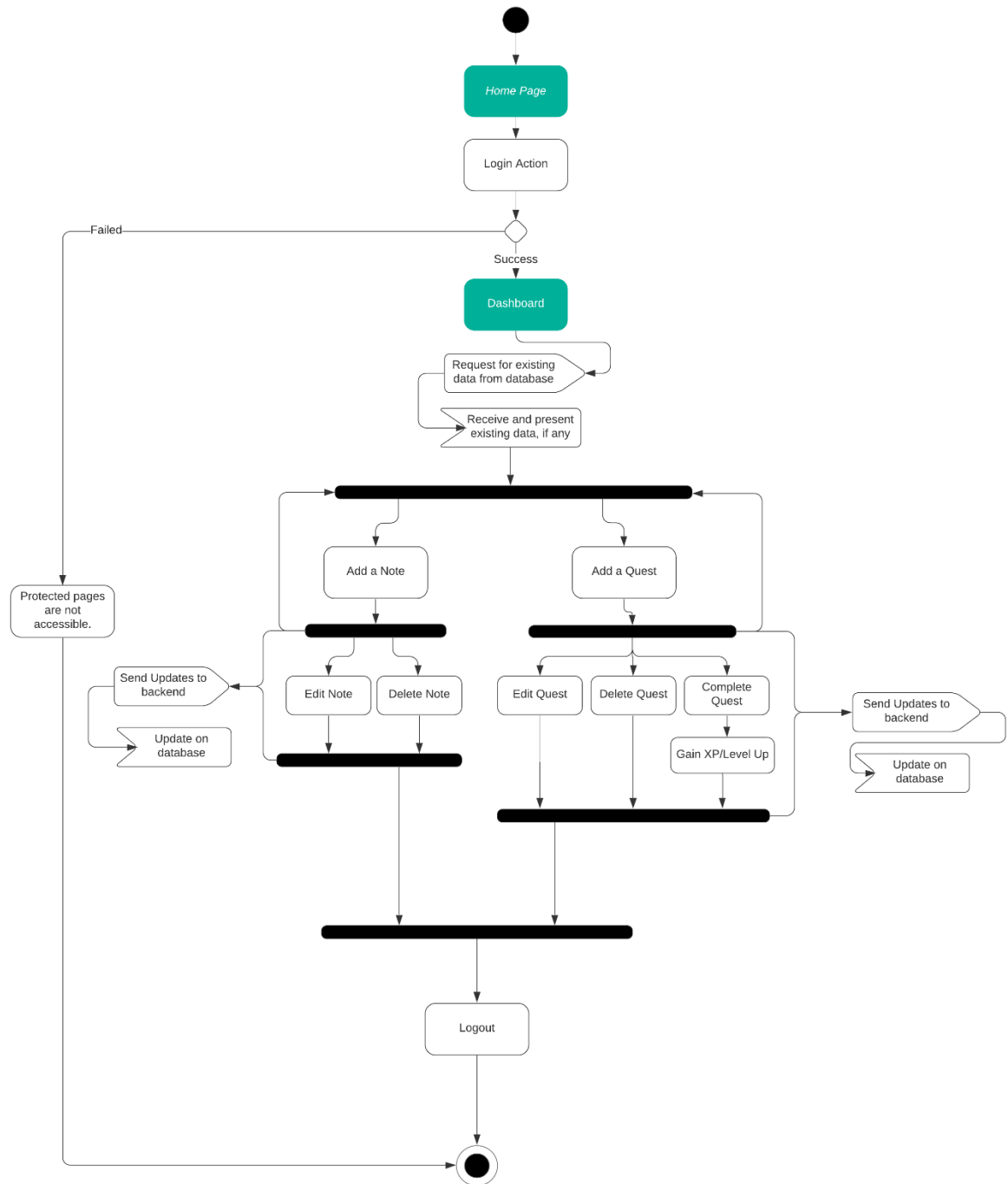


Figure 2: UML Diagram

Screenshots

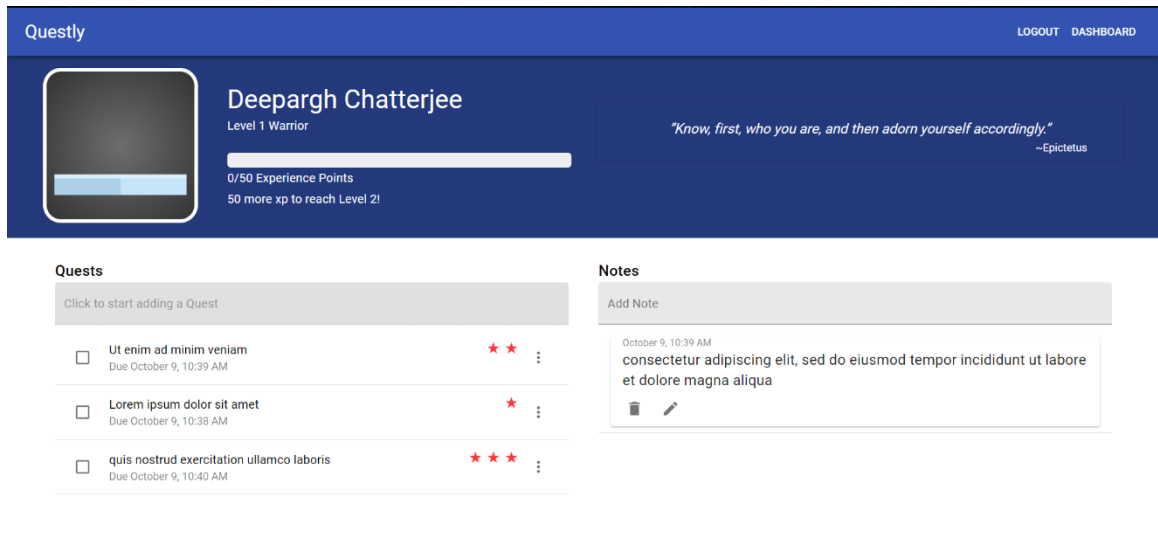


Figure 3: Fullscreen View

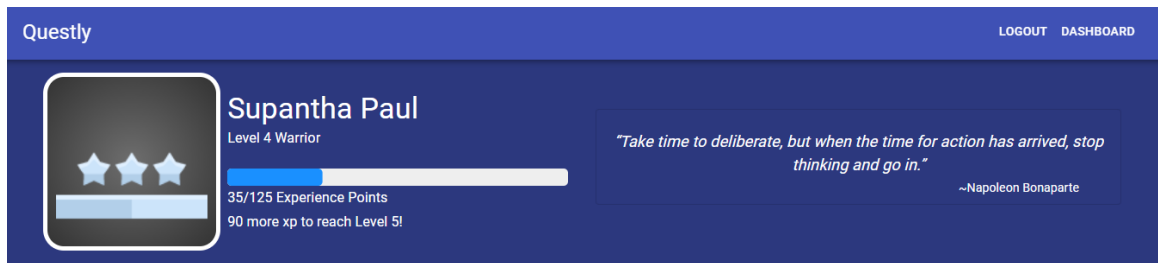


Figure 4: User Stats Bar

Quest

Enter the task

Enter task

+ ADD CHECKLIST

Due Date

07-10-2020 06:40 PM



Difficulty



CONFIRM

Figure 5: Quest Form

Notes

Add Note

October 9, 10:22 PM

Take notes for the maths class on Monday



October 9, 10:18 PM

Find a good veg recipe for dinner.



Figure 6: Notes View

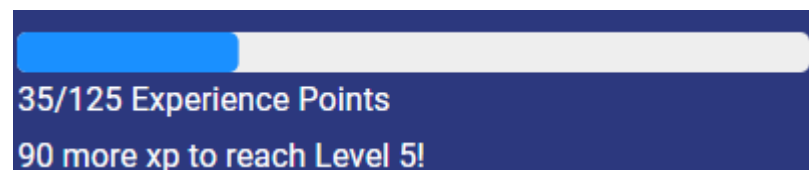


Figure 7: Experience Bar

Conclusion

This report discussed the development and deployment of a web application (Questly) made using React.js (JavaScript library), to present a viable and simple task management system which encourages the user to perform more and more tasks by using a reward system similar to games. The project uses assets like Material-UI to make an intuitive as well as a comfortable user experience while using the application.

The project aims to provide an extraordinary experience to the user while using the application with a minimalistic, simple, and easy-to-use design. It achieves most of the scope of the given objective simply and efficiently, without any unnecessary or obtrusive elements. For further improvements, more features like scheduling, sharing of notes, connecting to other users on the same platform can be worked upon and added to the existing project, other than the above-mentioned features, the system can be upgraded for a better user interface and usability.

References

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