Feasibility Report for Education Based Web Application

Introduction

The project is about creating a web application platform that allows teachers to monitor and plan their lessons for their respective students. It will give teachers the ability to see student progress and give feedback on what students may be struggling, what topics and concepts students struggled the most with. Students will be giving this feedback through questionnaires, score marks, and comments they leave.This project idea is a response to the increase at schools becoming more dependent on technology for teaching in recent years.Most of the old applications were very simple where a teacher sets work online for students to complete and th work is marked by the application and gives the final score to the teacher. Most of these applications are created for students and don't give them access to a teacher nor the ability to give feedback to a teacher. This seems to be common amongst many of these applications.In this report I will discuss initial ideas surrounding the project, legal, financial,technical feasibility as well initial risk analysis.

Background

An article written in 2019 by the ThoughtCo highlighted the several points about the integration of certain technology in schools. It highlighted many points such as lack of planning time for teachers and little teacher involvement in the purchase process of said technology which means sometimes this technology may not translate well into the classroom. As a result most of the apps don't allow teachers to be as involved in the learning process or simply go against their way of teaching. This was also highlighted further during pandemic and most children had school online, teachers' were left without ways to interact with their students as they would prior and depending on the resources the school some students and teachers suffered more than others.

In an article written by microsoft it speaks of the future of schools after the effects of covid19. The article highlights the positive contributions technology can have in school and can enhance children's, teachers and parents' experience which is the aim of my project.

"Students will be empowered to learn for themselves in flexible, often collaborative ways, both inside and outside classrooms at their own pace. They will be able to follow their own interests and be challenged where appropriate. Teachers will have access to individualized real time data on how well each of their students is progressing scholastically and emotionally so they can devise new challenges and offer appropriate support for each child to move ahead.Parents will be better connected to their child's education with certainty, detail and confidence."Spencer,2020

Outline of project

The project will follow the following steps:

Requirements Gathering:
- Further research will need to be conducted to find the all the requirements

Design
- Once requirements are finalized the project can then be designed. This involves using UML diagrams.
- UI design
- Software to implement project will be researched and chosen
- Testing methods also need to be researched and finalized.

Implementation:
To implement this project the technology used for this code will be Visual Studio Code, Reactjs framework, Nodejs and MongoDB Atlas(using mongoose). React will be used for the front end and Node js for the back to fetch data and also to be used to perform crud fucntions

Testing:
For testing we can use the automated testing tool such as selenium IDE and also use black box testing.This will ensure the website functions as it is supposed to. For further testing Selenium can also be used.

Several risks can be associated with the project:
- Risk includes insufficient requirement analysis which could lead to a product that doesn't fulfill the users needs.
- Incompatibility with software. For example, certain software being used cannot run on certain hardware or software.This could mean the complete failure of the project if the application made is not compatible with certain devices.
- Users' resistance to change can also be a risk. If teachers and organizations are unwilling to use the product it would count as a failure therefore it is important to ensure it is an easily accessible and usable product.
- The

Financial Feasibility:
> To create this project a laptop/ computer is needed for testing and building the application. A server is also needed however there are free hosting servers available online. As I currently possess a laptop it is financially feasible to begin this project.

Technical feasibility:
> Inorder to create a sophisticated application knowledge of databases, web development, UI design and possibly machine learning is needed. Technical feasibility is high however inexperience with certain elements of machine learning will pose a problem.

Legal feasibility:
> As this project will be possibly using personal data of both students and teachers it will need adire to current legislation specifically the Data Protection Act 2018 which includes the GDPR.

Conclusion.

From this feasibility report we can conclude that it is possible to create this project within the time frame given and the resources available.

Bibliography
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