Project definition: Deployment and design of a question and answers platform

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Abstract -- **Since the beginning of the internet, forums have played a significant role in connecting users and facilitating discussions. Today, forums remain a vital part of the web ecosystem, providing a unique space for individuals to connect and exchange ideas on a wide range of topics. In this paper, we strive to show the process implied in modeling and deploying one of these apps to the internet covering its highlights such as its use and importance in the current time, its main key features and functionality, planned web deployment, and its development model and decisions made in its base version.**

I. INTRODUCTION

In this digital age, question-and-answer platforms have become crucial. They offer fast and precise responses to various inquiries and embrace individuals to share their expertise with a larger community. These platforms promote learning, troubleshooting, and knowledge dissemination, rendering them an invaluable asset for those in search of information.

This paper focuses on presenting a project that addresses these needs by developing an application that serves as a central point for discovering, acquiring, and managing digital applications and products. This application offers a comprehensive experience for users, from exploring and discovering new content to managing and updating their digital library.

The objective of this paper is to showcase a project that fulfills the requirement of creating a forum application, with a key focus on building an application that acts as a hub for members to connect and exchange information. Such an application provides a set of tools like posting questions for the whole platform to answer, being able to answer and vote to questions, managing and controlling the users' accounts, moderate the content in the platform.

II. METHODS AND MATERIALS

During the development process of this application, we conducted research and proposed methods and fundamental points to ensure that the project-maintained software modeling standards. These standards are commonly followed in this type of project.
These methods and ideas are:

Model Design:
- Utilizing UML and design patterns can greatly benefit the development of well-structured and efficient app models. Making use of a previously made design and illustrating in UML will speed up our first steps in the app design in terms like class definition and the whole code connections. By taking advantage of this we can define and create a better and more optimal code from the start allowing faster and more steady progress.

Database Design:
- An Entity-Relationship (ER) diagram is indispensable for defining a database structure's key aspects in an application. It identifies entities, attributes, and the relationships between them, allowing us developers to ensure the correct use of data, fast recollection, ease of access to the user. In our case we decided to implement it for: user accounts management, save posts both answers and questions, admin records and changes, and on.

User Stories:
- User stories are indispensable, concise descriptions of a feature or functionality, written from the user's needs. They help us understand their needs and design solutions focused on their specific requirements. User stories form part of the main objectives, guiding development towards what should be prioritized based on user needs. They have let us see the needs like question creation, replying with answers, the direct management of pots, user account management, etc.

Process Diagrams:
- By utilizing process diagrams, intricate procedures become more manageable, and we like developers can communicate and collaborate with greater ease. Making these diagrams offers insights into the app's functions step by step and user use flow, allowing for streamlined optimization, more concrete and functional classes, and finally, improved final code.

III. EXPERIMENTS & RESULTS

Through careful analysis, we have been able to gather valuable insight that will inform our future work. These experiments were designed to answer specific research questions to test hypotheses, the forward are such possible experiments:

Beta Versions Testing:
Beta versions refer to software that is not yet fully developed, yet they are released to a select group of users to test and provide feedback on. These versions are used to see if there is any kind of error or feature that needs improving for the app's sake. These experiments search to help us understand better the user and the possible things we may have missed while coding. Beta testing is an important step in the software development process and helps ensure that the final product meets the needs and expectations of its users.

Database Scalability and Recurrence:
This experiment hopes to determine if the previously designed ER model is good enough so that it can be altered according to the new needs and requirements set by the app's future. In hopes of doing this, we must test if the database can maintain a constant increase of users and calls to the stored data.

REFERENCES

[1]   C. A. Sierra (2024, March 19). Software Modeling [Online]. Available: https://github.com/EngAndres/ud-public/tree/main/courses/software-Modeling