SOFTWARE REQUIREMENTS SPECIFICATIONS

FOR

SEEDLING - AN EDUCATION WEBSITE

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Contents

INTRODUCTION

1.1   PURPOSE

The main purpose of "SEEDLING" is to provide the necessary information about exams and colleges after completing the board studies and to help the students to prepare for board exams and other entrance exams by providing materials which are needed to prepare for exams and by conducting various quizzes and mock test for respective subjects and exams through our web platform

1.2   DOCUMENT CONVENTIONS

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- **FONT FOR TITLE PAGE**:BAHNSCRIFT SEMILIGHT
- **FONT SIZE**:24

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1.3   INTENDED AUDIENCE OF THIS DOCUMENT:

PROJECT MANAGER:
 This document would be greatly useful to Project managers in helping them build a pathway to track the progress of the project.

DEVELOPERS:
It helps the developers to plan the task and know about the project structure which they are going to build

1.4   PRODUCT SCOPE

- user authentication
- Previous year papers
- Practice paper
- Model questions paper
- Notes to refer
- Best lecture videos for subjects

- Mock exam
- Quiz for every chapter
- All exam dates [board exam, scholarship exams, entrance exams]
- College information for each course
- Tips and tricks for exams
- Student community
- teacher community

2 OVERALL DESCRIPTION

2.1 PRODUCT PRESPECTIVE

This application allows user to go through previous years question papers, model papers, reference material, mock test, quiz for each chapter, notes for reference, a community for students promoting peer to peer communication, details about all exams including scholarship, board exam, entrance exam for colleges and universities. Provide E-books for students for all exams.

2.2 PRODUCT FUNCTIONS

- Students and teachers can login
- Students can take quiz and mock tests
- Teachers can set Question papers
- Students can find all the necessary data for studies
- Displays all the info about entrance exams and their question papers
- Displays info about colleges
- Can check entrance exam dates

2.3 USER CLASSES AND CHARACTERISTICS

GENERAL USER:

- Can see all the question paper of board exams and entrance exams
- Can see dates of entrance exams
- Can see information about colleges
- Can see best youtube tutorial links for every subject

STUDENT:

- Students can login using google account
- Can participate in quizzes and mock tests and can see the results
- And all other features of general user

TEACHER:

- can set question papers
- can see the performance of student
- and all other features of general user

2.4 OPERATING ENVIRONMENT

Our final application would be deployed on a Linux server. The end users would be able to access the application using any modern day web browser such as Chrome, Firefox etc.

The requirements to access the website are :

- Have a stable internet connection to access the website.

- Have a system that supports modern day operating systems such as Windows, MacOS , Linux and basic i/o devices like keyboard ,monitor, mouse to navigate the website.
- The system should have any modern day web browser such as Chrome ,Firefox etc.

2.5 DESIGN AND IMPLEMENTATION CONSTRAINTS

- Google auth which requires real cash after 10k requests
- Managing database while hosting in heroku

2.6 USER DOCUMENTATION

- UI is designed in the way that everyone can easily adapt
- Students and teachers login are managed by backend so need to have seperate login for students and teachers
- Website is designed in the way that students cannot access the section of teaches to prevent from malpractise

2.7 Assumptions and Dependencies

The assumptions are:-
●The coding should be error free.
●The system should be user friendly so that it is easy to use for the users.
●The system should have more capacity and provide fasta ccess to the database.
●The system should provide search facilities and support quick transactions.
●Users may access from any computer that has internet browsing capabilities and an internet connection

3   EXTERNAL INTERFACE REQUIREMENTS

3.1   USER INTERFACE

NAVBAR:

- Using Navigation bar user can access various page
- There is login/Signup functionality using this user can login /logout

STUDENT PORTAL:

- After student logged in,they can see a stud portal ,through which they can access quizzes

TEACHER PORTAL:

- After teacher logged in teachers can see similar teacher portal like student and they can set quizzes and see student performance through that portal

3.2   HARDWARE INTERFACES:

●USB : For connecting i/o devices like mouse, keyboard.

●Ethernet : So that the system will be able to access the internet.

●Display / HDMI port : For the system to connect to an external display.

3.2   SOFTWARE INTERFACES:

- **DJANGO**
- **AZURE**
- **SQLLITE3**
- **GOOGLE AUTH**
- **BOOTSTRAP**
- **HTML,CSS,JAVASCRIPT**

3.4   COMMUNICATION INTERFACE:

●IP network protocols

●Supported Web Browsers : Internet Explorer 11 and above, Mozilla Firefox 52 or above, Google Chrome 63 and above

●HTTPS secure communication standard

4   System Features :

4.1 Authentication:

This feature would be responsible for dealing with authentication of users. The users are primarily classified as students, teachers. Users can create an account which would validate them for their future operations.

4.2 Previous year papers:

- To know how the questions will be asked in the particular exams this page will be giving enough details about the question paper

.

Response Sequences :

The following list of sequences may be considered for this feature :

a) The homepage would contain the courses in which previous year question papers are provided for the students

b) The user can view all the previous year question papers for the entrance exams such as NEET , JEE etc this helps the students to get some basic knowledge that how the questions will be asked in exams.

Functional Requirements :

The basic functional requirements of this feature may be considered as follows :

REQ-1 : This page must contain previous year's question papers of various entrance exams

4.3 MOCK EXAMS

Description :

The mock exam is to check whether the student understands concept or not So quiz is conducted at the end of each chapter.

Response Sequences :

The following list of sequences may be considered for this feature :

a. Whenever the user finished one chapter he will be directed to another page where the quiz questions will be available .
b. The quiz contains 10 questions based on the performance of student grades will be awarded

Functional Requirements :

The basic functional requirements of this feature may be considered as follows :

REQ-1 : The quiz must contain 10 questions from a chapter which should cover all the topics in that chatper

REQ-2 : The grades must be provided because it helps the student how much does he knew about that chapter(self evaluation)

4.4   EXAM DATES

Description :

The release and closing dates of board exam, scholarship exams, entrance exams ,application form and entrance exam dates to join a course in an university is displayed

.

Response Sequences :

The following list of sequences may be considered for this feature :

a. This page contains various notifications based on their wish

they can choose what they want

    b. If the user clicked on JEE then he can able to know when does the online application for JEE starts and when does it ends

Functional Requirements :

The basic functional requirements of this feature may be considered as follows :

REQ-1 : The notifications must be in such a way that everyone should understand the content
REQ-2 : The dates should be original (NO FAKE INFORMATION)

4.4 COLLEGE INFORMATION :

Description :

The detailed info about the college which includes fee structure, ranking of the college

Response Sequences :

The following list of sequences may be considered for this feature :

    a. The raking of the college i.e the position of the college in India
    b. The fee structure of the college is explained briefly so that the student can calculate their needs before joining the college

Functional Requirements :

The basic functional requirements of this feature may be considered as follows :

REQ-1 : The ranking should be made after various polls, public opinions and governments opinion.

4.5 VIDEOS AND LECTURES NOTES:

Description :

Video and E-books are available for the students based on their respective classes ,The E- books are provided by Indian government which helps many students

Response Sequences :

The following list of sequences may be considered for this feature :

a. The video's are provided for very subjects of class 10,11,12 which is more helpful for students because if they miss some topics he/she can refer this video lectures
b. E-book are provided for students in this covid situation students can't go out so this service is great

Functional Requirements :

The basic functional requirements of this feature may be considered as follows :

REQ-1 :In the course page the video lectures and e-book's are provided
Which is free of cost so that everyone can access it.

4.6   Topic search

Description :

This feature helps the students search each and every small topics that they don't understand

Response Sequences :

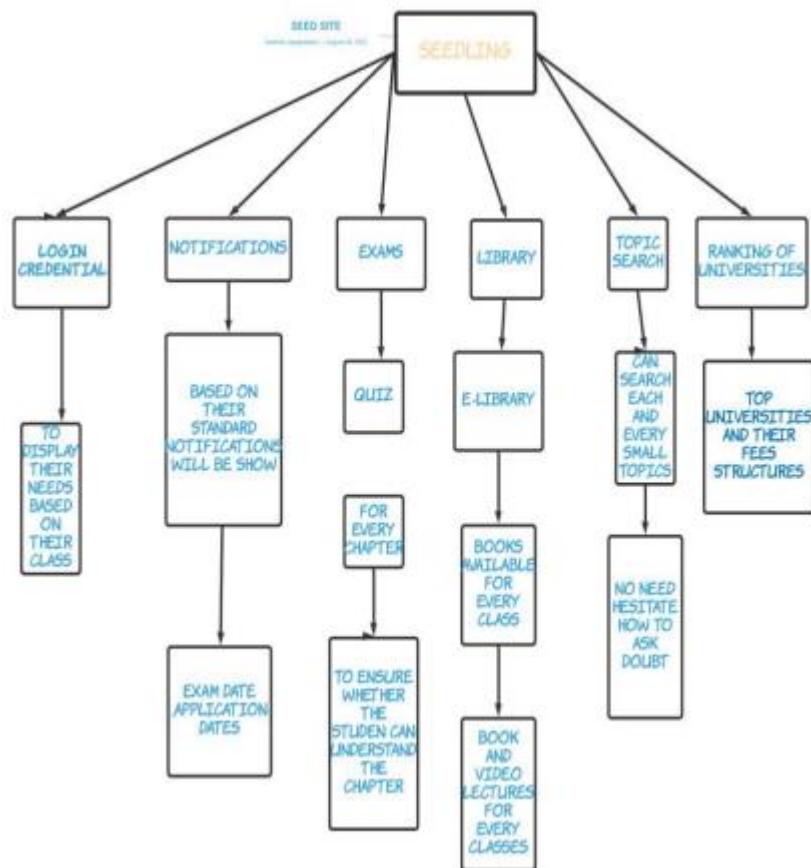The following list of sequences may be considered for this feature :

a. The search box is provided in a separate page which is used to search a topic and we provide the solutions theoretically .
b. This feature reduce the time of students instead of searching it in the unknown books for a searching a specific topic.

Functional Requirements :

The basic functional requirements of this feature may be considered as follows :

REQ-1 :In this page the solutions for the topic that have been searched by the student is provided from a trusted source such as wikipedia

FEATURES AVAILABLE IN OUR WEBSITE:

5. **Other Nonfunctional Requirements**

5.1 Performance Requirements

For the users, particularly the mobile user, speed is integral to a satisfactory experience. Enabling mobile devices to achieve high performance from a web-hosting environment requires a different technology approach from the traditional. Due to the rapid pace of innovation and speed of adoption in the mobile platform, firms are needing to move with speed and agility. We have adopted the latest technologies to achieve a smooth and hassle free experience

for our users.

5.2 Security Requirements

As the online channel continues to grow, security threats increase as well. Enterprise organisation's are being hacked, causing havoc across their entire customer base. There are various fraud websites which collect your personal info such card details and misuse it but this is a free website to give enough details to students.

5.3 Software Quality Attributes

We have attempted to ensure the following preferences for our website :

- The ease of use over learning : We have attempted to create a fairly easy to use interface through which one can quickly get familiar to the software. The users would not have to spend much time learning how to use the software.
- A wide variety of features available for use : We have included a great deal of features in an organized way so that it would become easier for the users to navigate and explore.
- Availability : We have attempted to make the software available on multiple platforms so that users using different platforms would be able to easily access it.

5.4 RULES AN REGULATIONS:

The operating principles of the site are as follows :

- Users and responsible to adhere to the terms and conditions of the software provided.
- NO Fake information provided in this site
- A Database Recovery team has been allotted the task of restoring the system according to a set of protocols in case of a database failure.
- A technical team handles various technical related issues / developments.

Appendix A: Glossary

- HTML : HTML is the standard markup language for creating Web pages
- CSS : CSS is used to style HTML Web Pages.
- JavaScript : JavaScript is a scripting or programming language that allows you to implement complex features on web pages
- Web Page: a hypertext document on the World Wide Web.
- IP Protocols : The Internet Protocol (IP) is a protocol, or set of rules, for routing and addressing packets of data so that they can travel across networks and arrive at the correct destination.
- Python: Python is an interpreted, object-oriented, high-level programming language with dynamic semantics.
- Recommender Systems: A recommender system, or a recommendation system, is a subclass of information filtering system that seeks to predict the "rating" or "preference" a user would give to an item.
- "Microsoft azure": Microsoft Azure, commonly referred to as Azure, is a cloud computing service created by Microsoft for building, testing, deploying, and managing applications and services through Microsoft-managed data centers
- "SQLite" is a self-contained, file-based SQL database. SQLite comes bundled with Python and can be used in any of your Python applications without having to install any additional software
- Django is a Python-based free and open-source web framework that follows the model–template–views architectural pattern. It is maintained by the Django Software

Foundation
- "Bootstrap" is a free and open-source CSS framework directed at responsive, mobile-first front-end web development. It contains CSS- and JavaScript-based design templates for typography, forms, buttons, navigation, and other interface components.

APPENDIX B:

ANALYSIS MODEL: