CSEDU - Onusondhan

**Software Requirement Specification Document  
  
  
  
  
  
  
  
  
  
  
  
Submitted by:**1. Golam Mourshid (51)  
2. Sree Sowmik Kumar Sarker (54)

**TABLE OF CONTENTS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **1.** | **Introduction** | | |  |
|  | 1.1 | Purpose | |  |
|  | 1.2 | Scope | |  |
|  | 1.3 | Overview | |  |
|  | 1.4 | Reference Material | |  |
|  | 1.5 | Definitions and Acronyms | |  |
|  | 1.6 | Glossary | |  |
|  |  |  | |  |
| **2.** | **Overall Description** | | |  |
|  | 2.1 | Product perspective | |  |
|  | 2.2 | Product functions | |  |
|  | 2.3 | User Profiles | |  |
|  | 2.4 | Constraints | |  |
|  | 2.5 | Assumptions and dependencies | |  |
|  | 2.6 | Use Cases | |  |
|  |  |  | |  |
| **3.** | **Specific Requirement** | | |  |
|  | 3.1 | Functional Requirement | |  |
|  |  | 3.1.1 | Sign Up |  |
|  |  | 3.1.2 | Sign In |  |
|  |  | 3.1.3 | Ask Question |  |
|  |  | 3.1.4 | Search Question Tag |  |
|  |  | 3.1.5 | Reply or Answer Question |  |
|  |  | 3.1.6 | Users |  |
|  | 3.2 | Non Functional requirement | |  |
|  |  | 3.2.1 | Performance |  |
|  |  | 3.2.2 | Efficiency |  |
|  |  | 3.2.3 | Reliability |  |
|  |  | 3.2.4 | Security |  |
|  |  | 3.2.5 | Robustness |  |
|  |  | 3.2.6 | Adaptability |  |
|  |  | 3.2.7 | Scalability |  |
|  |  | 3.2.8 | Safety |  |
|  |  | 3.2.9 | Cost |  |
|  |  | 3.2.10 | Deployment |  |
|  |  | 3.2.11 | Maintainability |  |
|  |  |  |  |  |
|  | 3.3 | External Interfaces Requirement | |  |
|  |  | 3.3.1 | Hardware interfaces |  |
|  |  | 3.3.2 | User Interfaces |  |
|  |  | 3.3.3 | Software Interfaces |  |
|  |  | 3.3.4 | Communications Interfaces |  |
|  |  |  |  |  |
|  |  |  | |  |
| **4.** | Other Requirements | | |  |
|  |  |  | |  |
| **5.** | Document Approvals | | |  |
|  |  |  | |  |
| **6.** | Supporting Information | | |  |
|  | 7.1 | Index | |  |

**Description of Contents**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **1.** | **Introduction** | | |  | |
|  | 1.1 | Purpose | | |  |
|  |  | The main purpose of this project is to known user’s all about CSEDU. By this project any type of question about CSEDU will get it’s clients/users. As a result they can learn his/her questions answer easily and in short time. Questions like where is CSEDU located? / How many teacher now in CSEDU ? / What are the courses that are taken here for undergraduate? Etc. The main objectives of this project to answer these type questions to it’s client. By accepting membership client also can answer these type of questions. Finally admin check the answer and mark it true. It’s goal is to represent CSEDU properly to the people. CSEDU – Onusondhan will be a Web app built for the Web using the Flask Framework. It will be platform independent and accessible on all devices with a web browser supporting Flask . | | |  |
|  | 1.2 | Scope | | |  |
|  |  | The SRS specifies the requirements of the CSEDU - Onusondhan product.  The product gives the clients/users different types of questions answer about CSEDU. Question like What is the number of faculty member in CSEDU currently? / What are the courses that are teaches in CSEDU for undergraduate students. / What are the best / favourite courses in CSEDU?. Etc. The goal of the project is to create a full right consciousness about CSEDU. By using this all the users can know all about CSEDU and also it’s goal is to do that. | | |  |
|  | 1.3 | Overview | | |  |
|  |  | *This document contains all of the software requirement specifications.*  *It contains a general description of the types of users who will be using*  *our application, how it is going to work, and what technologies we are*  *using to make it work. An outline and description of specific*  *components of the projects will also be given.* | | |  |
|  | 1.4 | Reference Material | | |  |
|  |  | 1.4.1 Functional Requirements Document on CSEDU - Onusondhan written  by Golam Mourshid and Sree Sowmik Kumar Sarker.  1.4.2 Non Functional Requirements Document on CSEDU - Onusondhan  written by Golam Mourshid and Sree Sowmik Kumar Sarker. | | |  |
|  | 1.5 | Definitions and Acronyms | | |  |
|  |  | Flask - a micro-framework for Python based on Werkzeug, Jinja 2 and good intentions. It is classified as a micro-framework because it does not require particular tools or libraries. It has no database abstraction layer, form validation, or any other components where pre-existing third-party libraries provide common functions. | | |  |
|  | 1.6 | Glossary | | |  |
|  |  | None. | | |  |
|  |  |  | | |  |
| **2.** | **Overall Description** | | |  | |
|  | 2.1 | Product perspective | | |  |
|  |  | This is a open source website. Any student of CSEDU can create an account and contribute with any kind of questions and answers. If one has no account then, can only view the questions and the answers. The question is only relate to the CSEDU. Here also added the teacher’s information, Alumni information faculty information etc. Anyone can access this type of information. For this no need to sign up or sign in. | | |  |
|  | 2.2 | Product functions | | |  |
|  |  | The functions of the product are:  2.2.1. The program will allow the verified users to enter new questions,  reply with correct answer of any questions, and access any other information about CSEDU..  2.2.2. The program will allow the user to reply with the answer of the specific  questions, and any of the other user can argue with that in the comment section.  2.2.3. The program will allow the user to ask or see reply of different type of questions by selecting the ‘ask type’ section. | | |  |
|  | 2.3 | User Profiles | | |  |
|  |  | Any kind of CSEDU Teachers , students ,researchers are the users of the product. There are the option of the user of the guest user that means the user is not relate to CSEDU. For signing in the user give the gmail addresses and name, that will show in the profile section of the user. | | |  |
|  | 2.4 | Constraints | | |  |
|  |  | The constraints of the program are:  2.4.1. The program will not be able to evaluate the problems properly if any of the user reply with a wrong answer of any question. In this case the only option is the argument of other user.  2.4.2. This program can’t give any ask or reply interface of any question if he/she can’t sign in before. | | |  |
|  | 2.5 | Assumptions and dependencies | | |  |
|  |  | The assumptions of the program are:  2.5.1. This program is web based online program. Main priority is to  make the software run on desktops.  2.5.2. The answer of any question depends on the verified user.  2.5.3. We assume that all the question will be CSEDU related.  2.5.4. It is intended to use firebase free tier to host the application. | | |  |
|  | 2.6 | Use Cases | | |  |
|  |  | *2.6.1 Account Creation:*  *2.6.1.1 Open Account*  *Use Case: Open Account*  *Goals in Context: To open an account*  *Scenario:*  *1. Goto Main Page and initiate open account*  *2. Provide name, and password.*  *Exception:*  *1. Ambiguous input*  *2. Account name used more than once*  *Priority: 1*  *2.6.2 Login:*  *2.6.2.1 Sign in*  *Use case: Sign in*  *Goals in Context: To login into an account*  *Scenario:*  *1. Go to Main Page and sign in to access into the account*  *2. Provide username and password.*  *Exception:*  *1. Ambiguous Input*  *2. Account name does not exist*  *Priority: 1*  *2.6.2.2 Logout*  *Use case: Sign in*  *Goals in Context: To sign out*  *Scenario:*  *1. Visit page*  *2. After finishing their tasks, the user can sign out*  *Exception:*  *1. User hasn’t actually logged in*  *Priority: 1*  *2.6.3 Normal user functionalities:*  *2.6.3.1 ask or reply question successfully*  *Use case: ask question successfully*  *Primary Actor: Student or other public.*  *Goals in context: The student or any public will ask a question that relate*  *to the CSEDU.*  *Scenario:*  *1. User click the ask question button.*  *2. A page will be shown, where there will be shown the*  *question type.*  *3. Then select the question type and write the question about*  *CSEDU.*  *4.Then send it by clicking the send button.*  *Priority: 1*  *2.6.3.1 reply question successfully*  *Use case: reply question successfully*  *Primary Actor: Student or other public.*  *Goals in context: The student or any public will reply a question that*  *relate to the CSEDU.*  *Scenario:*  *1. User click the comment button of a specific question.*  *2. A page will be shown, where there will be the written answer.*  *3.Then send it by clicking the send button.*  *Priority: 1* | | |  |
| **3.** | **Specific Requirement** | | |  | |
|  | 3.1 | Functional Requirement | | |  |
|  |  |  | | |  |
|  |  | 3.1.1 | Requirement 1  Name : Sign Up  Description: User can sign up by making a username and password and must need to use a valid gmail account. User must fill all the fields that are required to create an account.  Stimulus Response If user can’t fill any of the field that are given or the user use the username or gmail that already used Please fill up all the field.  Stimulus Response: If all fields are correctly filled  It will show that registration completed successfully.  Priority: 1  Associated Requirements:  3.1.1.1 Requirement ID: R51.54.01  Requirement Name: User name  Requirement Description: The user name will be at most 20 characters and at least 5 characters and only lowercase English letters.  Reference: R51.54.01  3.1.1.2 Requirement ID: R51.54.02  Requirement Name: Password  Requirement Description: The password will have to be at least 8 characters and at most 20 characters.  Reference : R51.54.02  3.1.1.3 Requirement ID: R51.54.03  Requirement Name: Gmail account  Requirement Description: The gmail account must be valid.  Reference : R51.54.03  3.1.1.4 Requirement ID: R51.54.04  Requirement Name: Academic year in CSEDU.  Requirement Description: As this project users are CSEDU students so it’s need to fill up academic year. If the user is alumni then he/she fill it as alumni.  Reference R51.54.04 | |  |
|  |  | 3.1.2 | Requirement 2  Name: Sign In  Description: User can sign in by creating an account using his/her gmail account. For signing, user only can use  username and his password.  Stimulus Response: If the username or password isn’t valid  It will show that the user name or password is invalid.  Stimulus Response: If the username or password is blank  Please give the username and password correctly  Priority : 2  Associated Requirements:  3.1.2.1 Requirement ID : R51.54.05  Requirement Name : Username  Requirement Description : The user must have a valid username by creating an account.  Reference R51.54.05  3.1.2.2 Requirement ID : R51.54.06  Requirement Name : Password  Requirement Description : The user must have a valid password by creating an account.  Reference R51.54.06 | |  |
|  |  | 3.1.3 | Requirement 3  Name : Ask Question  Description : Here user can post any type of question related to CSEDU . User must fill up the title, body and question  tag field.  Stimulus Response : If any one of these field are not filled  This will notify the user.  Priority : 3  Associated Requirements :  3.1.3.1 Requirement ID : R51.54.07  Requirement Name : Logged in  Requirement Description : The user must be logged in to ask question.  Reference : R51.54.05 and R51.54.06 | |  |
|  |  | 3.1.4 | Requirement 4  Name : Search Question tag  Description : User can search questions by tags. If user click tags then he/she can see different types of question tags  and also see the questions bellow the tags and the  total number of question under the tags.  Stimulus Response : If the user click any type of tag then  Then he/she can see all the question and answer    Priority : 4  It has not any additional requirement because anyone can see this project website. So anyone can see result and can search here. | |  |
|  |  | 3.1.5 | Requirement 5  Name : Reply or answer  Description : Replay an answer of a question or give a reply of an answer that already given by another user.  Stimulus Response : If user click the answer or reply button  User will see space to write the reply or answer.  Priority : 5  Associated Requirements :  3.1.5.1 Requirement ID : R51.54.08  Requirement Name : Logged in  Requirement Description : The user must be logged in to ask question.  Reference : R51.54.05 and R51.54.06 | |  |
|  |  | 3.1.6 | Requirement 6  Name : Users  Description : The user can see all of the user who have an account in this site.  Stimulus Response : If the user select the user button  the user can see all of the user who have an account.  Priority : 6  Associated Requirements :  3.1.6.1 Requirement ID : R51.54.09  Requirement Name : Logged in  Requirement Description : The user must be logged in to ask question.  Reference : R51.54.05 and R51.54.06 | |  |
|  | 3.2 | Non Functional requirement | | |  |
|  |  | 3.2.1 | Performance | |  |
|  |  |  | 3.2.1.1 Requirement ID : R51.54.14  Requirement Name : Capacity  Requirement Description : Maximum numbers of users/terminals/transactions our system can handle without performance degradation. System will give stimulus-response. | |  |
|  |  | 3.2.2 | Efficiency | |  |
|  |  |  | 3.2.2.1 Requirement ID : R51.54.15  Requirement Name : Degradation of service  Requirement Description : We don’t want that our system will  easily crash! We may want to stipulate that our system should handle the load, perhaps with the degraded state. | |  |
|  |  | 3.2.3 | Reliability | |  |
|  |  |  | 3.2.3.1 Requirement ID : R51.54.20  Requirement Name : Searching Result Precision  Requirement Description : This system will try it’s best to give the more efficient searching result to it’s users.  3.2.3.2 Requirement ID : R51.54.21  Requirement Name : Computation Capability  Requirement Description : This system only can show questions result that exist in this system. Either It will give feedback. | |  |
|  |  | 3.2.4 | Security | |  |
|  |  |  | 3.2.4.1 Requirement ID : R51.54.25  Requirement Name : Access  Requirement Description : Any type of user can search here and can see this system and data . But only authorize user can comment or reply or answer or modify in this system. | |  |
|  |  | 3.2.5 | Robustness | |  |
|  |  |  | 3.2.5.1 Requirement ID : R51.54.26  Requirement Name : Error handle Capability  Requirement Description : This system is capable to cope with errors during execution. Also it can handle invalid or unexpected inputs result. | |  |
|  |  | 3.2.6 | Adaptability | |  |
|  |  |  | 3.2.6.1 Requirement ID : R51.54.27  Requirement Name : Environmental adaptability  Requirement Description : This system is adaptable in any environment like Windows, Linux , Mac and Android .  3.2.6.2 Requirement ID : R51.54.28  Requirement Name : Other Problem  Requirement Description : It will be crushed if environment has too low ram like old version android that has too low ram and can’t load the system. | |  |
|  |  | 3.2.7 | Scalability | |  |
|  |  |  | 3.2.7.1 Requirement ID : R51.54.29  Requirement Name : User Scalability  Requirement Description : This system can handle a fixed amount of user/client. That means a fixed number of user can use this system at a time.  Requirement ID : R51.54.30  Requirement Name : Data  Requirement Description : This system can handle at most 1.5 GB of data . | |  |
|  |  | 3.2.8 | Safety | |  |
|  |  |  | 3.2.8.1 Requirement ID : R51.54.31  Requirement Name : Data Recovery  Requirement Description : There should be some options to recover from damage such as copy of database and information ,through offline or online services. | |  |
|  |  | 3.2.9 | Reusability | |  |
|  |  |  | 3.2.9.1 Requirement ID : R51.54.32  Requirement Name : Efficiency of use  Requirement Description : Goals are easy to accomplish quickly and with few or no user errors.  3.2.9.2 Requirement ID : R51.54.33  Requirement Name : Intuitiveness  Requirement Description : The interface is easy to learn and navigate: buttons, headings and help/error messages are simple to understand.  3.2.9.3 Requirement ID : R51.54.34  Requirement Name : Low perceived workload  Requirement Description : The interface is appears easy to use, rather than intimidating, demanding and frustrating.  3.2.9.4 Requirement ID : R51.54.35  Requirement Name : Learning outcome  Requirement Description : User can properly learn about CSEDU and related questions about CSEDU. | |  |
|  |  | 3.2.10 | Testability | |  |
|  |  |  | 3.2.10.1 Requirement ID: R51.54.36  Requirement Name: Testability  Requirement Description: Software will be implemented in  such a way that the total software can be tested using  Flask test framework. | |  |
|  |  | 3.2.11 | Maintainability | |  |
|  |  |  | 3.2.11.1 Requirement ID: R51.54.37  Requirement Mame: Agile Development Model  Requirement Description: We will apply a agile design pattern  to develop the application | |  |
|  |  | 3.2.12 | Cost | |  |
|  |  |  | 3.2.12.1 Requirement ID : R51.54.38  Requirement Name : TCO Cost  *Requirement Description : Total Cost of Ownership is mandatory for changing the ownership of this system.*  3.2.12.2 Requirement ID : R51.54.39  Requirement Name : Installation Cost  *Requirement Description : There is no installation cost in this system. This is open source for all user of CSEDU.*  3.2.12.3 Requirement ID : R51.54.40  Requirement Name : Use Cost  *Requirement Description : Users can use it in free. There is no payment for this system.*  3.2.12.4 Requirement ID : R51.54.41  Requirement Name : Disposal Cost  *Requirement Description : Disposal cost is needed for this system.* | |  |
|  |  |  | | |  |
|  | 3.3 | External Interfaces Requirement | | |  |
|  |  | 3.3.1 | Hardware interfaces | |  |
|  |  |  | 3.3.1.1 Requirement ID: R51.54.42  Requirement Name: Hardware specification  Requirement Description: For running the application we  need at least 4GB of RAM at the server PC and at least 1GB  of RAM at the client PCs and 700MB for android devices.At least 100MB hard disk space is  needed in both server and clients. It is expected that the  software would run correctly in at least desktop PCs and phone with browsers will support the web application.  Continuous power and internet supply is also needed. | |  |
|  |  | 3.3.2 | User Interfaces | |  |
|  |  |  | 3.3.2.1 Requirement ID: R51.54.43  Requirement Name: Bootstrap layout design  Requirement Description: User interfaces are so clear that a user can easily find the options they can utilize and use. It will be a user-friendly interface.This product will use Bootstrap  design for its interfaces. | |  |
|  |  | 3.3.3 | Software Interfaces | |  |
|  |  |  | 3.3.3.1 Requirement ID: R51.54.44  Requirement Name: Platform Specification  Requirement Description: The software would run in PCs  which have a browser that supports Flask and  Python.  We will use pycharm for implementing our project.   * Firebase database will be used. * There will be need of a browser which that supports Flask. * Some framework will be needed according to our design. | |  |
|  |  | 3.3.4 | Communications Interfaces | |  |
|  |  |  | 3.3.4.1 Requirement ID: R51.54.45  As the project is a web application, we will need a web  browser, with Internet connection. We will use HTTP for  sending the web page to client PCs. We will use CSRF token  for encryption. It is preferable that the clients are connected  to the server with a network connection greater than  100kbps. | |  |
|  |  |  | | |  |
| **4.** | Other Requirements | | |  | |
|  | 4.1. Database Requirements: We will use firebase database.  4.2. Internationalization Requirements: We will be primarily targeting only  English language.  4.3. Legal Requirements: As this is an academic projects, software licenses  are not being added. | | |  | |
| **5.** | Analysis Model | | |  | |
|  | Will be added in Software Design Documentation. | | |  | |
| **6.** | Supporting Information | | |  | |
|  | 7.1 | Index | | |  |