**ASSIGNMENT 4**

**QUESTION 1: STAKEHOLDERS ANALYSIS**

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| **Stakeholder** | **Role** | **Key Concerns** | **Pain Points** | **Success Metrics** |
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| Learners | User | Are the learners going to do the work on their own when they are at home? | Internet connection and lack of monitoring learners could force learners to abandon the app. | They are the yardsticks of the effectiveness of the application, adjustment and updates. |
| Teachers | User | Spending more time on the computer preparing online tests/work sheets could frustrate the teacher. | Learners could ask anybody to do their work during their absentia. | They are the biggest custodians of the system in terms of content and recommendations. |
| Department of Education | Approves the system | System usability must approve. | It could take time for the system to be approved. | The content and system requirements will be in line with Caps expectations. |
| Frontend Developers | Developers’ system interface | Develop cutting edge user interface for the system including login and registration pages. | Decision on the language to use. JavaScript is the winner because it is super-fast. | The use of JavaSript will be a plus |
| Backend developers | Develop the backbone of the system and set up the database | Develops the backend and the database. | Decision on the language and the database. | The use of JavaScript will be a huge boost. JavaScript has frameworks that can be incorporated like ReactJS and NodeJS or they could use |
| Systems administrator | Allows the app to be used at school | Incorporate the system into the school’s server and allow updates to be done on the school network. | Allowing school email address will cause problems in the sense that if the school server goes down, there could issues. | There will be security designed not to allow anybody to register without the school credentials. |

**QUESTION 2: FUNCTIONAL REQUIREMENTS**

1. **REGISTER AND LOGIN -** All users must be registered first using the school domain and the minimum password required must be set. No duplicates of users allowed. Admin registration will be separated from other users. All users will have to log in to access the app content. Admins monitors the activities of other users. Admin registration will have OTPs to safeguard the application.
2. **FUNCTIONALITIES OF BUTTONS AND WIDGETS**: All the logical buttons and widgets like must be visible and work well. The following buttons must work **INSERT**, **ADD**, **EDIT**, **BACK**, **FORWARD**, **SUBMIT** and **DELETE** must work.
3. The system must be able to allow learners to submit their work either to the database or to a repo. The teacher marks learners work on the system and sends back the feedback to the learner
4. The systems generate reports on learners’ performances
5. The system will do auto updates on school premises.
6. Learners will be allowed to use AI with the system
7. The system will be incorporated into an instant messaging system.
8. The system will allow admins to dele
9. Learners will be allowed to share their work with other learners.
10. The save button must allow learners to save their work & allows them to continue late.

**QUESTION 3: NON-FUCTIONAL REQUIREMENTS**

1. **Aesthetics:** The home page of the system must look professional. Register and login links should be world class.
2. **Speed:** The speed of the application must be super-fast and be able to sustain the traffic at a particular time. In this instance JavaScript will be used.
3. **Navigation:** The application will be well designed so that users will not have difficulties in traversing the application when using it.
4. **Security:** School emails will be used, and all the passwords will be hashed using MD5 at least.
5. **Browser:** The application will be compatible with all the browsers.
6. **Operating system:** The web-based version will be compatible with all operating systems and the app version will be compatible with Android and IOS versions.
7. **Servers:** The system will be hosted online with a trusted hosting company like Go Daddy or HostGator.
8. **Downtime and Maintenance:** Maintenance must be done in the evening when there is less traffic. Users should be informed beforehand.
9. **Documentation and updates:** The developers must keep all documentation safe and there must be some documentation coming from the users daily.
10. **Communication:** Communication channel should be between users, system administrators and the developers.

**QUESTION 4: DOCUMENTATION AND CLARITY**

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| **FUNCTIONAL REQUIREMENTS** | **NON-FUNCTIONAL REQUIREMENTS** |
| 1. Register and login using email and password | The feel and look of the application-Aesthetics |
| 1. Learners to solve Math problems within the application using incorporated logical symbols, buttons and widgets. | Browsers compatibility |
| 1. The security API for third part login for admin and developers | Operating system compatibility on desktop and mobile devices. |
| 1. An admin could remove users based on the underlined rules. | Documentation and backups |
| 1. Reports generation | System updates |