**Project Design Phase-II**

**Solution Requirements (Functional & Non-functional)**

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| Date | 03 October 2022 |
| Team ID | PNT2022TMID07118 |
| Project Name | Project - A Gesture-based Tool for Sterile Browsing of Radiology Images |
| Maximum Marks | 4 Marks |

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

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| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| FR-1 | User Registration | Registration through Form  Registration through Gmail  Registration through LinkedIn |
| FR-2 | User Confirmation | Confirmation via Email  Confirmation via OTP |
| FR-3 | Add image option | Add image through Device  Add image through Drive |
| FR-4 | Predict button | The predict route is used for prediction and it contains all the codes which are used for predicting our results. Firstly, inside launch function we are having the following things:   * Getting our input and storing it * Grab the frames from the web cam. * Creating ROI * Predicting our results * Showcase the results with the help of OpenCV * Finally run the application |
| FR-5 | Help button | It has a guide that helps you practice on your gestures. |

**Non-functional Requirements:**

Following are the non-functional requirements of the proposed solution.

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| **FR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | **Usability** | This software shall be easy to use for all users with minimal instructions. 100% of the  languages on the graphical user interface (GUI) shall be intuitive and understandable by  non-technical users. |
| NFR-2 | **Security** | The user of the system should be provided the surety that their account details are secure. The system will provide security against cross site request forgery. |
| NFR-3 | **Reliability** | The HGR software shall be operable in all lighting conditions. Regardless of the  brightness level in user’s operating environment, the program shall always detect user’s hands. |
| NFR-4 | **Performance** | This software shall minimize the number of calculations needed to perform image  processing and hand gesture detection. Each captured video frame shall be processed  within 350 milliseconds to achieve 3 frames per second performance. |
| NFR-5 | **Extensibility** | The software shall be extensible to support future developments and add-ons to the HGR software. The gesture control module of HGR shall be at least 50% extensible to allow  new gesture recognition features to be added to the system. |
| NFR-6 | **Portability** | The HGR software shall be 100% portable to all operating platforms that support Java  Runtime Environment (JRE). Therefore, this software should not depend on the different  operating systems. |