**Project Design Phase-II**

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

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| Date | 12 October 2022 |
| Team ID | PNT2022TMID15381 |
| Project Name | Classification of Arrhythmia by Using Deep Learning with 2-D ECG Spectral Image Representation |
| 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 Mobile  Registration through Gmail |
| FR-2 | User Confirmation | Confirmation via Email  Confirmation via Mobile (OTP) |
| FR-3 | User Login | Login via registered User Id and password |
| FR-4 | Contact Details | Contact details of nearby healthcare specialized is shown |
| FR-5 | Information about CVDs | The information regarding the CVDs and its types is shown |
| FR-6 | Input | The input box must allow images in pc to be uploaded to the site effectively |
| FR-7 | Output | Accurate prediction of the given situation and suitable information must be shown |
| FR-8 | Devices | The website must be smoothly working on all types of devices without any problem |
| FR-9 | Image processing accuracy | The website must show the accuracy of the prediction |
| FR-10 | Training | The website should increase the accuracy of prediction by constantly training the model with new datasets |
| FR-11 | Precautions | The precautions suggested by a professional for a particular type of CVD must be shown. |

**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** | The website must be composed of simple English vocabulary so that the users can understand  The input box should mention the type of image and maximum size permitted to upload  The users can clear doubt about the particular CVD from the healthcare professional contact that is suggested below the output |
| NFR-2 | **Security** | Only data administrator has permission to access the system and train the model with datasets  User Id, password, OTP altogether needed to access the database |
| NFR-3 | **Reliability** | All the datasets are securely stored in cloud for backup  The database update process must roll back all related updates when any update fails. |
| NFR-4 | **Performance** | Each page load time must be no more than 2 seconds for users with stable internet connection.  The output or prediction should be displayed within 4 seconds from the time of giving input |
| NFR-5 | **Availability** | New module deployment mustn’t impact website pages availability and mustn't take longer than one hour to be live.  The pages that may experience problems must display a notification with a timer showing when the system is going to be up again. |
| NFR-6 | **Scalability** | The website traffic limit must be scalable enough to support 10,000 users at a time.  The size of the database can be increased to accommodate more datasets without affecting the performance |