**Project Design Phase-II**

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

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| Date | 18 October 2022 |
| Team ID | PNT2022TMID12347 |
| Project Name | Classification of Arrhythmia by Using Deep Learning with 2-D ECG Spectral Image Representation |
| Maximum Marks | 4 Marks |

**Functional Requirements:**

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| **FR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | **Usability** | An user friendly and simple UI web application.  Easy drag and drop uploading options.  No input, can select between pre-defined images made available in the UI web application by just selecting the type of image. |
| NFR-2 | **Security** | Only user uploaded images / images selected by user are cited and classified by the model and displayed. No third party web and UI is used for prediction of data. Details about user interaction with the web application are protected by Advanced Security system. |
| NFR-3 | **Reliability** | Defect free. Higher accuracy rate. Performs correctly in every scenario. The website's load time is not more than one second for users. |
| NFR-4 | **Performance** | Fast and quick classification of the required class is done as the GPU used for the model is 10% more fast in analysing and uploading the user uploaded images ! |

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 Upload | Interacts with User interface to upload image |
| FR-2 | User Selection | Knowledge about ECG images Select the image to be classified |
| FR-3 | User Input | No input ( For Training ) images need to be given..(All normal and the other six being different types of arrhythmia ECG images are already fed ) |
| FR-4 | User Output | Cited class will be displayed on the webpage (UI) |
| FR-5 | User Storage | Cloud Storage Services via Google Drive. |

**Non-functional Requirements:**

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

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| --- | --- | --- |
| NFR-5 | **Availability** | Anytime anywhere available web application almost can found in all popular search engines like Google, etc.. Were user are requested to have good internet connection. |
| NFR-6 | **Scalability** | More than one type of classification can be done as multiple images can be uploaded. Reduced traffic in case of multiple user interaction. |