

**Project Design Phase-II**  
**Solution Requirements (Functional & Non-functional)**

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|---------------|--|
| Date          | 14 October 2022  |
| Team ID       | PNT2022TMID37786   |
| 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.

| <b>FR No.</b> | <b>Functional Requirement (Epic)</b> | <b>Sub Requirement (Story / Sub-Task)</b>   |
|---------------|--------------------------------------|---|
| FR-1          | User Registration                    | Registration through Form Registration<br>Registration through Gmail<br>Registration through LinkedIN                         |
| FR-2          | User Confirmation                    | Confirmation via Email Confirmation<br>via OTP  |
| FR- 3         | User interface                       | Check your profile Choose your file<br>Sign Out your account account and change your password                                 |
| FR- 4         | Data processing                      | Evaluating the model using test data<br>Training DL algorithm for a accuracy result Trained CNN model using Tensorflow,Kearas |
| FR-5          | Predict ECG image                    | User ECG images in our web application Collection of datasets<br>Database read ECG images                                     |

### Non-functional Requirements:

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

| FR No. | Non-Functional Requirement | Description  |
|--------|----------------------------|--|
| NFR-1  | Usability                  | Wireless ECG body sensor Savvy is a feasible solution for reliable and accurate long-term heart rhythm monitoring.<br>However, there were no studies dealing with usability of this sensor in field testing. |
| NFR-2  | Security                   | The work presented in this paper is applicable for encrypting and decrypting personalized Electrocardiograph ECG signals for secure transmission.  |
| NFR-3  | Reliability                | The extent to the consistently performs the specified functions without failure  |
| NFR-4  | Performance                | It essentially specifies how the system should behave and that it constrains the ECG wavelength of accurate disease information gathering.   |
| NFR-5  | Availability               | Availability describes how likely the system is accessible to a user at a given point in time and the periodically for a solutions.  |
| NFR-6  | Scalability                | The ability of the user problem in arrhythmia disease to handle an increase in workload without performance degradation, or its ability to quickly enlarge.  |