Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	03 October 2022
Team ID	PNT2022TMID34730
Project Name	Project - Classification of Arrhythmia by Using Deep Learning with 2-D ECG Spectral Image Representation
Maximum Marks	4 Marks

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web UI	HTML, CSS,Python.
2.	Application Logic-1	Data Preprocessing	Keras, Tensorflow, Numpy - (Importing Essentisl Libraries)
3.	Application Logic-2	CNN Model Creating	Keras, Tensorflow, Numpy - (Importing Essentisl Libraries)
4.	Application Logic-3	Web Application (UI)	Flask
5.	Database	Images (Jpeg, PNG, Jpg, etc..)	Uploads Folder
6.	File Storage	File storage requirements (only if necessary)	IBM Block Storage / Google Drive (Depends On Preference)
7.	External API-1	Keras	Image Processing API.
8.	Deep Learning Model	Inception v3 architecture	Object Recognition Model, etc.
9.	Infrastructure (Server / Cloud)	Application Deployment on web server	Flask—a Python WSGI HTTP server

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Flask	Technology of Open source framework
2.	Security Implementations	CSRF protection, cookies protection, jinja templating and user input.	Jinja2
3.	Scalable Architecture	Micro Services	Micro web application framework by Flask
4.	Availability	1. built-in development server and fast debugger 2. integrated support for unit testing 3. RESTful request dispatching Jinja2 templating Unicode based	Jinja2
5.	Performance	ORM-agnostic, web framework, WSGI 1.0 compliant, HTTP request handling functionality High Flexibility	SQLAlchemy, extensions, Werkzeug, Jinja2, Sinatra Ruby framework.