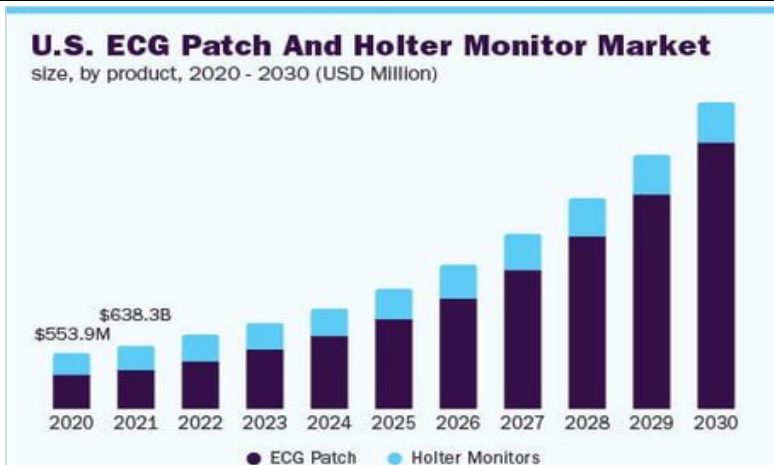


## Project Design Phase-I Proposed Solution Template

Date	18-10-2022
Team ID	PNT2022TMID12347
Project Name	Project- Classification of Arrhythmia by Using Deep Learning with 2-D ECG Spectral Image Representation
Maximum Marks	2 Marks

### Proposed Solution Template:

S.No.	Parameter	Description																																																
1.	Problem Statement (Problem to be solved)	<p>To make the ECG system in fully automated manner to reduce work</p> <p>Train the model using more dataset to classify the waveforms accurately</p>																																																
2.	Idea / Solution description	<p>Automated process of feature detection and extraction in providing concise and accurate results, which thusly delivered an allure in the space of heartbeat classification</p> <p>Holter monitor</p>																																																
3.	Novelty / Uniqueness	<p>Using two deep neural networks in conjunction by merging them in a hierarchical layered structure to form a single robust model</p> <p>Using CNN and LSTM for classification</p>																																																
4.	Social Impact / Customer Satisfaction	<p>It saves time</p> <p>It increases the accuracy of classification</p>																																																
5.	Business Model (Revenue Model)	<div><p><b>U.S. ECG Patch And Holter Monitor Market</b> size, by product, 2020 - 2030 (USD Million)</p><table><thead><tr><th>Year</th><th>ECG Patch (USD Million)</th><th>Holter Monitors (USD Million)</th><th>Total (USD Million)</th></tr></thead><tbody><tr><td>2020</td><td>553.9</td><td>0</td><td>553.9</td></tr><tr><td>2021</td><td>560.0</td><td>0</td><td>560.0</td></tr><tr><td>2022</td><td>566.0</td><td>0</td><td>566.0</td></tr><tr><td>2023</td><td>572.0</td><td>0</td><td>572.0</td></tr><tr><td>2024</td><td>578.0</td><td>0</td><td>578.0</td></tr><tr><td>2025</td><td>584.0</td><td>0</td><td>584.0</td></tr><tr><td>2026</td><td>590.0</td><td>0</td><td>590.0</td></tr><tr><td>2027</td><td>596.0</td><td>0</td><td>596.0</td></tr><tr><td>2028</td><td>602.0</td><td>0</td><td>602.0</td></tr><tr><td>2029</td><td>608.0</td><td>0</td><td>608.0</td></tr><tr><td>2030</td><td>614.0</td><td>0</td><td>614.0</td></tr></tbody></table></div>	Year	ECG Patch (USD Million)	Holter Monitors (USD Million)	Total (USD Million)	2020	553.9	0	553.9	2021	560.0	0	560.0	2022	566.0	0	566.0	2023	572.0	0	572.0	2024	578.0	0	578.0	2025	584.0	0	584.0	2026	590.0	0	590.0	2027	596.0	0	596.0	2028	602.0	0	602.0	2029	608.0	0	608.0	2030	614.0	0	614.0
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2030	614.0	0	614.0																																															

6.	Scalability of the Solution	It can handle any amount of data and classify various types of arrhythmia in fully automated manner
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