

## Final Year Project Showcase Batch-2018 Year 2022

<b>Department: Software Engineering</b> <b>Programme: Software Engineering</b>		
<b>1</b>	<b>Project Idea</b>	Remote patient monitoring system collects patients' vitals and monitors their health for early diagnosis of diseases, and generates alerts in case of a medical emergency. The system also uses machine learning to provide personalized data-driven insights and interventions based on the patient's health profile.
<b>2</b>	<b>Process</b>	<ol style="list-style-type: none"> <li>1. Collect patient data</li> <li>2. Send data to cloud in real-time</li> <li>3. Predict risk of heart disease</li> <li>4. Monitor patient's vital through a mobile app</li> <li>5. Send alerts to doctors in case of emergency</li> </ol>
<b>3</b>	<b>Outcome</b>	Real-time access of patient data, remote monitoring, personalized data-driven insights, and timely medical help provided to patients.
<b>4</b>	<b>Evidence (Theoretical Basis)</b>	<p>Medical activities have traditionally been conducted in person. But none make use of the valuable patient data collected feasible outside of the clinic. Millions of lives are lost every year due to delayed medical help. Afterall, we only have a limited number of trained medical staff and equipment.</p> <p>Remote health monitoring can facilitate care of patients for conditions ranging from chronic diseases to recovery from acute episodes of care. Moreover, data relating to patient health status can be used by care providers to communicate relevant data-driven insights, and interventions to patients. By not limiting healthcare services to clinics, care providers can monitor patients in real-time using IoT and give timely healthcare facilities. It removes location barriers, patients in rural and far-away areas can be monitored in a home setting without oversight from a healthcare provider. Moreover, collecting data over time and using machine learning techniques helps health care workers to provide personalized data-driven insights and interventions based on the patient's health profile.</p>
<b>5</b>	<b>Competitive Advantage or Unique Selling Proposition</b>	
<b>a</b>	<b>Attainment of any SDG</b>	SDG#3: Good health and well-being It would result in a healthier environment consisting of fit and happy people, who would contribute to their environment in a more effective way.
<b>b</b>	<b>Cost Reduction of Existing Product</b>	The cost of the final product can be reduced by optimizing the usage of different sensors which are cheaper and more cost effective compared to the ones being used in the current product.
<b>c</b>	<b>Process Improvement which Leads to Superior Product or Cost Reduction, Efficiency Improvement of the Whole Process</b>	The system generates alerts in case of an emergency which provides instant access to medical facilities. This reduces delays in medical help and improves the overall process.
<b>d</b>	<b>Expanding of Market share</b>	Traditionally conducted healthcare activities do not make use of patient data for improved prognosis. This system uses Machine Learning (ML) to provide insights on a patient's health.
<b>6</b>	<b>Target Market</b>	Patients, Doctors, Healthcare staff
<b>7</b>	<b>Team</b>	Hamza Shahab ( <a href="mailto:hamzashahab1610@gmail.com">hamzashahab1610@gmail.com</a> ), Najia Gul ( <a href="mailto:najiagul.2000@gmail.com">najiagul.2000@gmail.com</a> ), Muhammad Rana Ibrahim ( <a href="mailto:rmibrahim00@gmail.com">rmibrahim00@gmail.com</a> )
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