Developing a system for Patient Care in the Health Sector

* **ABSTRACT:**

-On Health association

# PROBLEM STATEMENT:

* As the demand for healthcare services continues to increase, healthcare professionals are facing challenges in meeting the needs of patients while maintaining quality care. One of the major challenges is providing 24/7 care for patients who require continuous monitoring and assistance.The challenge for this hackathon would be to develop innovative and effective solutions for designing and building robots for patient care in the health sector Participants would need to consider various factors such as safety, reliability, ease of use, and affordability, while also ensuring that the robots are designed to meet the unique needs of patients in different healthcare settings..

# STATISTICAL DATA:

The global remote patient monitoring market was valued at approximately USD 694.4 million in 2020, with an expected compound annual growth rate (CAGR) of around 17.4% from 2021 to 2028 (Grand View Research)

The COVID-19 pandemic significantly accelerated the adoption of telehealth and remote patient monitoring. A report by McKinsey in 2021 noted that telehealth utilization in the United States increased from 11% in 2019 to 46% in 2020.

# EXISTING SOLUTIONS AND IT’S DRAWBACKS:

[1]- Wearable Devices.

DRAWBACK: Accuracy can vary, especially during high-intensity activities. Additionally, users may not consistently wear these devices, leading to gaps in data collection.

[2]- **Telehealth Platforms**

DRAWBACK: Limited physical examination capabilities compared to in-person visits. The effectiveness depends on patient compliance and access to necessary technology.

[3]- **Remote Patient Monitoring (RPM) Systems**

DRAWBACK: Initial costs and potential challenges with patient adherence. Some systems may lack seamless integration with existing healthcare workflows.

[4]- **Hospital-Based Monitoring Systems**

DRAWBACK: Tethered systems limit patient mobility, and continuous monitoring in non-critical settings can lead to alarm fatigue among healthcare providers.

# MY TEAM SOLUTION:

* We present ,This patient care system aims to provide continuous monitoring with a personalized touch, integrating vital signs and facial recognition for a more holistic approach to patient care.
* This device operates in the monitoring and sensing it’s Threshold value and by using in open CV we can measure the accurate and precise readings
* This device can monitor 24/7 without any assistance
* Provide comprehensive documentation for users and healthcare professionals. Include training materials, troubleshooting guides, and ensure ongoing technical support for system maintenance and updates
* Conduct rigorous testing to ensure the accuracy and reliability of both vital signs monitoring and face recognition functionalities. Implement calibration mechanisms for continuous accuracy.
* By monitoring the user can, Enable mobile connectivity, allowing healthcare providers to remotely monitor and control the system. This feature enhances the flexibility of patient care.
* This innovative solution offers several advantages, including Create a user-friendly interface on the Raspberry Pi's screen to display real-time vital signs data. Ensure clear visualization for both healthcare providers and patients.

“In c onclusion, we believe our. Developing a system for Patient Care in the Health Sector, To provide the future Technological Advancement in the Health Sectors ,We look forward to the opportunity to showcase our work at the AVISHKAAR 2024 Hackathon. We are grateful to the organizers, ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT and GeeksforGeeks, for providing this platform to innovators like us. Thank you for considering our submission.”

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# Reference:

[1]- https://www.sciencedirect.com/science/article/pii/

[2]- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9601552/

[3]- https://pubmed.ncbi.nlm.nih.gov/26378329/