Product

Full Name	**Gowtham Oleti**
Organization	**LPU Punjab**
Age	**19**
Location	**Hyderabad**
Mother Tongue	**Telugu**

Robotics & Automation Engineer

Full Name	**Dhruva Shaw**
Organization	**LPU Punjab**
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Location	**Kolkata**
Mother Tongue	**Hindi**

Aerospace

Full Name	**Nuha Bind Akbar**
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Pharmacist

Full Name	**Mohamed Nihal P**
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Age	**23**
Location	**Malappuram**
Mother Tongue	**Malayalam**

MENTORS :
 Dr. Vivek Sharma (24810) , Mr. Kamalpreet Sandhu--(28079)

Project Title - "*Virtual consultation with a doctor*"

Domain of Proposed Problem :

"Virtual Consultation with doctor" falls within the domain of diagnostic medicine, specifically in the area of diagnosis and services . Virtual interaction allows the patient to directly interact with a doctor by means of photo ,video or chat .

No.	Stakeholders list	Key activities by Stakeholders	Difficulties faced by Stakeholders
1	Gowtham Oleti	Website Interface Design	NA
2	Dhruva Shaw	Coding and integration of data from the medical devices	Standardization of devices
3	Nuha Bind Akbar	Preparation of Ppt	NA
4	Mohamed Nihal P	Data Collection	NA

Existing & Emerging Solutions

Website Name	Website URL	Key Features	Limitations/gaps
Max@Home	https://www.maxhealthcare.in/investors	Virtual consultation	Real time monitoring
Lybrate	https://www.lybrate.com/	Virtual Consulatation	Data gathering

Relevant Papers

Sl. No.	Title	Authors	Year of Publication	Journal Name	Key Takeaways	Keywords
1	"Real-Time Monitoring of Health Data from Wearable Devices for Personalized Medicine"	D. Dey, A. B. Rao, and S. Suresh Kumar	2018	IEEE Transactions on Biomedical Circuits and Systems	Sensor design, fabrication and performance	Sensors , wearable devices
2	"Real-time monitoring of vital signs using wearable devices in healthcare applications"	K. B. K. Abdulaziz and M. A. Al-Jumaily	2019	Journal of Medical Systems	Medical device fabrication and functions	Fabrication , real time monitoring

Market Size

USD 19.4 billion in 2020 and is expected to grow at a CAGR(compound annual growth rate) of 25.2% from 2021 to 2026.

Gaps in the Existing Solutions

- Limited Patient Engagement
- Limited clinical decision support
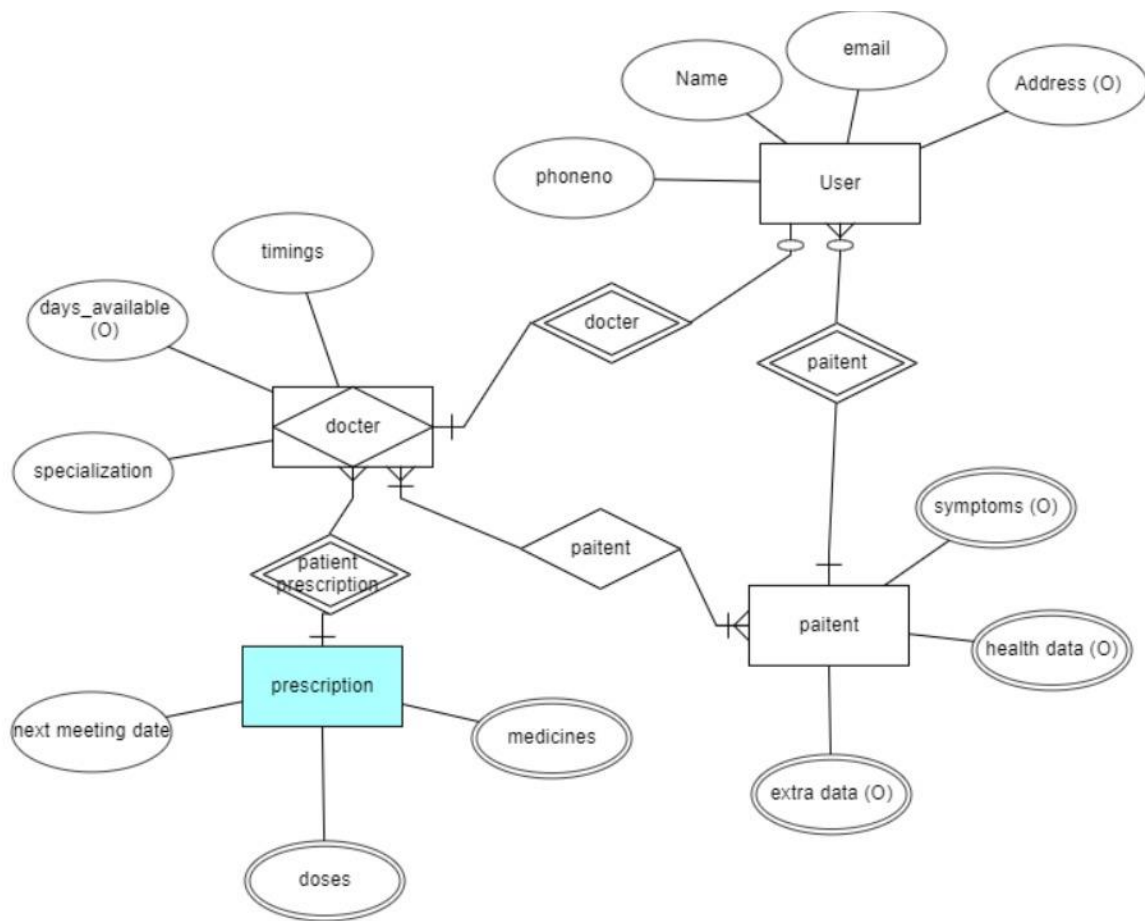- Incomplete integration with EHRs
- Limited Data Security

Need Statement	Real time monitoring and integration of data.
Who (User of the Device)	All age groups
What	Combination of health care devices into one device
When	In the near future when all the health devices are compatible to each other
Where	In the field of health care industry
Why	Insufficient data of the patient during virtual consultation
Intended Use	During pandemic time and also while facing transportation issues and health issues

JSON format has been standardized
for the data exchange between devices
& website:

Syntax:

```
{ "patient_username": "npy",
  "doc_name": "ymy",
  "heath_data": [
                  "ECG": 123,
                  "Pulse": 123,
                  -
                  -
                  -
                ]
  3.
}
```

with this standard format any
devices can be connected with website
and the data can be exchanged
between the two seamlessly

Potential Concepts to Solve the Problem

A service is provided ,which facilitates the doctor and the patient to have a clear idea about the health conditions . Here ,we have used an idea that collects the data from various health devices that enables the doctor to conduct the preliminary diagnosis.

Key Features of Proposed Device	Value Propositions for Proposed Device
- Device Integration	- Improved Patient Outcomes
- Data Aggregation	- Enhanced Patient Experience
- Real time monitoring	- Cost savings
- Alerts and Notifications	- Better Data Analytics
- Customization	- Improved Care Coordination
- Secure Communication	- Increased Patient Engagement

Sl. No.	Utilities	Cost
1	Server	$10 per/month
2	Database egres	$0.005/month
3	Website building	Rs.25000

References

1. https://github.com/WorldFamousElectronics/PulseSensorPlayground

2. https://www.alldatasheet.com/view.jsp?Searchword=HW827&sField=1

3. https://www.espressif.com/sites/default/files/documentation/0a-esp8266ex_datasheet_en.pdf

4. https://github.com/espressif/arduinoesp32/blob/master/libraries/WiFi/src/WiFiClient.h

THANK YOU