

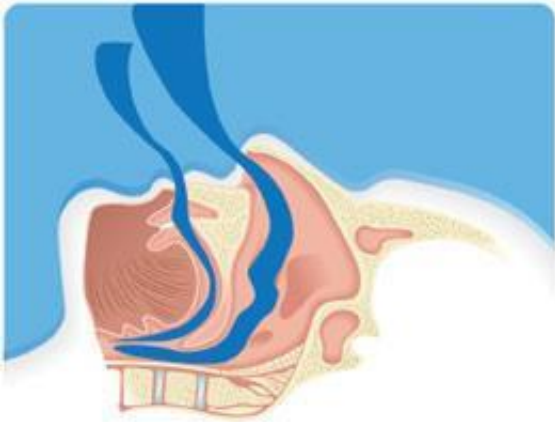
Snug Sleep with

SNEEP

A diagnostic
&
therapeutic
gadget



Normal Airflow

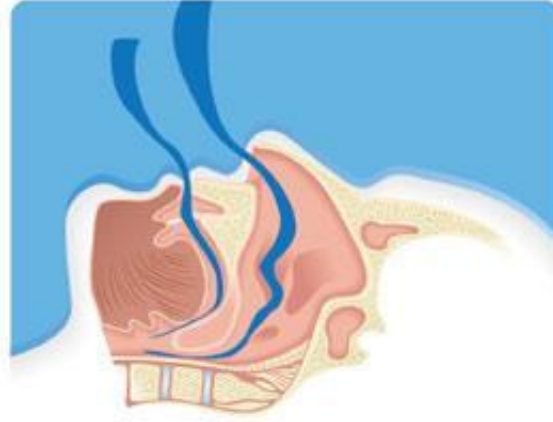


Wide Airway

↓
Normal Oxygen

↓
Healthy Heart 

Sleep Apnea

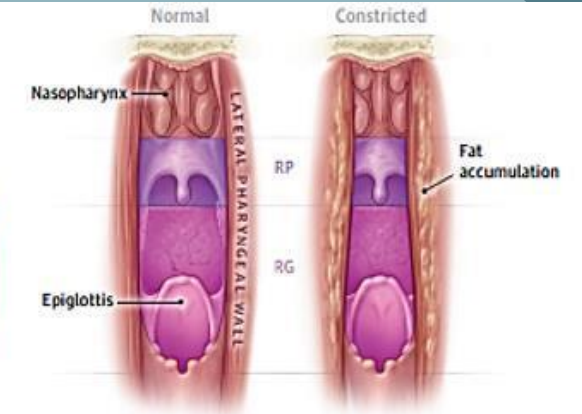
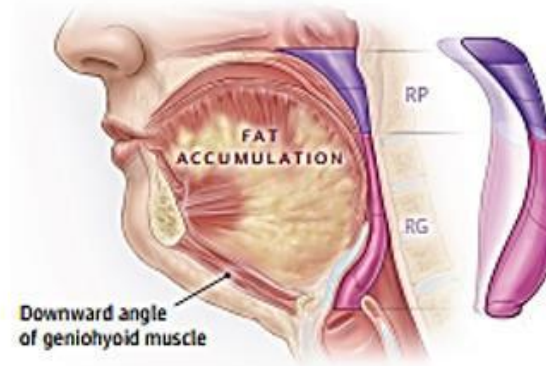


Narrowed Airway

↓
Low Oxygen

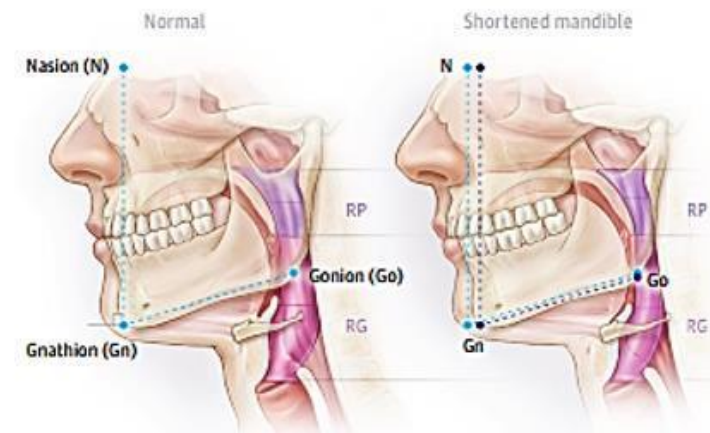
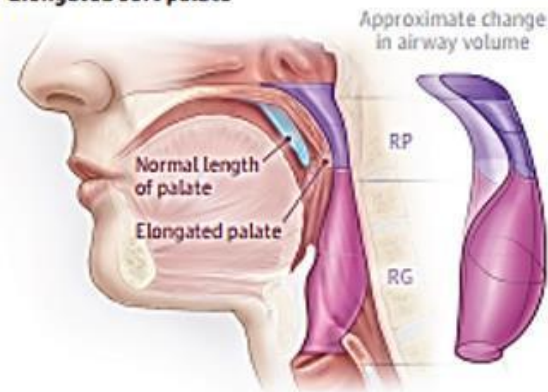
↓
Stressed Heart 

Increased tongue fat and inferior hyoid position



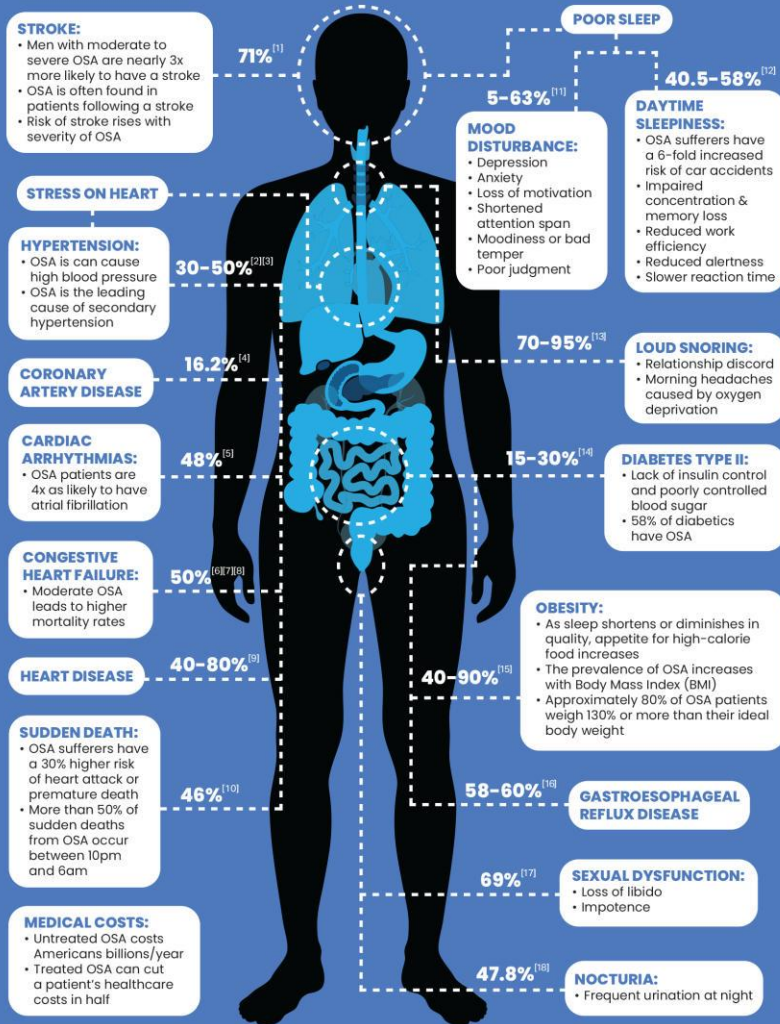
Shortened mandible length

Elongated soft palate



THE CONSEQUENCES OF OBSTRUCTIVE SLEEP APNEA (OSA)

MHST
Home Sleep
Testing Made Easy
MHSleeptesting.com
(877) 837-5337



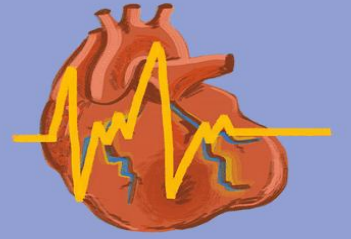
Risks of Untreated Sleep Apnea



Depression



Diabetes



Heart Failure



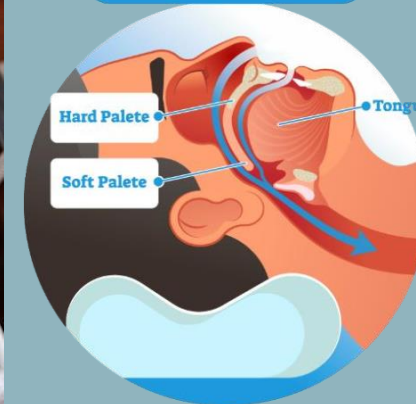
High Blood Pressure



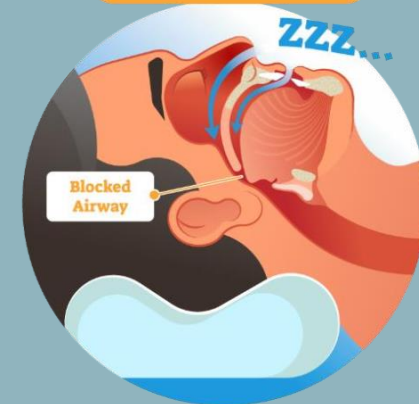
Concentration and memory problems



NORMAL BREATHING



SLEEP APNEA





Problem

Obstructive sleep apnea (OSA) is a disease that characterized by episodes of complete collapse of the airway or partial collapse with an associated decrease in oxygen saturation or arousal from sleep.

Prevalence:

In our country, on average, 1 person out of every 4 men and 1 person out of every 10 women are suffering from this disease, which in some countries reaches 50%.

Risk Factors:

Age

Weight

Male gender

underlying diseases

Smoking and alcohol use

Sleeping pills and sedatives

Acetazolamide and theophyllines , etc

Primary Complications:

Excessive fatigue during the day
Morning headaches
Forgetfulness and difficulty concentrating
Mood problems
Sexual problems
Frequent urination
Snoring and night sweats

Secondary Complications:

Heart failure
high blood pressure diabetes
Heart attack and stroke Alzheimer
depression

Economic Burden:

The economic burden of undiagnosed obstructive sleep apnea in the United States is over 150 billion dollars. This cost is related to productivity reduction, complications caused by this disease on physical and mental health, and road accidents caused by sleepiness, so that 25% of accidents in Europe are related to this disease.

Effective treatment can prevent 40,000 accidents per year.



Primary Objectives:

- Early detection of obstructive sleep apnea
- Monitoring the severity, depth, and duration of respiratory interruptions during sleep
- Reducing diagnosis and treatment costs
- Preventing secondary complications such as cardiovascular diseases, stroke, depression, and road accidents
- Utilizing artificial intelligence to analyze respiratory data
- Enabling remote interaction between patients and physicians through telemedicine



Project Scope:

In-Scope:

1. Wearable respiratory monitoring device
2. Patient mobile application
3. Physician web-based dashboard
4. Data collection from acoustic, mechanical, thermal, and pulse oximeter sensors
5. Visualization of sleep and breathing graphs
6. Emergency alert system in critical conditions
7. AI-based analysis and apnea detection

Out of Scope:

1. Mass production of hardware
2. Medical treatment or drug prescription
3. Clinical decision-making beyond diagnostic support

System Requirements:

Functional Requirements

- User registration and authentication
- Collection of respiratory and physiological data during sleep
- Analysis of collected data to detect obstructive sleep apnea
- Visualization of apnea severity and sleep patterns using charts
- Real-time alerts in emergency situations
- Secure data transmission to the physician's system
- Storage and management of patient medical history
- Generation of diagnostic reports for physicians

System Requirements:

Non-Functional Requirements

- High diagnostic accuracy
- Acceptable processing speed and system responsiveness
- User-friendly and intuitive user interface
- High system reliability and availability
- Data privacy and security compliance
- Scalability for future expansion
- Accessibility for general users



خبرگزاری تسنیم

مراجعه روزانه ۳۰۰۰۰ بیمار تنفسی به بیمارستان‌ها/بیماران مبتلا به آنفلوانزا هستند

۴۰ه آبان ۱۴۰۱ - ۰۹:۱۹ | [اخبار اجتماعی](#) | [اخبار پزشکی](#)

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خبرگزاری مهر

جمعه ۲۹ اردیبهشت ۱۴۰۲

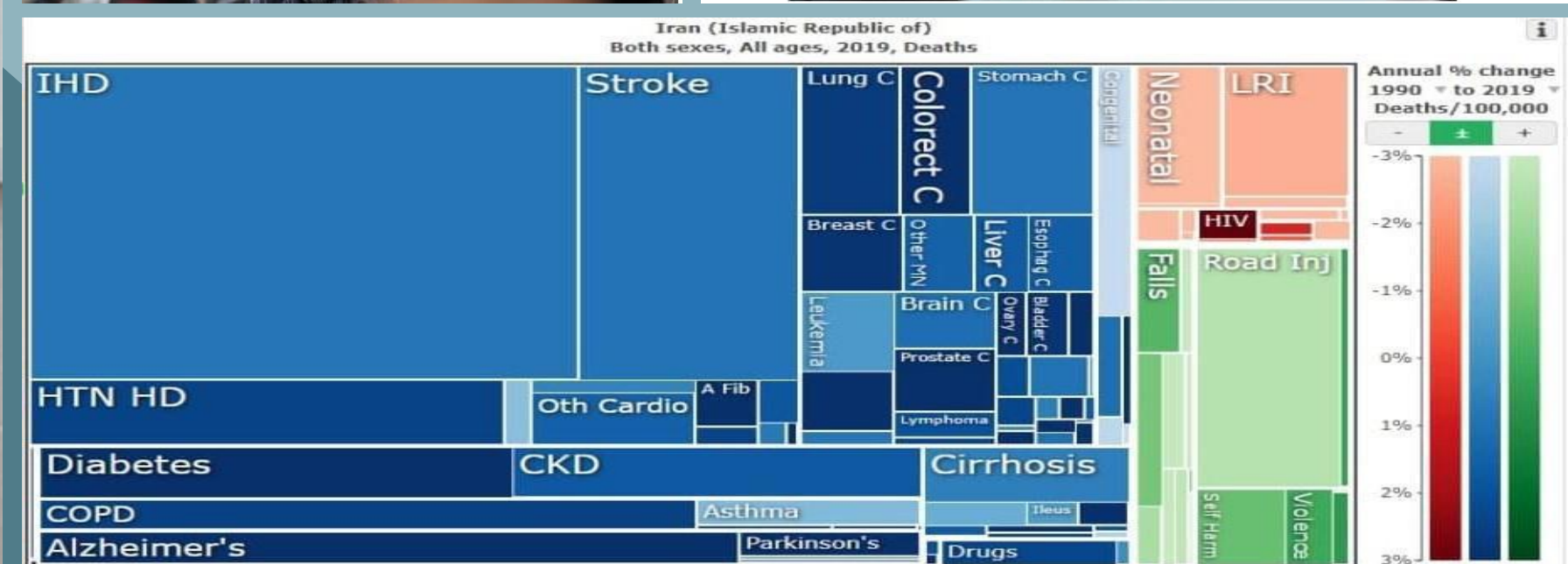
خانه حج ۱۴۰۲ فرهنگ و ادب هنر دین و اندیشه حوزه و دانشگاه دانش و فناوری سلامت جامعه اقتصاد بار

عناوین اخبار نظام سلامت بهداشت درمان تغذیه کرونا

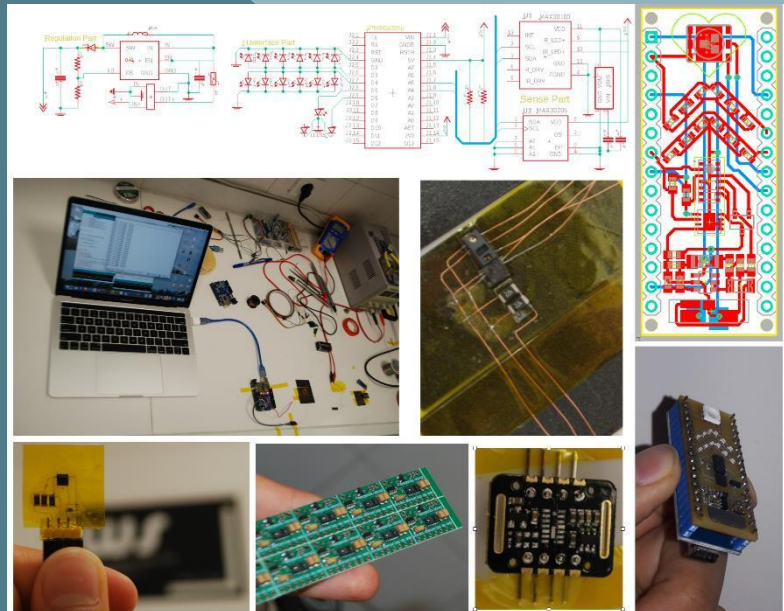
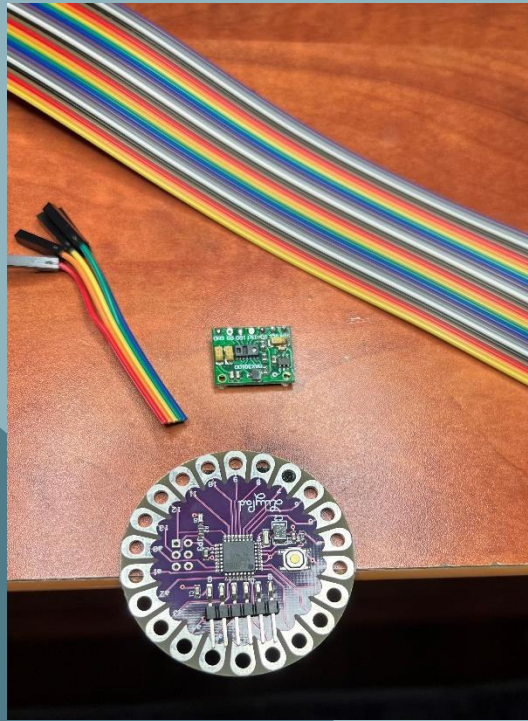
۲۷ بهمن ۱۳۹۸، ۱۷:۰۹

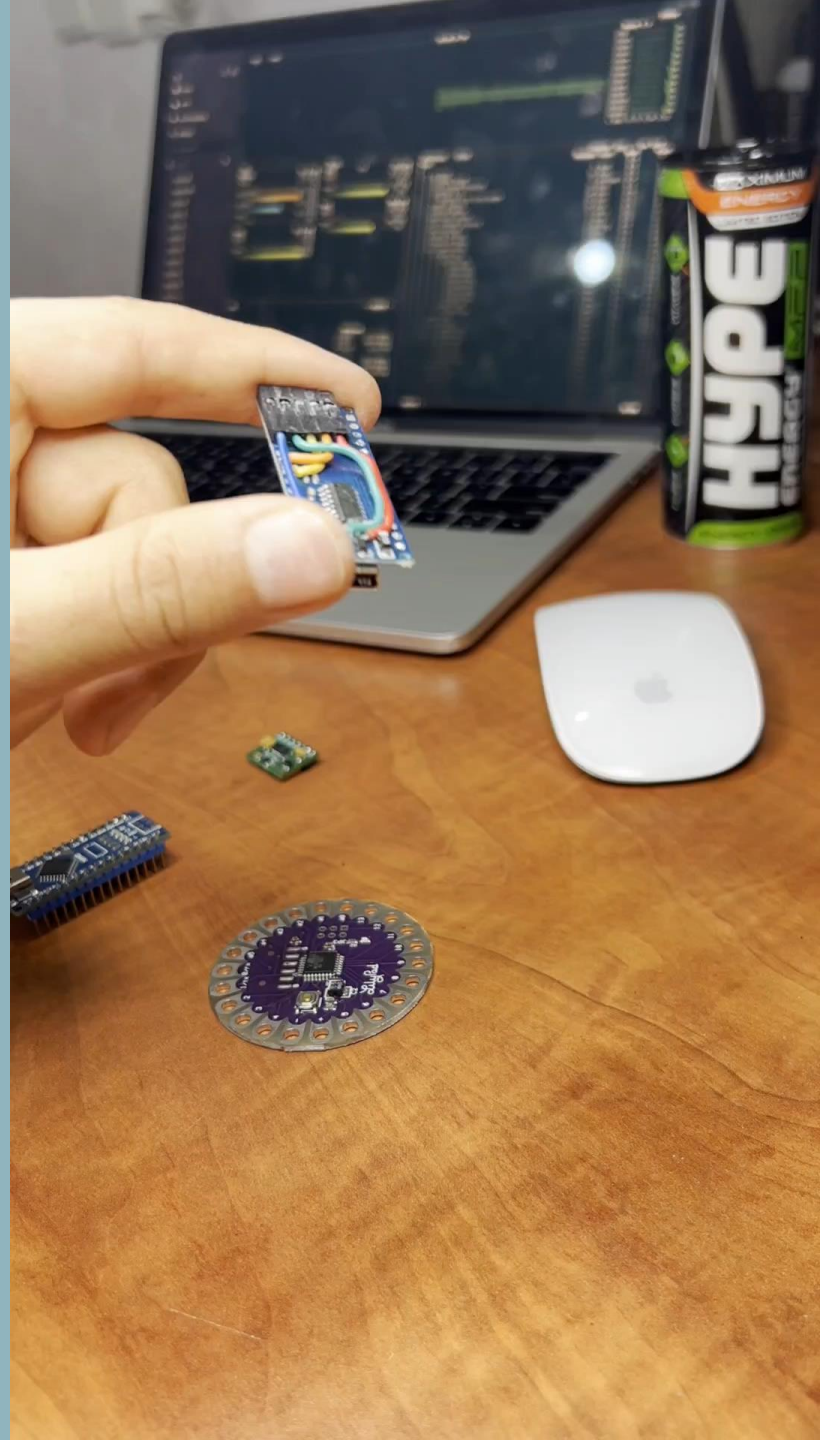
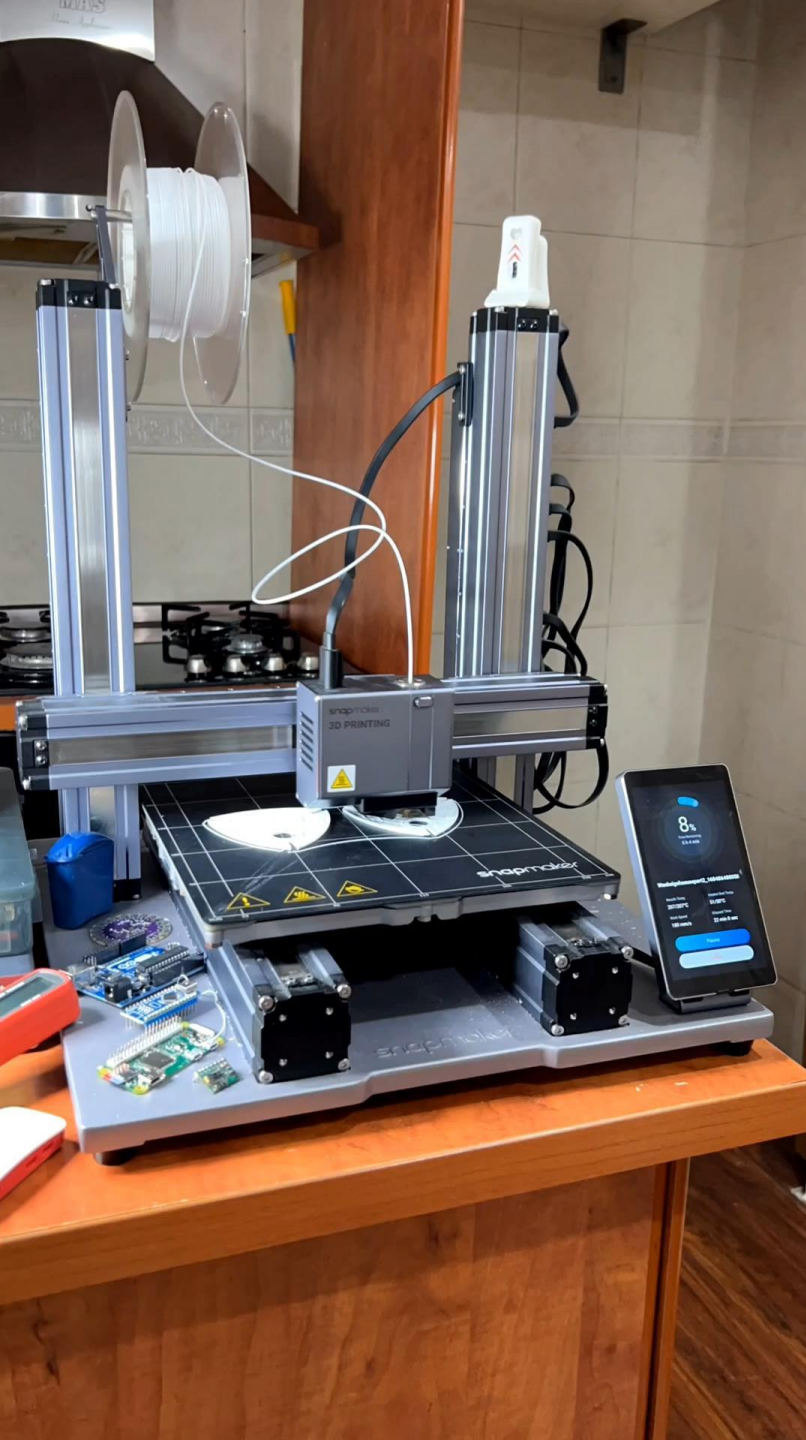
درمان / سلامت

در افتتاح بخش اورژانس عفونت های تنفسی عنوان شد:
رشد ۴۰ درصدی شیوع بیماری های تنفسی/کاهش مرگ و میر



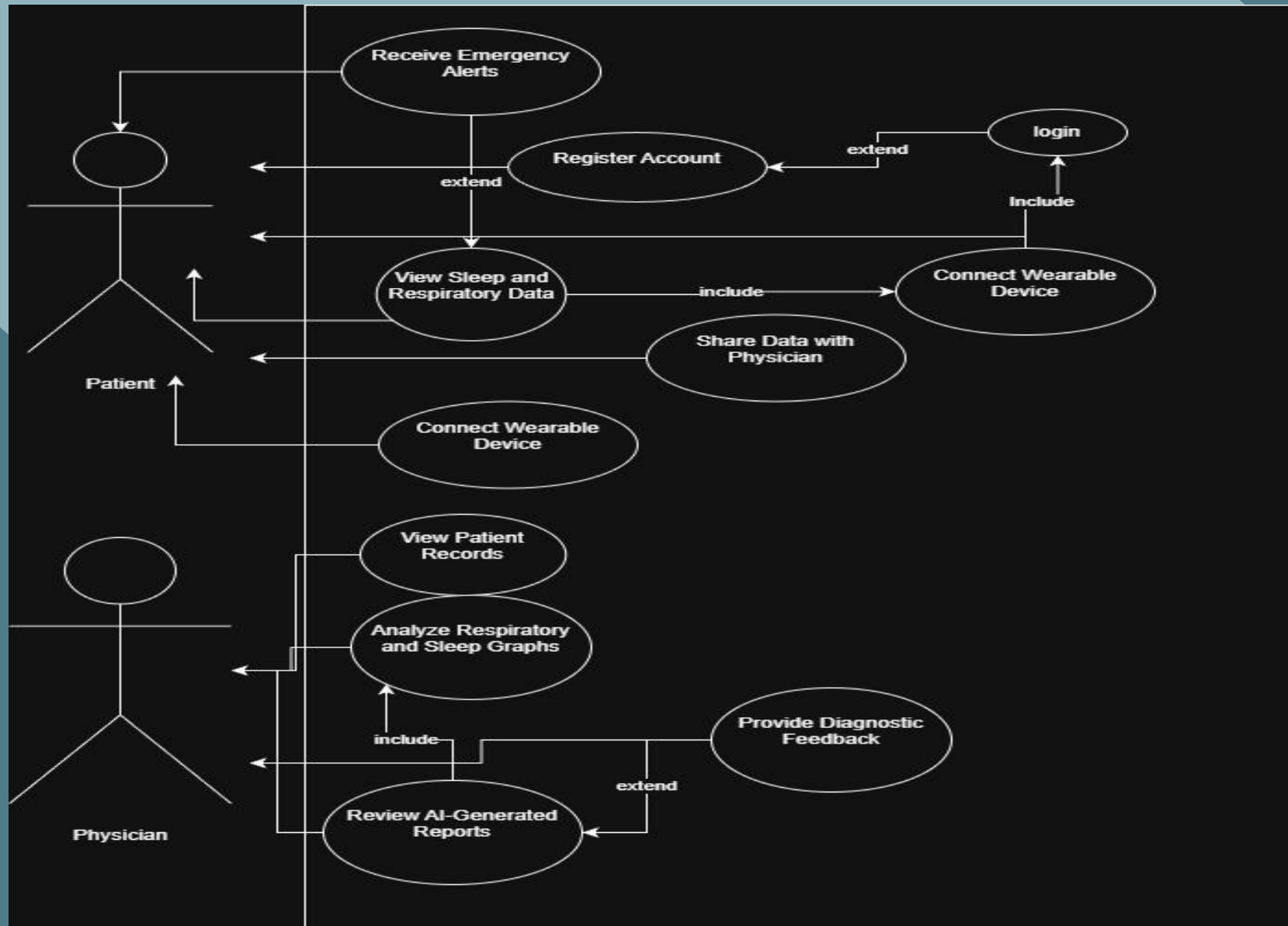
MVP



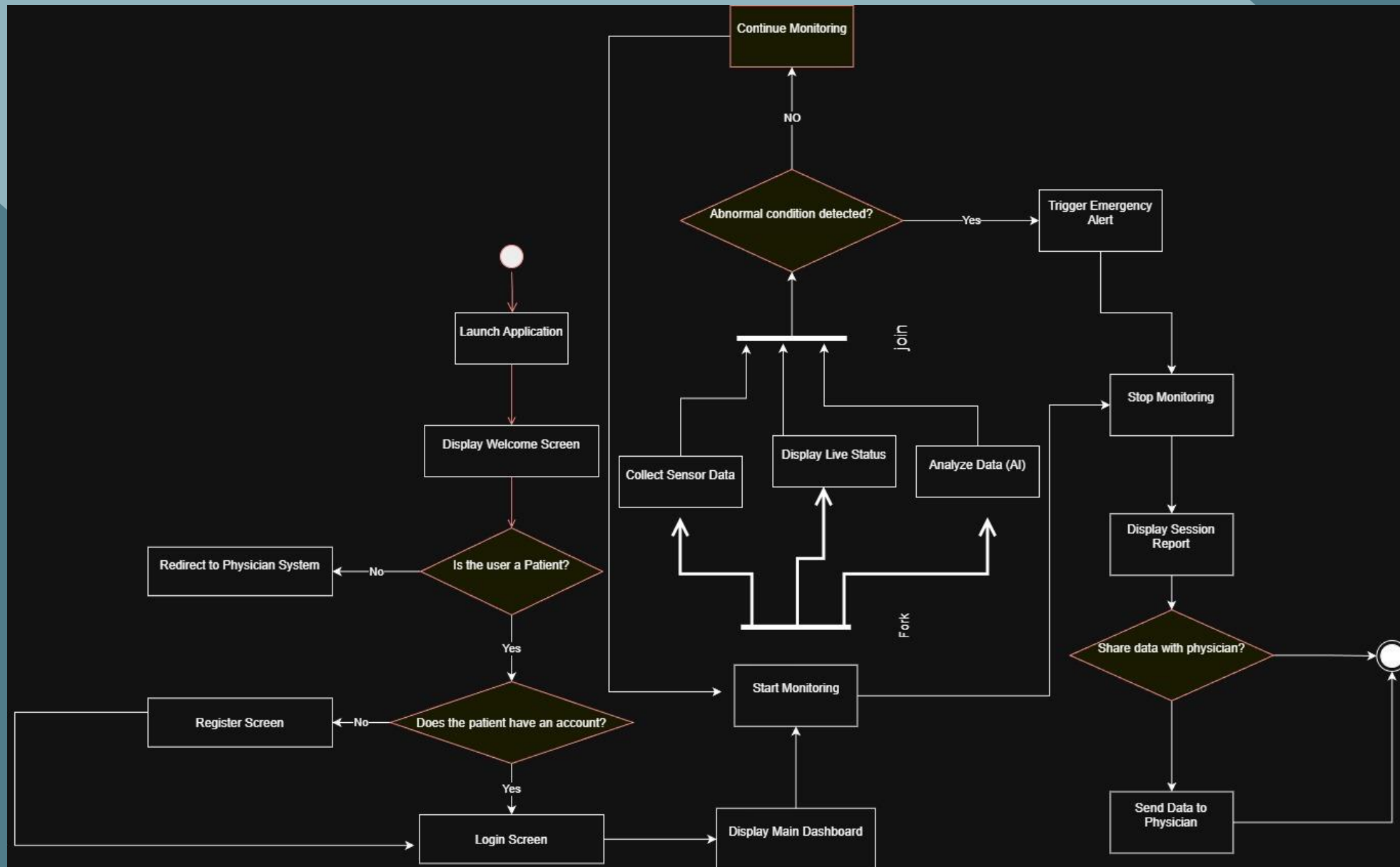


UML Diagrams

Use Case Diagram



Activity Diagram



Wire Frames

