



Cover page

Project title: Oxylator :Oxygen Ventilator System

Academic Year: 2022/2023

Group Members: Raouf Fares

Department Name: Computer Eng.

Yousef Hanbali

Project Type:Hardware

Supervisor Name: Dr. Raed Qadi

Format:

- Single space, Times New Roman.
- 12 pt,
- Maximum 1 page.

Abstract Body:

Items must be provided in the Abstract:

- Why do you think this project is important? Please explain the significance of this Project in brief.
- In your point of view what are the important aspects that should be covered in the project?
- Objective(s): In your view, please explain the main objectives of the project.
- Methodology: Give a brief outline of the application development process.
- Had this project been done before? Are there any similar applications available today?
- **Note:** Please deliver this abstract early to ensure that your Project has been approved by the department's projects committee. **Registration will not be done without this approval.**



Project's Abstract:

During COVID Pandemic in 2020, the health system in Palestine collapsed due to the high number of COVID Patients that needed oxygen ventilators and the health system couldn't provide the demanded number of ventilators, which led to a high number of deaths. So we came up with an affordable solution to continue the intensive care in their houses using Oxylator.

Oxylator delivers oxygen to the patients as a normal ventilator, also it monitors patient vitals such as SpO2 in the blood, ECG and other important vitals for any patient .

The Breaths per minute can be adjusted manually or using some of the patient characteristics (10-30 BPM). Also, the air volume pushed in each breath and the breath length that is related to the inhalation-to-exhalation ratio. The blood oxygen sensor in the system and ECG measures help the ventilator to operate suitable to the patient's case (regarding the 3 parameters above).

The medical professional assigned can manage the system manually and can get all data related to the patient displayed on a special mobile application .

The ventilator information is displayed on a touch screen attached to the system.

This project was only a prototype during the pandemic, and it was developed as an emergency solution, and it wasn't a professional solution. The system developed was not customizable and can't be used by everyone and also made without a medical reference.