



तेजपुरविश्वविद्यालय/ TEZPUR UNIVERSITY

(केंद्रीयविश्वविद्यालय/A Central University)

कुलाध्यक्षकासर्वोत्तमविश्वविद्यालयपुरस्कार,2016 Visitor's Best University Award, 2016

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Press Release

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Tezpur University Students Design IoT Based Portable Ventilator to Fight COVID-19

In response to the prevailing situation of Covid-19 and subsequent shortages of ventilators, Department of Electrical Engineering, Tezpur University has undertaken an initiative to design a portable ventilator, an essential instrument for patients who are unable to sustain the level of ventilatory necessary to maintain the gas exchange functions.



The initiative was part of a project, awarded as the 'Best Innovative Engineering Idea' under the banner of Prof. Aparna Kumar Padmapati Annual Scholarship from Assam Engineering College Class 88 Foundation for year 2020-21, an initiative of alumni of Assam Engineering College who passed out in 1988, popularly known as AEC Class 88 Foundation.

A group of Electrical Engineering students comprising- Mr. Bihung Muchahary, Mr. Aniket Raj, Mr. Manish Kumar and Ms. Ankita Das are working in the project under the guidance of Mr. Chiranjit Adhikary, Ex-Guest Faculty, Dept. of Electrical Engineering and Ms. Firdausa Ahmed, Guest Faculty member of Dept. of Electrical Engineering and the project is supervised by Prof. Soumik Roy, Head, Department of Electrical Engineering.

"The purpose of the project is to design a portable mechanical ventilator by automating the operation of 'Ambu Bag' with volume control ventilation which can be used in respiratory failure", explained Prof. Soumik Roy.

An "Ambu Bag" is a hand-held device commonly used to provide positive pressure ventilation to patients who are not breathing adequately or have severe problem in breathing.

"Another important objective of the project is to implement Internet of things (IoT) based features like monitoring of patient activity and controlling parameters of ventilator through an App". The prototype designed is sufficiently economic and by using IoT as a remote controlling feature, one can control and monitor the ventilatory parameters through devices like mobile phones, tab and computers. Besides, it will prevent both the clinicians and the doctors from getting infected from airborne transmission", Prof. Roy further added.

The machine is cost effective and would be available at an affordable price costing between Rs. 8,000-15,000 Rupees depending on the features of the machine.
