

# DTMF BASED BOAT CONTROL

A Project report submitted

In partial fulfillment of the requirements for the award of the degree of

**BACHELOR OF TECHNOLOGY**

**IN**

**ELECTRONICS AND COMMUNICATION ENGINEERING**

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**CERTIFICATE**

This is to certify that project work is entitled **“DTMF BASE BOAT CONTROL”** in partial fulfillment for the degree of bachelor of technology in ELECTRONICS AND COMMUNICATION ENGINEERING, at AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY, MAKAVARAPALEM, VISAKHAPATNAM is an benefited work carried out by K.JAGADHEESWARI, G.YAMINI, P.DURGASRAVANI, K.ANUDEEP ,P.SURESH under the guidance and supervision during 2015-2019.

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**PROJECT GUIDE**

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## ABSTRACT

The main aim of this project is to control the boat by using DTMF technology, as it is a wireless, it can be easily mobilized and also controlled.

In this project we use micro controller, which is programmed to control the input and output modules interfaced to it. The controller makes use drivers; depending upon the indications the DC motors can be rotated. With the help of mobile keypads operations will be done. Also a mobile phone which will operate the boat directions and speed based on the DTMF technology. DTMF (Dual Tone Multiple Frequency) depends upon the keypad tones where as each tone can generate certain frequency depending on that, the boat will operate and it will increase or decrease the speed.

This project utilizes two DC Motors respectively. The DC motor generates torque directly from DC power supplied to the motor by using internal commutation, stationary permanent magnets, and rotating electrical magnets. Advantages of a brushed DC motor include low initial cost, high reliability, and simple control of motor speed. Disadvantages are high maintenance and low life-span for high intensity uses. The driver used for DC Motors is L293D.