VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama" Belagavi – 590 010

PROJECT REPORT

ON

"Swumanoid Autonomous Sailing Robot"

Submitted in partial fulfillment of the requirements for the award of degree

BACHELOR OF ENGINEERING
IN
ELECTRONICS & COMMUNICATION ENGINEERING

Submitted By

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CERTIFICATE

*Certified that the project work entitled "***Swumanoid Autonomous Sailing Robot***" is a bona fide work carried out by*

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in partial fulfillment for the award of BACHELOR OF ENGINEERING in **ELECTRONICS & COMMUNICATION ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2016–2017. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.

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ABSTRACT

An idea presented has been with a robotic vehicle which activates automatically and manually controls the moving object in the water. Here Advanced Reduced Instruction Set Computer (RISC) machine (ARM7) processor is in built with interfacing a wireless camera which uses RF based communication. The DC motors are used to rotate the arms of the robot to catch habitats. It also detects the ferrous content metals inside the water and provides exact location by using the Global Positioning System (GPS) module. It gives information about the latitude and longitude range of the detected ferrous metal.

Global System for Mobile Communication (GSM) module is used send the message about the metal detected and also location of the metal information. A wireless camera is used to survey the surrounding of the surface of the robot. Two different sensors are using to control the robot moment on the water. The infra-red sensor which is used in the automatic mode to controls the motion of the robot where as the ultrasonic sensor is used to control the robot which is in the manual mode. Dual Tone Multi Frequency (DTMF) technique is also used in manual mode to control the motion of the robot.

The implemented sailing robot is used detect the ferrous metals inside water. If the metal is detected inside water will get the latitude (, 1301.4421,) and (N, 07458.0983, E) longitude ranges by the GPS module.