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**FACULTY OF ENGINEERING
AND
TECHNOLOGY**

SCHOOL OF ENGINEERING

**PROJECT TITLE: SATELLITE TRACKING
SYSTEM USING A DIRECTIONAL ANTENNA**

FINAL REPORT

**ROUTE: B. ENG (HONS) ELECTRICAL AND ELECTRONIC
ENGINEERING**

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ABSTRACT

The document presents the final report of the project titled "Satellite Tracking System Using a Directional Antenna". The document describes the theoretical concepts, the design, development and the construction of the overall system.

Positioning control systems is an important factor in determining the quality of signals received and transmitted from an antenna. Thus it is important that such systems offer accuracy and precise control over the rotation of the motor unit. The system designed readily fulfils these requirements.

The system implements the PIC16f84 micro controller, which is interfaced with the computer through the parallel ports of the computer. To control the motor of the system, a driver system is needed. Two motor drivers are suggested for implementation in this system. The first driver implements a dedicated motor driver IC, UCN5804. The second implements a combination of four TIP122 transistors. The stepper motor implemented in the system offers a resolution of 1.8-degrees/ step thus it is accurate and offer precise rotation of the motor unit through the motor driver.

The system designed is a prototype and is useful for precise positioning of the satellite dish or antenna by the user. Therefore, the system can further be developed and improved for implementation in other systems.