**Project Title:** Development of an affordable security alarm system.

**Team Name:** GRES Engineers

**Team Members**

* Emmanuel Nimo
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**Project Description**

The evolution of technology in recent years has led to the enhancement of our everyday activities, especially for those in the upper class of society. Despite the incredible gains made in technology all over the world, patronage of technology to improve our lifestyle has been left primarily to those that can afford it, depriving many people from lower backgrounds of access to certain technology. One typical example of technology that is absent in many homes in Ghana, is a security alarm system. In many homes, in spite of frequent occurrences of theft cases, the benefits from installing a security alarm system has still not been seen as worth its cost.

To tackle this problem, this project aims to develop an affordable security system for households by applying the key software engineering principles. Since safety and security are essential aspects of living, this project aims to provide a comfortable secure household. With the development of this security alarm system, users would be alerted when an unauthorized entry is attempted in any household. This would prepare users adequately for any intrusion into their homes. The security alarm system would be developed using a microcontroller, a breadboard, an ultrasonic sensor for motion detection, a buzzer for alarm, a GSM alert and a servo motor serving as a lock for home doors. The entire circuity will rely on Arduino software to operate.

**Project Approach**

The project shall employ the plan-driven development approach in carrying out this project. With this more formal and specific development approach, all process activities are planned in advance and progress is measured against this plan. This approach would be used for this project because it is well structured and would help the team provide a realistic time schedule for the project. Moreover, it provides distinct deliverables towards detailed documentation.