**Chapter 4**

**PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA**

**Components of the Proposed System**

The researchers’ components of the proposed system are Arduino uno r3 for microcontroller board. AC relay module kit with outlet plug and wire for Arduino control of 220v AC load, 10 ohms and 100 ohms resistors, passive infrared sensor, a Grove LED display 16x2 IC2, GSM module, sim900 GPRS shield, wire, 5v power supply and Firefly Yellow Shield Antivirus and Germicidal UV Tube Set.

**System Implementation (Hardware)**

The model development stage consists stages of modeling, design and analysis. The researchers study different sanitation chamber, ultra violet chamber and sanitation device. The researchers ponder that the chamber must have the capability and strength to hold and sanitize objects with size of at least 50cm in height and width. After studying different sanitation chamber models and considering the researchers requirements, the researchers come up with the following model dimension.

\*Insert model dimension image here\*

The researcher’s requirement must have also that the device is mobile and have the capability to move around effortlessly. the device must also have the capability to smoothly insert objects inside the chamber. And to finish, the device must also be pleasant to look at and have the capability to blend to commercial sanitation chambers in market. The researchers come up with the following model design.

\*Insert design image here\*

Lastly, the design analysis data will be gathered from the survey to be conducted. Specifically, how does the automatic disinfection box be described in terms of satisfaction and cost.

**Materials and Specifications**

The following are the materials used for the disinfection box.

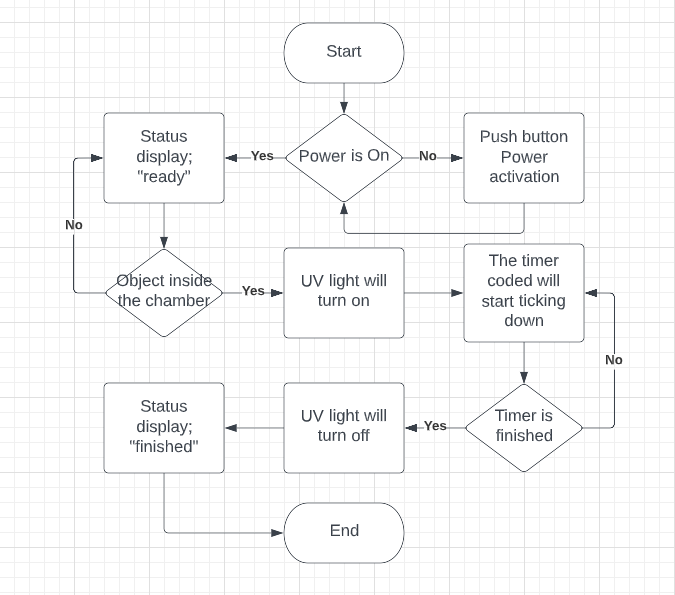
L- bracket or angle bar ¼ x 1 in size. Galvanized steel sheet with measurement of 4x8 in .9 thickness. Nylon caster wheels (swivel). Galvanized steel matting. ¼ thick clear glass. Stainless cabinet handle. Cylindrical hinges 3/8. Roller catches. Glass silicone sealant. Teks screw. Reflective Insulation foam. Rugby glue. Aerosol paint white and clear.

**Detailed Procedure**

Following the model dimensions, the angle bar or L-bracket are cut into lengths of 72cm (4), 84cm (4) and 54cm (4). The different lengths are welded into the shaped based on the model. The nylon caster wheels are then placed and welded to the based. L-bracket are cut into length, shaped and welded for the door frame. After installing the door frame, the roller catches are installed. Circuit chamber and sanitation chamber divider welded and installed. Galvanized steel sheet is cut and welded into the frame. The stainless cabinet handle is installed. The device is spray painted with white. After drying, a clear coat was applied. Galvanized mesh is added. Glass is installed to the door frame. The Firefly Yellow Shield Antivirus and Germicidal UV Tube Set are installed inside top section. Insulation foam is added to inner walls. The circuit is installed to the circuit chamber or box.

**Block Diagram**

**flow chart**



**Source Code/Software**

**Component Analysis**

**Schematic Diagram**

**Fabrication of the Device**

**Functionality Testing**

**Survey Results and Discussion**