CHAPTER 1
INTRODUCTION

1.1 Background

Moisture in a region is affected considerably by the high and low levels of water contained in the soil. The level of groundwater is indicated by the large amount of water suspended underground. The moisture level of the ground is the principal factor in determining the dry and absence of the soil in a region. The lower the moisture content of the soil in a region, the greater the risk of drought in the region. Fact is that moisture levels can control the growth of vegetation, the soil's resistance to erosion, and the hydrologic cycles of soil. Moisture levels are also visible from the violent levels of the ground's surface, the louder the surface of the ground, the lower the moisture level on the soil. Soil moisture is greatly affected by the sun's heat that makes evaporation of the water contained inside the soil very rapidly. For the ground inside also experienced the same thing but tended to be slower. The study collected data from air humidity, room temperature, and soil humidity in the interior because the soil in the room also experienced a significant drop in soil humidity.

The study was to predict and know the effects of air humidity and room temperature on Arduino based soils in two rooms that had humidity levels and different room temperatures that were in air conditioners and those that did not use air conditioning. With data obtained can be compared to the levels of soil moisture loss from rooms that do not use airconditioning and those that use air conditioning can affect the rate of decline in soil moisture.

With data obtained through research processes from two rooms that have different conditions and site-based monitoring that makes it easier for research levels to report that effects of sooner and later loss of moisture on the soil in rooms do not use air conditioners and rooms that use air conditioning. With data

obtained from research it is possible to tell just how moisture and room temperature affect moisture levels in the soil.

1.2 Problem Formulation

The problem formulations in this research are:

1. Application of monitoring of air humidity, room temperature, and dirt-based soil humidity.
2. Comparing soil moisture from two rooms that have different levels of humidity and air temperature.
3. Predict the humidity of air, room temperature, and soil humidityusing the Linear Regression method.

1.3 Scope

Problems limitation in this study are:

1. On the website page only the top 10 data of each room circumstances and show predictions for air humidity levels, room temperature and soil humidity.
2. Data stored on the databases is only air cover, room temperature, and soil humidity of each room.
3. Research activities are limited to the stage of the latest data appearance and prediction

1.4 Objective

The purpose of the study is to help make it easier for manually done monitoring activities to be redirected to web-based monitoring. With web-based monitoring shorter time and easier monitoring activities in rooms that are doing research activities. It helps predict at air humidity levels, room temperature and soil humidity in order to anticipate things that will happen in the future. Knowing the effects of air humidity and room temperature on soil humidity.