

CHAPTER 4

ANALYSIS AND DESIGN

4.1 Analysis

Hydroponic plants are fragile and damaged easily to solve this problem I make project that can help people do hydroponic farm efficiently. Using arduino uno as micro controller, light dependent resistor module sensor, rain module sensor as sensor and servo m96 for move the roof. The purpose using rain drop module is when weather raining and droplets touching copper side of rain drop module this condition will move servo lever and the roof will closing. For ldr module sensor, if sunlight intensity is already past the set limit servo lever will move too, here the conditions;

1. When weather is fine and sunlight intensity is below 400, roof will close
2. When weather is rain and no sunlight, roof will close
3. When weather is fine and no sunlight, roof will open
4. When weather is rain and have sunlight, roof will close

After working on prototype the experiment begin with placing seeds that have grown, at least have 3 or 4 leaf this ready for move to hydroponic bottle. When hydroponic bottle already filled with nutrient water and have seed inside of it, the hydroponic plants are ready to move to our prototype. The next step is checking periodically water nutrient inside bottle, if inside bottle grown moss we should changing water nutrient and clean up the bottle.

4.2 Design

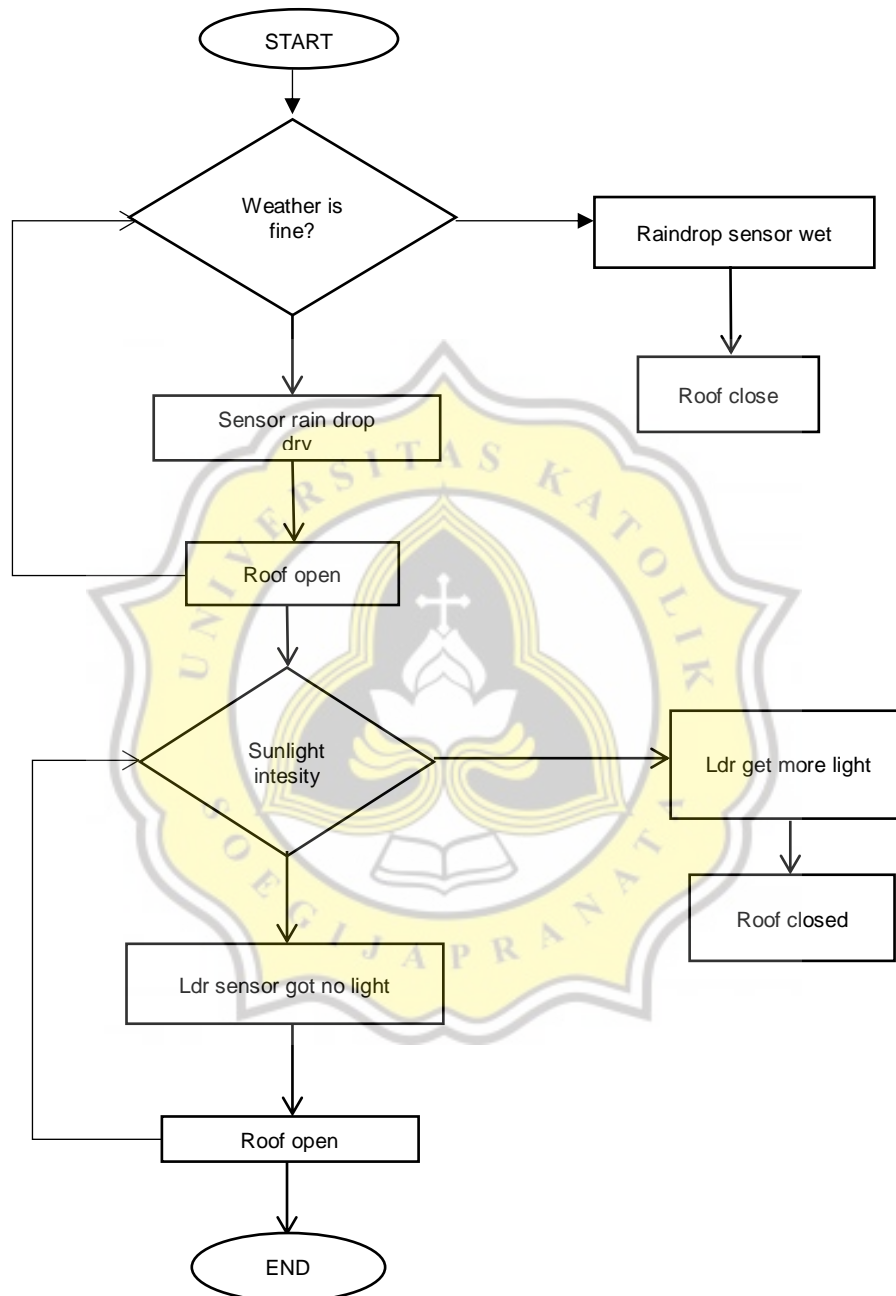




illustration 4.1



week 2 day 3 changes to the hydroponic place



illustration 4.4: plant A



illustration 4.5: Tanaman B

Week 2 day 5



illustration 4.6: plant A



illustration 4.7: plant B

Week 3 day 3



week 3 day 5

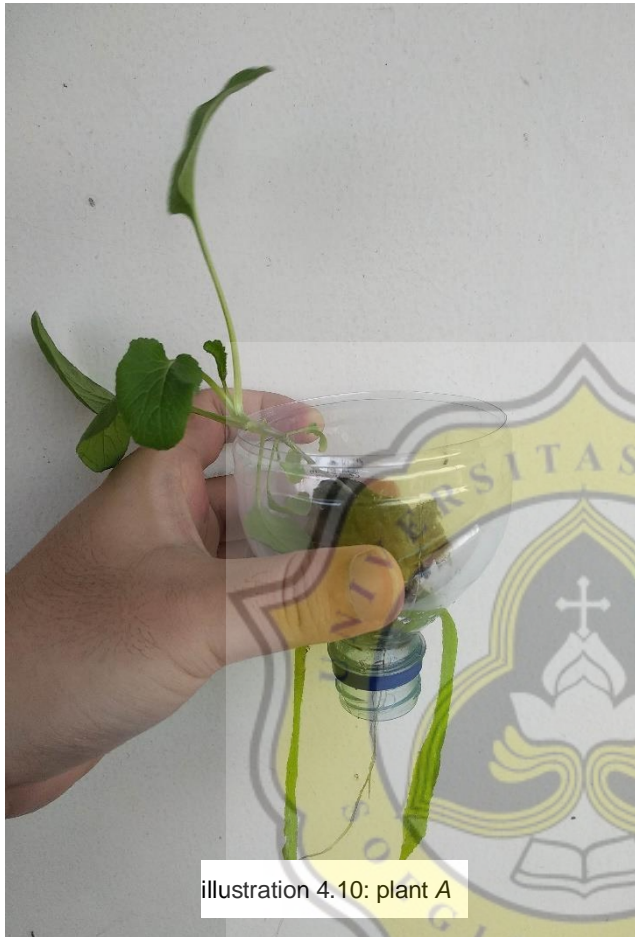


illustration 4.10: plant A



illustration 4.11: plant B