CHAPTER 5 – CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

In conclusion for this thesis work, the improved system of the overall automatic height sink washer has increased. Even though there still room for further improvement, key conclusions that can be taken into the account are

- The height adjustability program works well in this model, allowing the users to wash their hands comfortably by just standing without any gesture needed.

- Additional framework on the model from the bottom to the top has increased its stability, therefore the model can be transported safely and can be used in children's usage without any fall down accidents occurring.

- The ultrasonic sensors can measure the user's height and sink's height accurately by 98% above and positioned perfectly to obtain the data on the model.

- No physical touch is needed to run the full system of the model.

5.2 Recommendations

Main recommendation to further improve the system model is to change the DC motor into faster motor, either Stepper Motor or DC Motor. The speed of the motor could increase the speed of the movement, reducing the waiting time for cue if used for commercial or school usage and improve the efficiency usage of the model. The specification of the motor can be found on chapter 3.6.1 Motor Calculation.

Another recommendation is to put an LCD display into the model for video guidance. Since the usage for this model is used for elementary students, video guidance can be used to improve hygiene education for young children and attract their attention to wash their hands more often.

The height measurement can also be improved by the usage of camera detection. Current sensors are difficult to measure if the users move too much and their result often floats, making it less accurate to measure. Humidity and light disturbance also affect the results of the sensor. Therefore, a camera can be used by implementing

computer vision to detect the height measurement of the user such as body height, hand

height, etc.