

Design and Construction of an Automatic Dispenser for the Visually Impaired Using Microcontroller Technology

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■ Fetching drinking water

Design and development of an assistive device for visually impaired individuals to fill a glass of water.

■ Developing the use of microcont

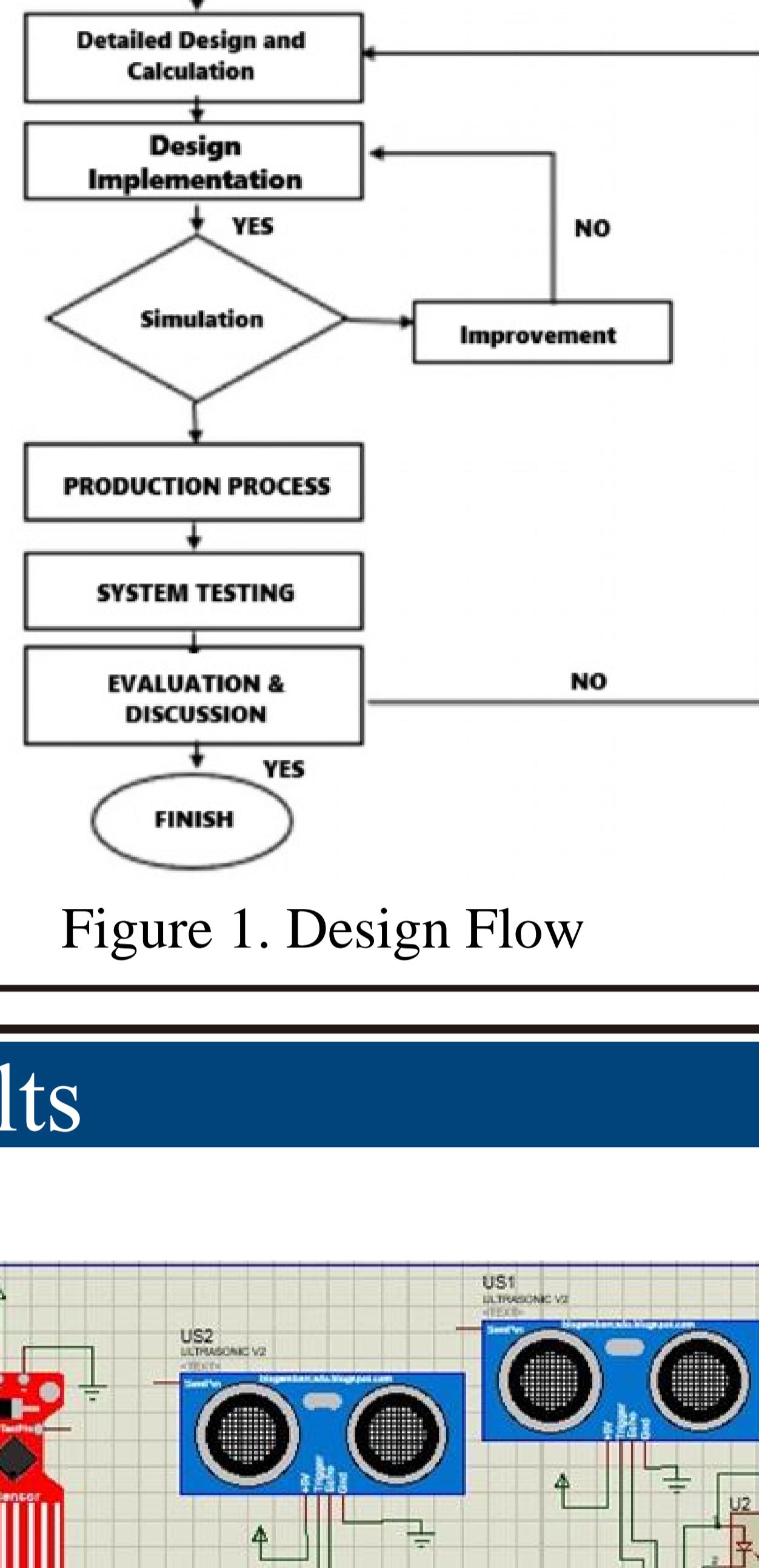
Methods



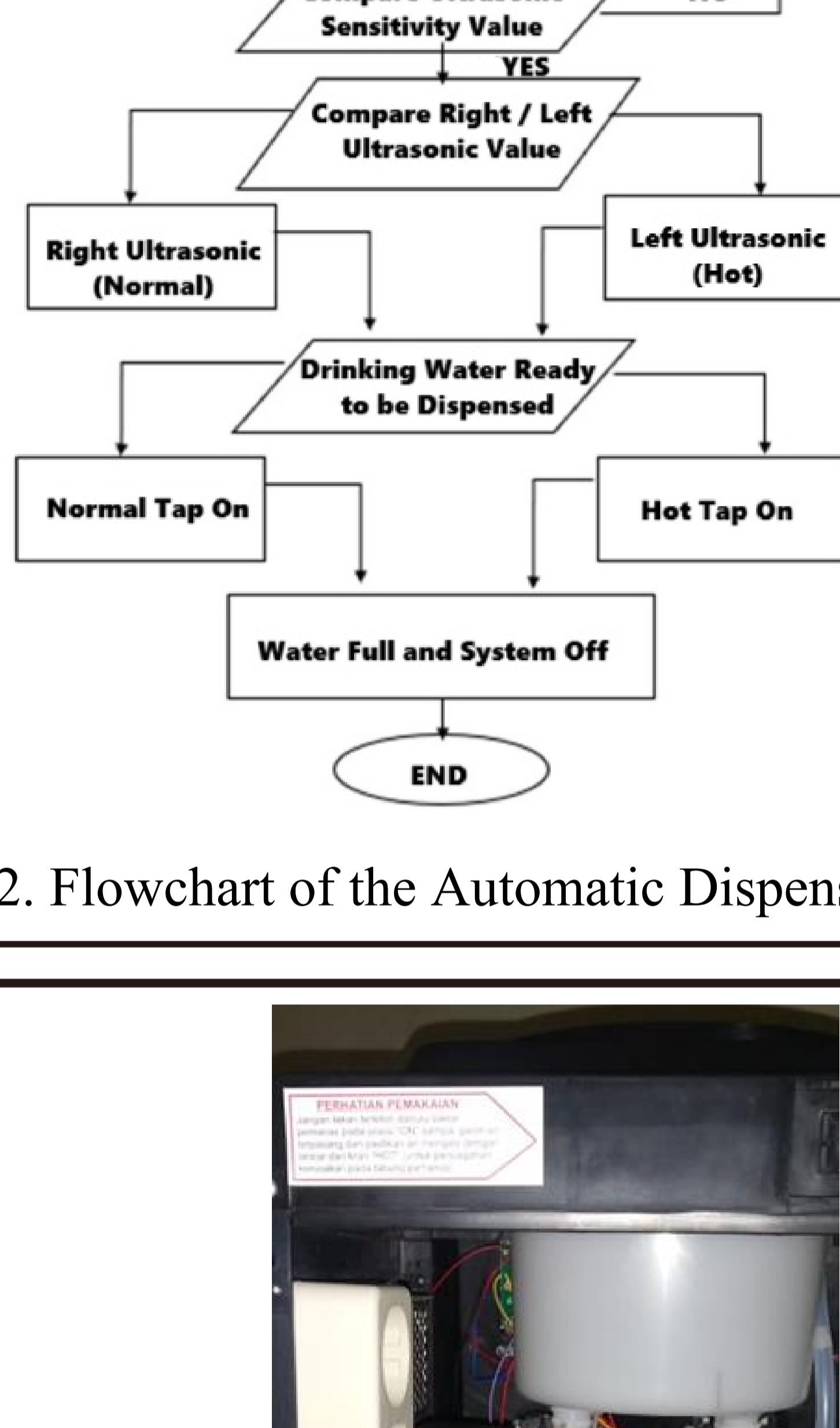
```
graph TD; Start((Start)) --> Identification[Identification of Problems]; Identification --> CupDetection[Cup Detection];
```

The flowchart illustrates the process. It begins with an oval labeled 'Start', which points down to a rectangular box labeled 'Identification of Problems'. This box then points down to another rectangular box labeled 'Cup Detection'.

Des

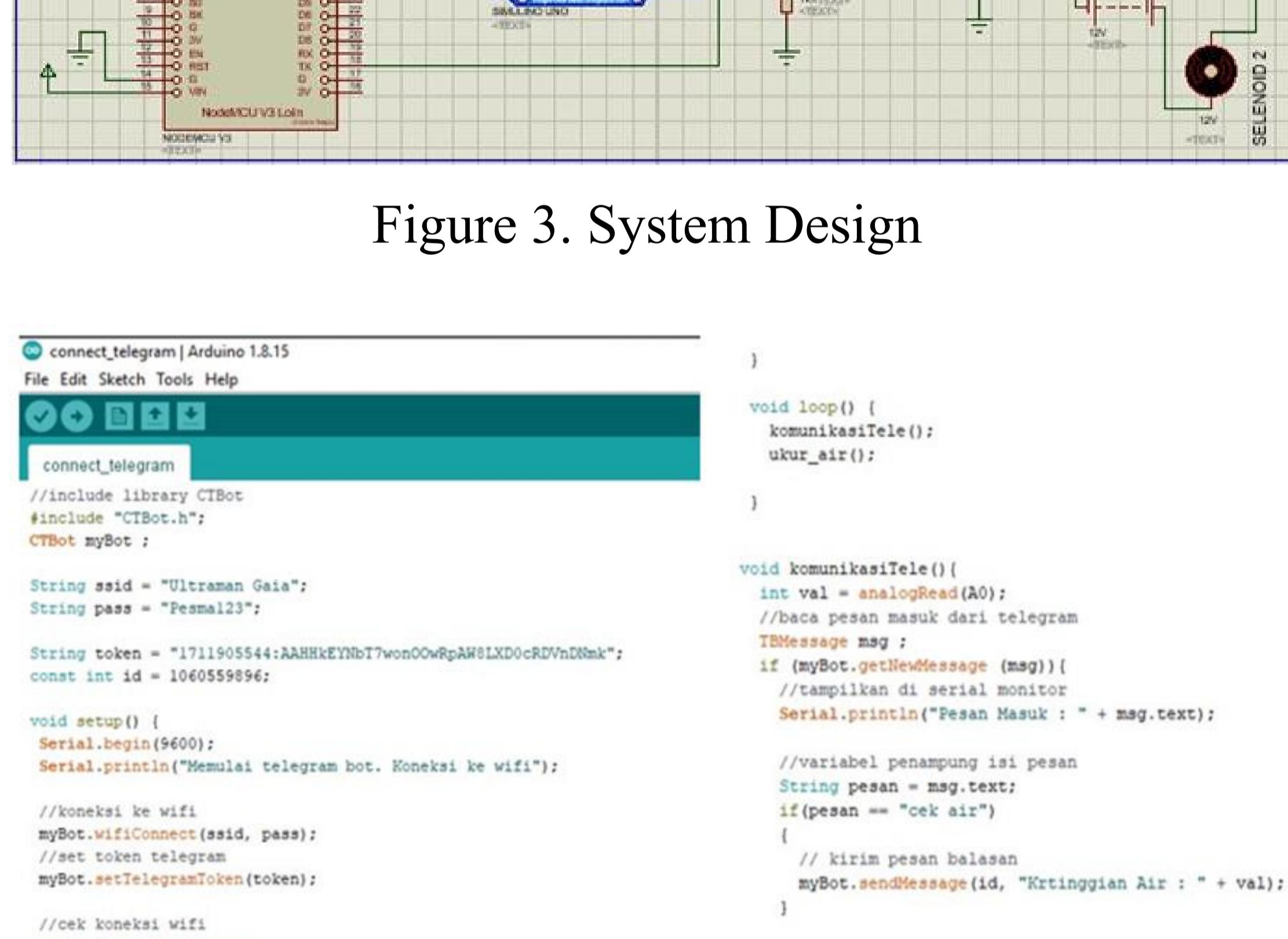


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A photograph of a dark-colored circuit board with several electronic components. A red wire is visible, connected to one of the components. The board is densely populated with components, including what appears to be a microcontroller and various resistors and capacitors.

Water1
Water Sensor
<TEST>



anyone to control your bot.

For a description of the Bot API, see this page:
<https://core.telegram.org/bots/api>

Figure

Conclusions

- The design of an automatic dispenser for the visually impaired reduces the risk of hand injuries and provides assistance to them, with an Arduino Uno used as the control center.
- The NodeMCU ESP8266 functions as a microcontroller that manages the connection with the Telegram application via the internet, serving as a link, and as a sender of serial data to the receiver, which is the Arduino Uno.
- There is a limitation in that it cannot yet be operated remotely and can only communicate through Telegram Messenger.

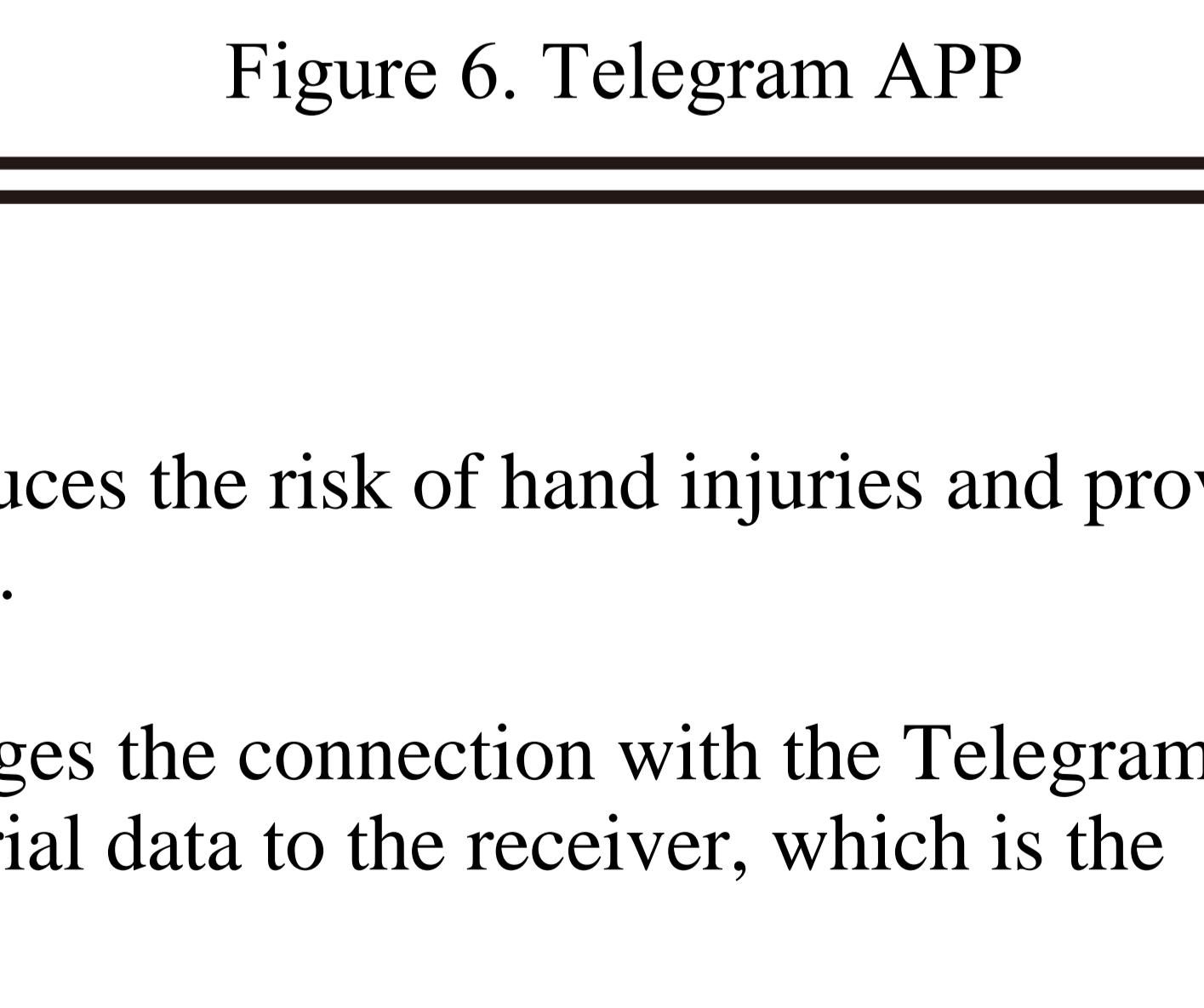
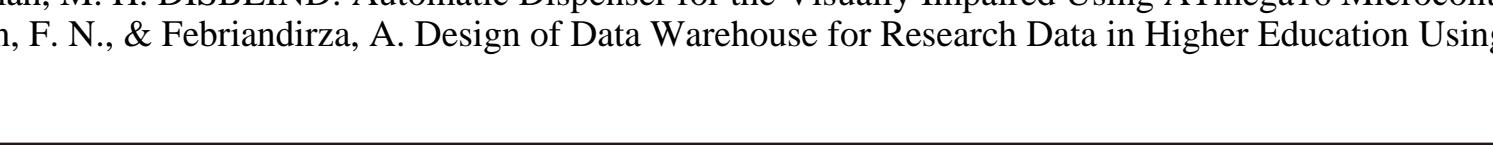
References

Danel, G. Automation of Dispenser Tap Based on Microcontroller At89S52 Using Photodiode Sensor and Ultrasonic Sensor Ping. *Jurnal Fisika Unand*, 2012, 1(1): 60–65.

Singgeta, R. L., & Rumondor, R. Design and Development of an Automatic Dispenser Using Ultrasonic Sensor Based on Atmega2560 Microcontroller. *Jurnal Ilmiah Realtech*, 2018, 14(1): 31–36. <https://doi.org/10.26877/realtech.v14i1.10300>

Handi, Fitriyah, H., & Setyawan, G. E. Monitoring System Using Blynk and Controlling Mushroom Plant Watering with Fuzzy Logic Method. *Jurnal Pengembangan Teknologi Informasi dan Ilmu Komputer*, 2018, 2(2): 128–140.

-]] Rofiq. Automatic Control of Drinking Water F...
-]] Saleh, M., & Haryanti, M. Design and Develop...
-]] Tangdiongan, R. C. G., Allo, E. K., Sompie, S...
-]] Intang, A., & Yusari, Y. Effect of Tap Loading...
-]] Rihendra Dantes, K. Preliminary Study of Pro...
-]] Balach, M. H. DISPLAY: Automatic Dis...



of an automatic dispenser for the visually

The risk of hand injuries and