

Faculty of Information Technology
IN 1900-ICT Project

Automatic Coconut breaking, scraping and grinding machine

Group No: 15

Nusky M.N.N. -204146L

Banu A.G.S. -204018X

Karunaweera R.L. -204096G

Kumarasingha H.J.A. -204108A

Lamahewage D.R. -204114M

Supervisor's Name: BH Sudantha

Date of Submission: 08.06.2022

Dean/Senior lecturer

Dept. of Information Technology

Co-supervisor Name: Upulanka Premasiri

Lecturer

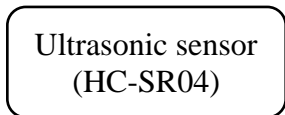
Dept. of Information Technology

Block diagram

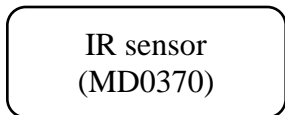
Inputs



This is used to enter the user inputs



This is used to check the water level of coconut water collecting tank



This is used to detect the cut disk



This is used to detect the color of coconut shells(brown)

Process

Analyze the user inputs and starting the coconut breaking process.

Analyze the water level of the water tank and send signals to the alarm.

Starting the process of coconut scraping and grinding after analyzing the signal of IR sensor and send signals to Servomotor, DC motor and blender system.

Send a signal to stop the dc motors in the scrappers.

Outputs

LCD Display I2C(PCF8574A)

Instruction for the user and the inputs given by the user are displayed in the LCD

Buzzer (RS PRO 96db)

When the coconut water level is high, it will make a sound

Stepper motor (Nema 17 bipolar)

Moving the cut disk up and down

Servo motor (SG90)

Pointing the coconut fixing handle towards the coconut scrapper

DC motor (1) Driver(L293D)

Rotating the cut disk

DC motor (2) Driver(L293D)

Rotate the blade of the blender system

DC motor (3) Driver(L293D)

Rotate the coconut scraper

Atmega 32 Microcontroller