NOTE TO COINS MACHINE

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ABSTRACT

Nowadays, everything is automated for convenience. Everyone likes convenience, for example: taking public transports so that there is no hassle of searching for parking or driving your own car and getting stuck in a jam, using the Internet to buy items and have it delivered to you instead of walking out to the store to purchase it. Vending machine selling snacks, newspapers, drinks, and other convenient items can be seen everywhere. A note to coins machine would also be a convenient for human as each of us need to use coins for some machines or taking public transport. It is easy and more convenient to get coins from note to coins machine compare to get from a shop or during night times all shops and banks have closed and we are not able to get from them. With convenient being in mind of human nowadays, it is easy to get more people to use this machine. The objective of this project is to create a note to coins machine which let the user to change the note of RM10, RM5, and RM1 to 50 cent, 20 cent, or 10 cent. The machine should also display the changes status and user can select whether they want only 50 cent, 20 cent or 10 cent. The machine should also notify the user if the coins already finish and they can select other coins that available. For demo purpose, this project was designed to accept one note each time and perform the coins changing function after accepted the note as it was set for demo purpose. This machine was designed to change old Malaysia's coins to user instead of new Malaysia's coins as the new coins are just launched after the project was 70% done. It has no security system which prevent user to steal the coins and the bank notes. It has no bank note storing part which use to store accepted note. The motor won't rotate to take in the note which is fake or note which made by user with colour paper to cheat the machine.

For industry purpose, it is possible to change the function by editing the coding to accept all the notes that user insert then only perform the coins changing function to give the exact amounts of coins with the same value of notes inserted. It can be improved by adding in security system to prevent people steal the coins and notes which store inside the machine. This system is to be controlled by PIC 18F452, a 40 pin PIC microcontroller, which is suitable for this project since it requires a large amount of input and output pins due to there being many different parts in the project that are being interfaced. A sensor is used to detect the note colours and the machines will respond based on the colours of the note to determine the note's value and give the equal value of coins to the users. The different value of coins will be separately store inside the machine. The motor is used to control the number of coins that will drop for the user and accept the note. Liquid Crystal Display (LCD) is used to display the value of the note has insert, value of coins can be select and which value of coins is insufficient for change with the same value of note. There will be some switches for the user to choose which value of coins they want to change.

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