

1. Project title: Remote operated coffee machine



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2. Abstract

The aim of the project was to create an extension for the NESCAFE Dolce Gusto coffee machine in order to be able to remote control it through a web page. As the coffee machine has no Ethernet capability, the XMC Relax Kit was the perfect fit.



Figure 1 Remote operated coffee machine

3. Introduction, project aims and objectives

More than half the adults drink coffee every day. Let's suppose you are one of them. If you hold a coffee machine without remote capabilities at home, then you have to push the button every time you want a coffee. Instead of waiting for the coffee to brew, the coffeemaker extension proposed will help you save time and maybe money. If you want to make sure that coffee is on the way as soon as you wake up in the morning, this DIY remote operated coffee machine is perfect for you. You could just tap the smartphone when they are a few minutes from arriving home, and a fresh pot of coffee would be waiting for you.

4. System overview

The components used for the project:

- XMC Relax Kit
- NESCAFE Dolce Gusto coffee machine
- Router

- SD card
- 5V Relay
- NPN transistor
- Diode
- 1k resistor

5. Schematics and components

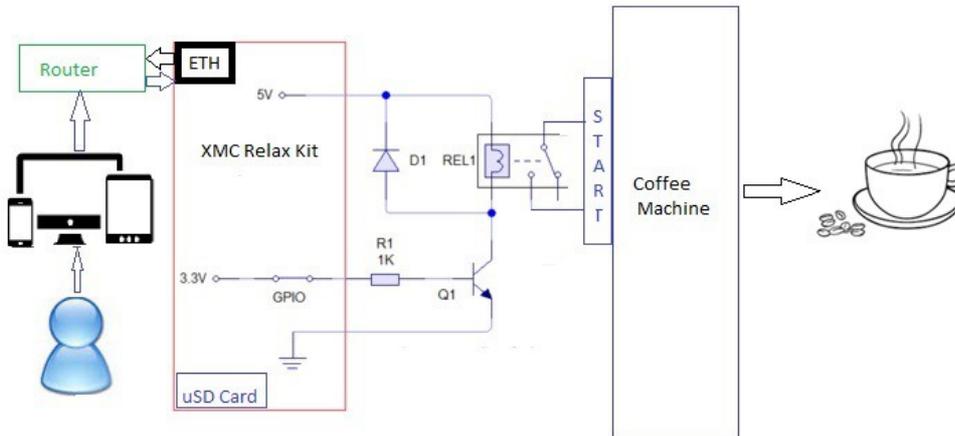
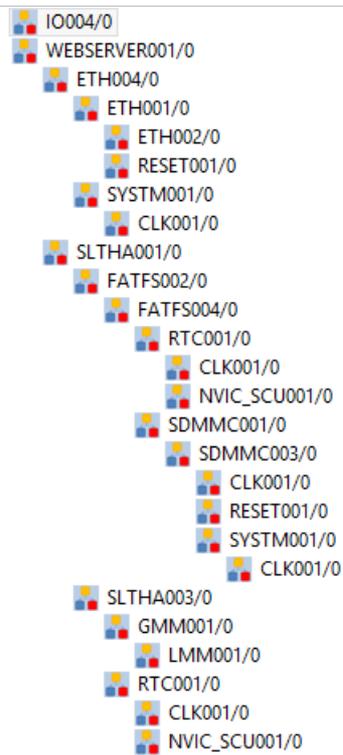


Figure 2. Components of the system

The system works as it follows: the user will access the web page via a device connected in the same network as the XMC Relax Kit, using a web browser. When trying to access the web page, the XMC Relax Kit receives a get request from the user. XMC loads the web page from the microSD card and sends it to the user. After the browser displays the page, the user will be able to send a “Start brewing my coffee” command to the XMC Relax Kit. When receiving the command, the XMC connects the R1 resistor to 3.3V so that the Q1 transistor is open. The relay is now connected to 5V and the coil will activate the switch and change the state of the relay. The start command is now activated and the coffee machine will start make coffee.

6. Software

The software platform used is DAVE 3.10. The apps I used are shown in the following figure. The IO004 app is used for the start command, while the WEBSERVER001 app is user for the server side processing.



7. Project results & applications

The remote coffee machine is fully functional and able to help any coffee lover to save time.

8. Reference

1. http://www.infineon.com/cms/en/product/promopages/aim-mc/dave_downloads.html
2. <http://www.instructables.com/id/The-Feel-Like-A-Queen-Coffee-Machine/>
3. <http://www.infineonforums.com/archive/index.php/t219.html?s=c7a434988b306fc2149c1ee7a902a541>