

RetroBlue: Bluetooth Rotary Phone

ES50 Project Proposal

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April 5, 2014

1 Our Project

We plan to turn a rotary phone into a hands-free Bluetooth device that can pair with a cell phone and make and receive calls. It will behave exactly like a rotary phone plugged into an ordinary phone jack, except that calls are routed through a cell phone instead of a land line. Specifically, our phone will have the following functionality:

Bluetooth pairing. Users will be able to pair their cell phone with the rotary phone.

Receiving calls. When the user's cell phone receives a call, the rotary phone's original mechanical ringer will ring. The user will be able to simply pick up the handset to answer it.

Making calls. To make a call, the user will be able to pick up the handset and dial a number on the phone's original dial. We will tap into the existing circuitry/mechanics of the dial to detect the number dialed, and forward it along to the Bluetooth hardware to make the call. If we have time, we will also make a fake dial tone for increased authenticity.

Display. We would like to incorporate a small OLED screen that will display information such as pairing status and caller ID.

We think this project will be fun for the novelty factor, but we also think it will provide a good challenge and integrate several topics we've learned about in class. We will need to reverse-engineer the phone's rotor, handset, and ringer; connect these components to an Arduino; and program the Arduino to interface with a Bluetooth module.

- 2 Resources**
- 3 Schedule**
- 4 Diagram**
- 5 Team Management**
- 6 Scope and Required Knowledge**
- 7 Parts List**