

Engineering 090 Topic Selection Memo

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Personal Remote Display

For my Engineering 90 project, I propose to design a system that will allow users to easily display information on a screen which is remote from his or her personal computer. The screen could be placed on or outside his or her office door, for example, and the user could update it with information about his or her location or expected return time. Ideally, the remote device would receive data via wireless communication and be battery powered for simplicity of use.

For this project, I must first obtain a screen of reasonable size and price and determine how to display information when it is wired. After this, I must communicate with and power the system remotely. Finally, I must develop an easy-to-use user interface. I plan to package the product such that it is easy to install on any personal computer.

One concern is that the device will either use up battery sources very quickly or else waste a good deal of power when it displays information and no one is there to view it. One solution to this is to add a button that wakes up the screen to display its message for a specified period of time. After it has displayed its message, it returns to a sleep mode which consumes little or no power. Another concern is the speed of communication. If wireless communication is used, the screen may have a noticeable delay before displaying the new output. This problem is more difficult to solve, although it could be avoided by using wired communication. If wireless communication is used, however, the type of data sent to the display could be limited in some way to improve response time. For example, the screen could be monochromatic or display ASCII characters only.

I plan to work with Professor Erik Cheever.