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Near-Field Communication (NFC) is an innovative type of radio frequency communication. It provides a very short range of transmission, which makes it ideal for secure activities. NFC consists of a tag reader, and tag. The range that a reader can read a tag can depend on the type of system, but for most cases a tag must be within centimeters for a successful read. For example, NFC is currently one of the newest forms of making payments at many stores. Apple Pay and Google Wallet are some of the leading payment systems today. Moreover, NFC systems can be convenient for attendance systems. An employee badge can be encoded with unique identification information that is automatically handled by the system. This is the system that we are most interested in implementing.

The Flagstaff Medical Center currently uses a badge system with a traditional magnetic stripe cards. A blank card is programmed with unique employee information, and the card is swiped in a reader attached to a time clock. Our system seeks to improve upon this system by creating an attendance system using a Raspberry Pi, NFC tag, NFC card reader, and a MySQL database. Given the flexibility of NFC, this system leaves room for expandability in future projects for other functions.