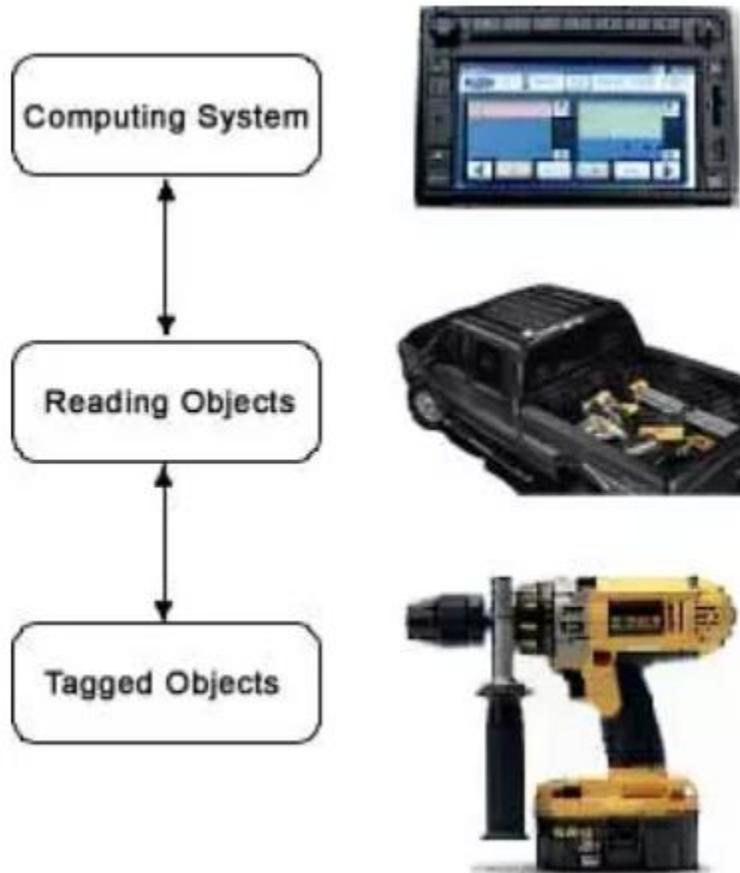


## Architectural Overview of RFID

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The major subsystems for RFID are the reading object(s), the tagged object(s) and the computing system. The computing system will create inputs into the system, take outputs from the system, and control the system. This is shown below:



If the reading objects are known, such as a car, a warehouse door, an office room, a handheld device, a printer, etc., the key architectural decision is what reader to use. For many applications that require adding RFID, a small reader module like ThingMagic M6 will suit the application. For some applications that require a finished product or long cables and many antennas, a fixed reader (access-point), such as the Mercury6 will work. In all cases, it is important to create or obtain software to interface with the data protocol of the reader and to maintain the configuration and firmware of the reader, especially when many readers are required.



Once the reading object is identified, the next thing to determine are the tagged object(s). The material characteristics of the tagged object, read distance required and geometric area are some of the key considerations. If the read distance is within the wavelength of the radio frequency 1m at 300 MHz and .3 m at 1 GHz, near field tags must be used. Beyond that, special material spacers may be required for metals, encapsulations for harsh environments, or other special requirements, which must be handled and tested.

Once the reading objects and tagged objects are configured, a survey is usually completed to make sure there is enough margin in the system to have robustness in the application. During this time, the overall software architecture is established, implemented and tested.

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