Basic Functionality

* Receives info from office about each train’s speed limits and authority.
  + Authority: How far in distance the train is permitted to travel (meters)
  + Tells the train through the track (Baud = 3, unknown exactly what baud is)
* Tells office state of the track, railway crossings, signals, and trains to CTC office
  + Signals can be green or red
  + Relays will move switches and set light color
  + Drops gate/turns of light for railroad crossings
* Control track switching
* Control railway crossings
* Detect broken rails
* Detects train presence on tracks
  + Done with a signal relay – DC Track circuit where a track connects the lines and shorts the circuit, de-energizing the relay
* PLC program
  + Boolean logic only

Requirements

* Run at clock speed and run 10x clock speed
* Determine safety critical aspects of the system and how it affected the architecture/design

Non-functional Requirements

* Make JAR file or EXE on Win 7
* Must have a safety critical architecture (?)
* This controller is “Vital”
  + “Safety Critical”