Requirements

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# Functional

* The software must operate on Raspberry Pi
* The software must be cross platform
  + Abstract layered structure
* The Software must read and load from GPI I/O ports
* The software must provide a CECIL simulator
  + The software must have a compiler for user input
  + The software must comprise a grammar description for CECIL
* The software must comprise a user interface allowing
  + Input editor
  + output console
    - results
    - memory locations with corresponding values (memory ‘dump’)
  + LED view
* The software source code must supply good documentation (JavaDocs)
* The software must be implemented following an agile methodology
* The software must be implemented in a Model-View-Controller architectural design
* The product must be open-source
* The software must be thoroughly tested
  + interface evaluation
  + model testing
    - grammar testing
  + unit testing
  + integration testing

# Non-functional

* The software should have good levels of accessibility for
  + settings menu should be provided
  + Good contrast, font size, responsive software
* The software should be reliable and be able to recover from any faults
* The software should comprise a helpful guide of execution
* The software should supply reasonable maintainability and extensibility for the client
* The software should comprise a user-friendly, intuitive and enjoyable user interface
  + encourage computational thinking
* The software should supply users a learning and informational facility on computer hardware
* The product must be implemented in a coherent and comprehensive
  + coding practice
  + documentation
  + thorough research
  + thorough testing
* The software may use the GP I/O ports to connect LEDs for interactive user output

# Constraints

* The product will not comprise heavy hardware or electronic implementations
* The product’s source code will be not comprise any programming language other than Java
* The product must be successfully developed within a semester timeframe
* The product must be implemented on a ARM embedded processor