Interface Contracts:

**ReportController**

Invariant: There is an open Report.

getReport(reportID)

Precondition: A Report exists with the given reportID.

Postcondition: The openReport object is equal to the Report with the given reportID.

showReport()

Precondition: There is a Report loaded.

Postcondition: The contests are displayed to the interface.

saveContents(newContents)

Precondition: The contents in the controller differ from contents of the Report with the given reportID.

Postconditions: The contents in the Report have been updated to the new contents.

**Lock**

Invariant: The Lock is installed and connected to the system.

isLocked()

Precondition: The Lock has a current status of its lock status.

Postcondition: The Lock’s current status is returned.

unlock()

Precondition: status is currently true.

Postcondition: status is now set to false.

**Sensor**

Invariant: The sensors are continuously listening to detect an issue.

detectIssue()

Precondition: A sensor is given a variation of its data.

Postcondition: A sensor returns that it has detected an issue during its listening.

updateReport(contents)

Precondition: There exists a report that has available contents.

Postcondition: The report now includes the new contents in it.

**Alarm**

Invariant: The Alarm is installed and connected to the system.

getStatus()

Precondition: The Alarm has a current status.

Postcondition: Returns the current status of the Alarm.

setStatus(newStatus)

Precondition: The Alarm has a current status.

Postcondition: The Alarm’s status is updated to the newStatus.

**Setting**

Invariant: The Setting is being applied to the system.

setValue(newValue)

Precondition: The Setting has a current value.

Postcondition: The Setting’s value has been changed to the newValue.