**Console:**

1. Upon start-up of the Console it should start up in the main UI for filling in data for terrain and rocket data. It should automatically be in non-configured state
2. If the Next Page is selected then the state, rocket and terrain data should be sent and the state should be now configured
3. If the sent received is Ready and we are in configured then we can move to READY
4. If move to Launch is selected then launch and state data must be sent
5. If state is READY and we have completed REQ-004 then request to move to LAUNCH.
6. If LAUNCH is received, then shutdown the console
7. If received state is SHUTDOWN then shutdown the console

**Flight Algorithm:**

1. If state is READY, run the algorithm if the terrain, rocket data has been received
2. If state is LAUNCH, Send algoData if valid
3. Valid data is based off checks that the rocket will not theoretically hit the ground then re-ascend after fuel has been used
4. Time will be calculated from start time of from READY

**Controller:**

1. Upon start-up the Controller will be in CONFIGURED state
2. If the rocket, terrain and state data from the console is received, then it MUST be validated
3. Rocket data is validated by checking the controller config min and max expected values
4. Terrain data is validated by checking the controller config min and max expected values
5. If validation passes for Console data from REQ-002 then state should be set to READY and sent to Console
6. If state is READY then 2dMap must be sent maxEntries and be called upon to provide 2dMapData
7. If 2dMapData is received then the state must be changed to LAUNCH
8. If state is LAUNCH then the Land Algo must be sent both 2dMapData and AlgoData
9. Once the Land Algo has completed then state must be SHUTDOWN and be sent to all

**2DMap:**

1. If state is READY and we have maxEntries then calculate 2dMapData from min and max terrain ranges specified in the config

**Land Algorithm:**

1. If state is LAUNCH and we have 2dMapData and algoData. Calculate whether the rocket will hit the terrain in map data at any time point.