# Availability Quality Attributes

1. System shall detect when the main GPSCoordinate App component fails
   1. Source
      1. Internal
   2. Stimulus
      1. GPSCoordinate App component fetching car’s GPS location fails due to running out of memory storing history of the car’s location
   3. Environment
      1. Normal operation
   4. Response
      1. (Heart Beat) Detect GPSCoordinate process is no longer running and fetching car’s coordinates
   5. Response Failure
      1. Log failure in system error logs
2. System downtime upon GPSCoordinate App component failure should be no more than 500 milliseconds.
   1. Source
      1. Internal
   2. Stimulus
      1. GPSCoordinate App component fetching car’s GPS location fails due to running out of memory storing history of the car’s location
   3. Environment
      1. Normal operation
   4. Response
      1. (Active Redundancy) Switch to active redundant GPSCoordinate component, which has been executing in parallel to the main GPSCoordinate component
   5. Response Failure
      1. System shall continue to operate normally, meaning that GPSCoordinates are being successfully fetched, with no more than 500 milliseconds of downtime upon GPSCoordinate component failure