**Motivation:**

The principle system requirements that impacts the path planning team are:

Req 1: The system shall perform a search for targets in an unknown environment

1.2: The system shall navigate unknown environment, avoiding collisions with obstacles

Req 4: The system shall be autonomous

These suggest important derived requirements:

1. We are operating in an unknown environment, therefore, re-planning will be necessary as obstacles are found
2. Therefore, computational load must be a minimum such that the time required for re-calculation of the path is on the order of milliseconds

**Proposed solution:**

In order to achieve necessary planning time, a 2D path will be calculated in lieu of a 3D one.

Two algorithms are being evaluated, A\* and PRM.