Obstacle Avoidance and Goal Detection Robot using RPi and LRF.

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Overview

Introduction
- Goal
- Architecture

Algorithm

Development Strategy
- Testing

Goal (Basic)

Given a goal:

- Turn the robot around
- Move towards the goal based on the LRF input.
- Example requirement: recommend new connections, movies, music.
- How: using a genetic algorithm (more details later).

More about Clustering

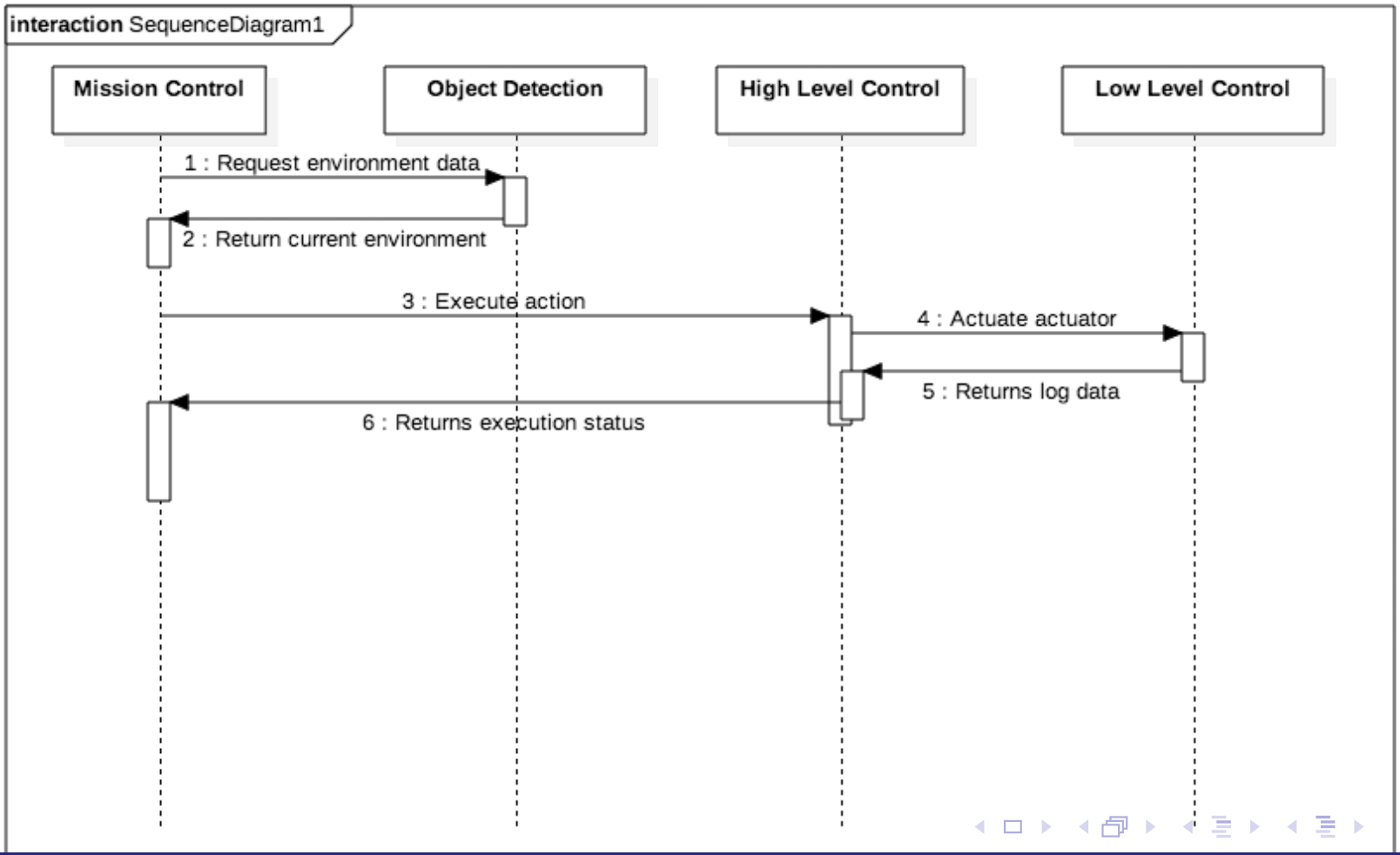
- **Important terms**

  Clusters Subsets in which a given set of objects (in our case the nodes in the social network graph) is divided, such that the objects from the same subset are more similar to the objects from different subsets.

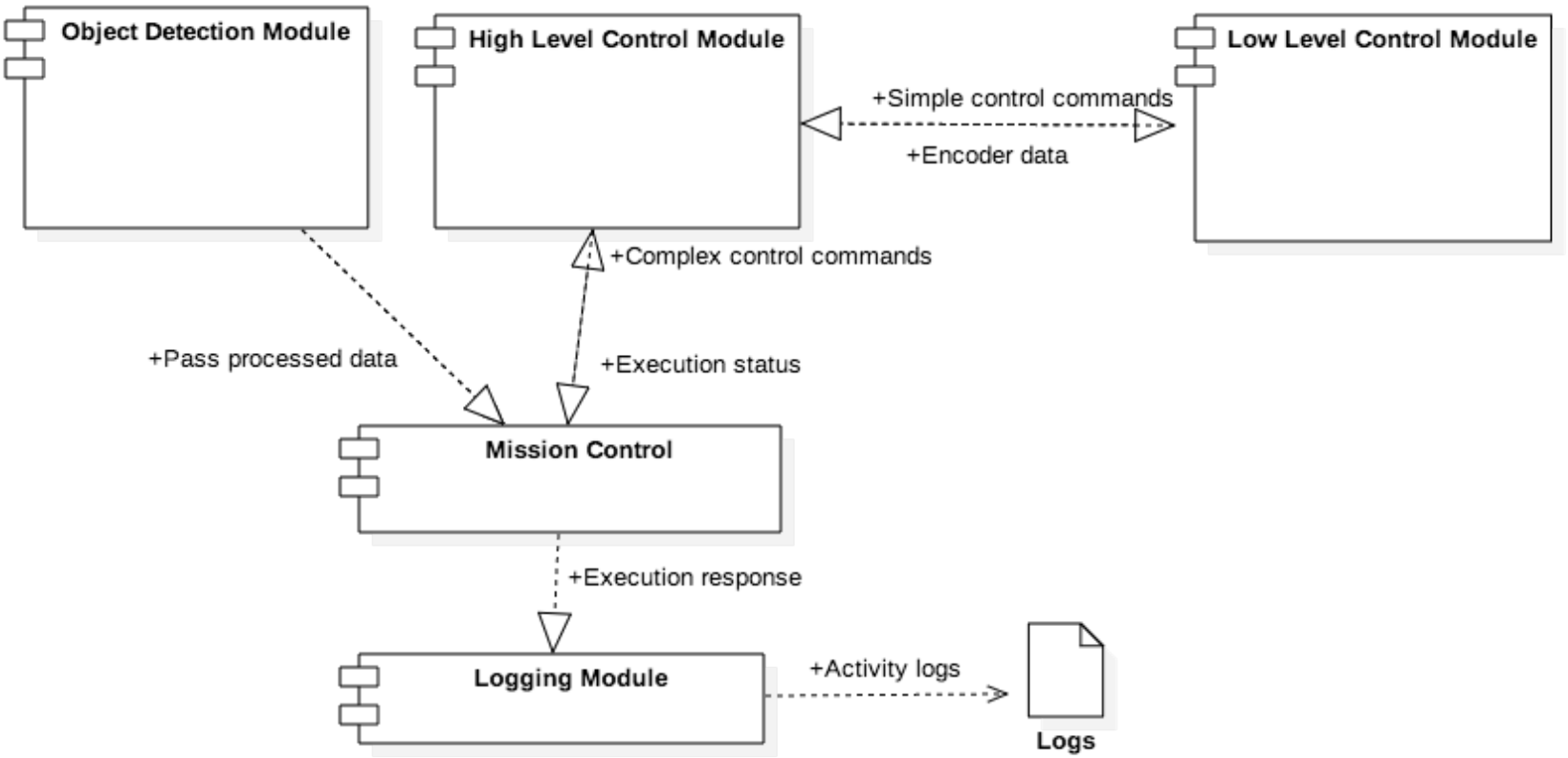
  Population A set of solutions to the clustering problem.

  Individual One solution to the clustering problem.

Sequence Diagram



Component Diagram



Testing

- Test Driven Development (TDD)
  - Write tests before code
  - Helps clearly plan out program functionality
  - Reduces debug time drastically
- Focused on four different domains:
  - Unit Testing
  - Integration Testing
  - System Testing
  - Stress Testing