

# IoT Data Simulator

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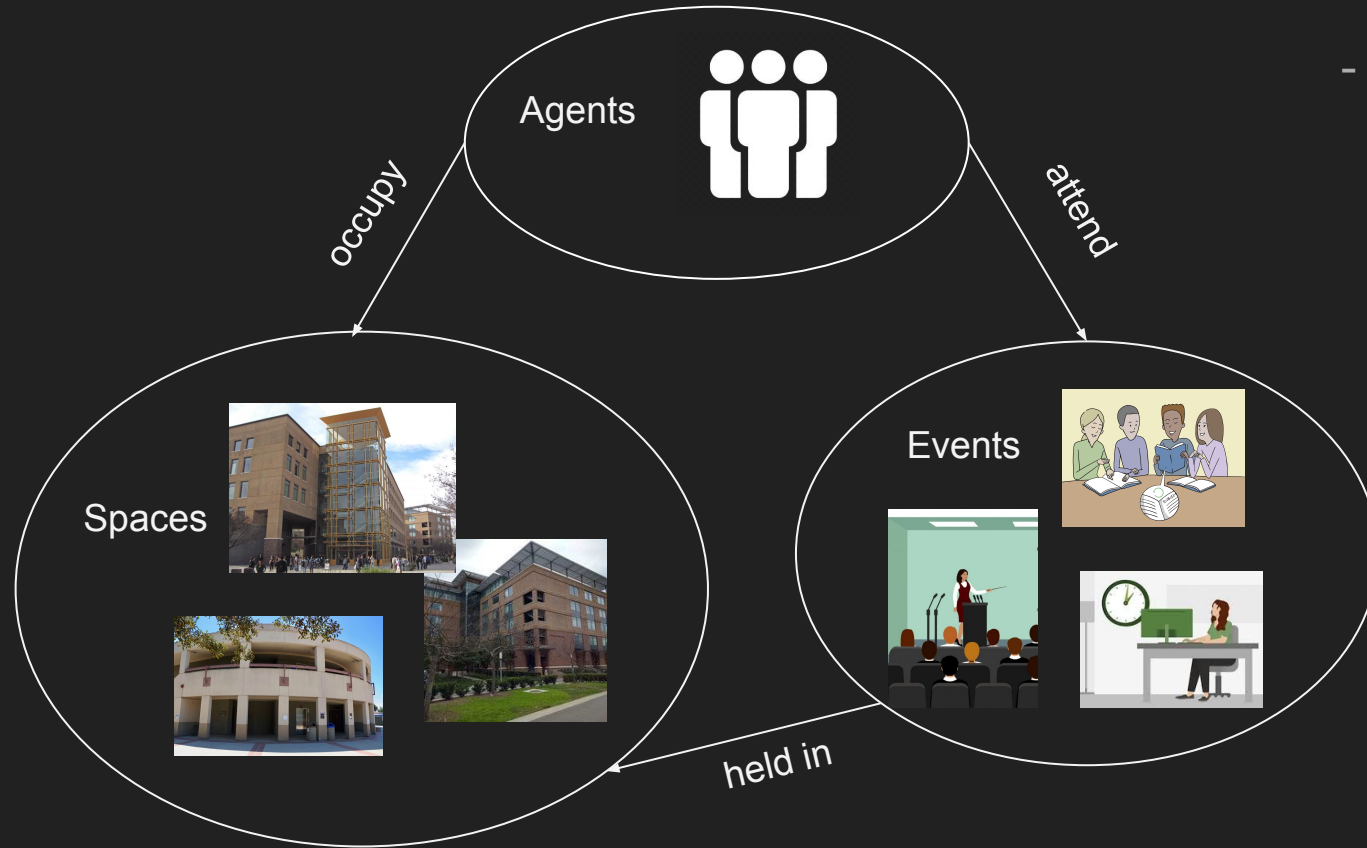
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# Motivation and Goals

- Simulations often used to model aspects of the real world



# Motivation and Goals (2)



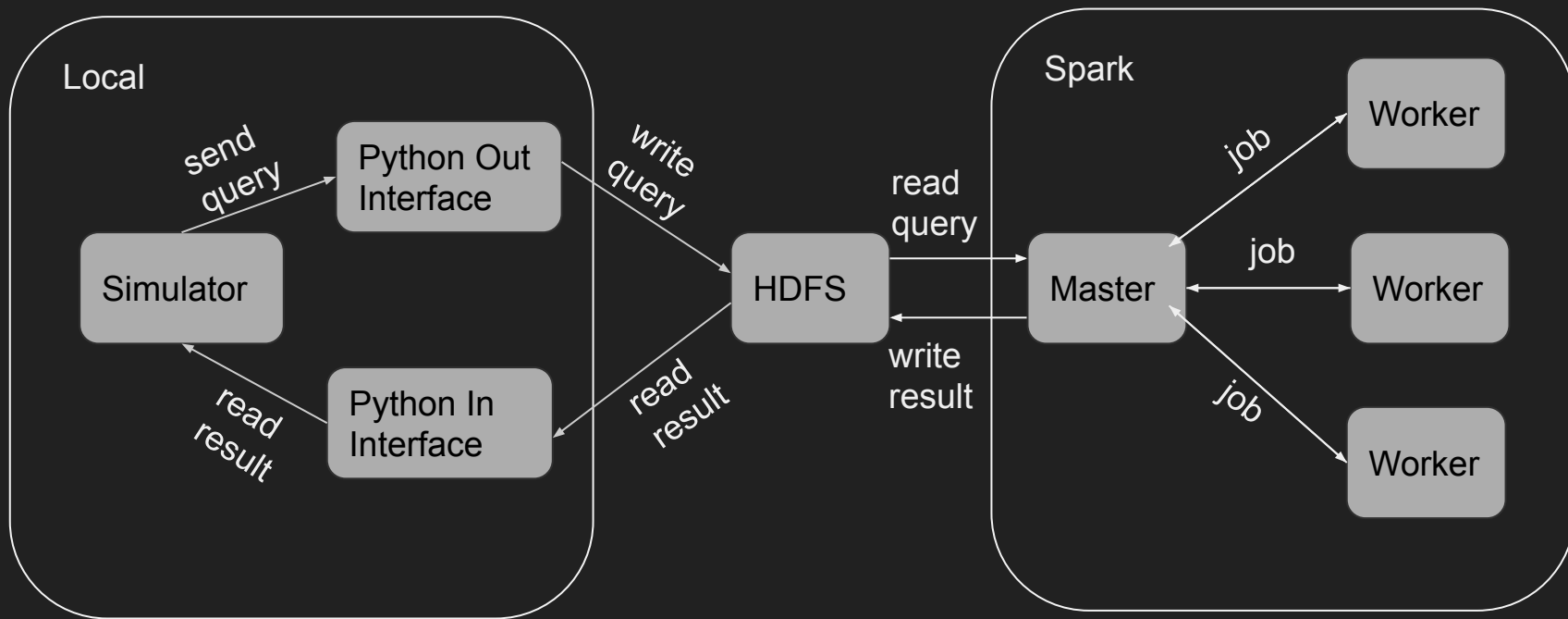
- Goal: Given our trajectory simulator, in what ways can we distribute the workload across a number of nodes (enabling scalable simulations)?

# Related Works

- Research on messaging overhead in simulations
  - *Power Efficient Distributed Simulation* (Fujimoto et al.)
  - *Parallel Discrete Event Simulation for Multi-Core Systems* (Wang et al.)
  - *Time Series-Oriented Load Prediction Model and Migration Policies for Distributed Simulation Systems* (Grande et al.)
  
- Scalability Technologies

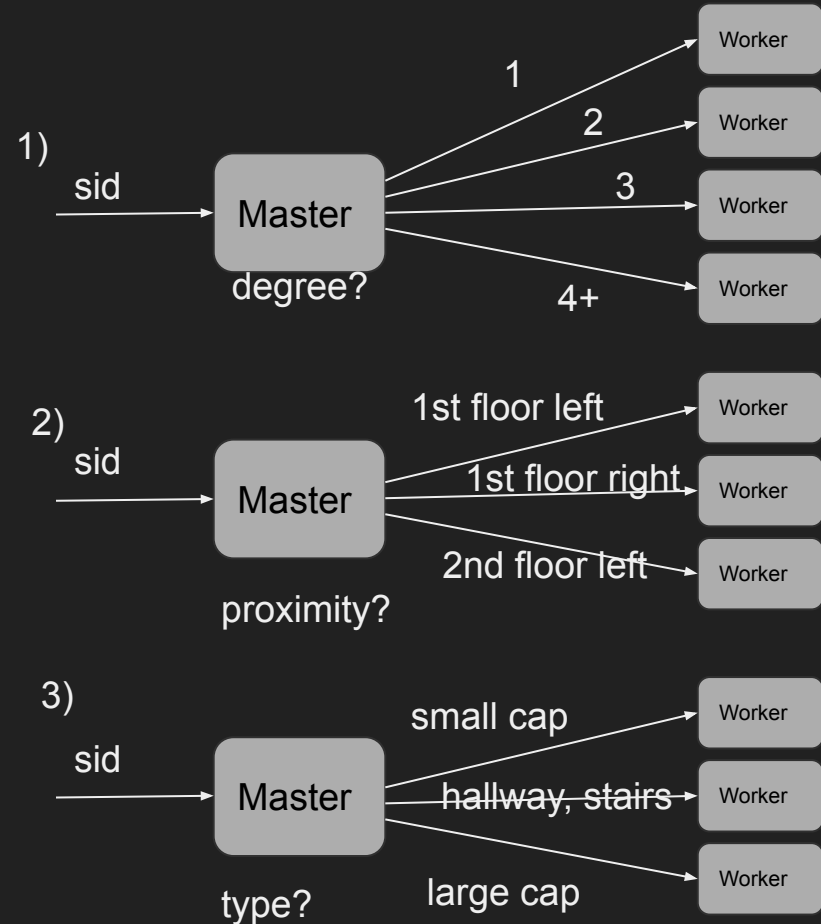


# System Design



# Testing & Evaluation Plan

- Configure nodes to handle different queries (based on space)
- Measure execution time, memory usage of each distribution
- 3 Methods of distribution:
  - Degree: How many neighboring spaces?
  - Proximity: How close are spaces?
  - Type: How many people can they fit?



# Results

	Time	Memory
Config 1 (Degree, 4)		
Config 2 (Proximity, 3)		
Config 3 (Type, 3)		

Demo