

Motivation



Cost



Environment

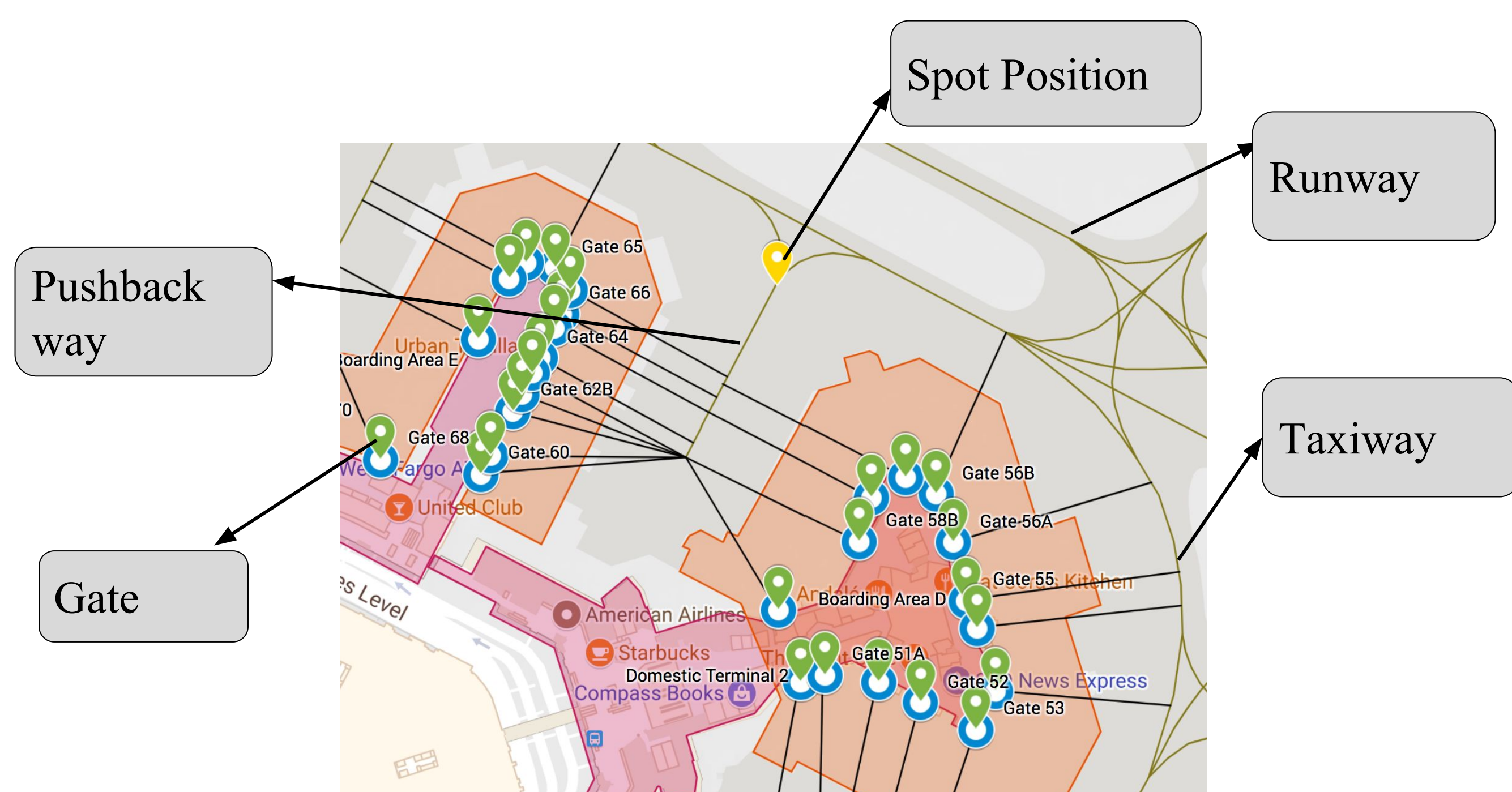


Safety

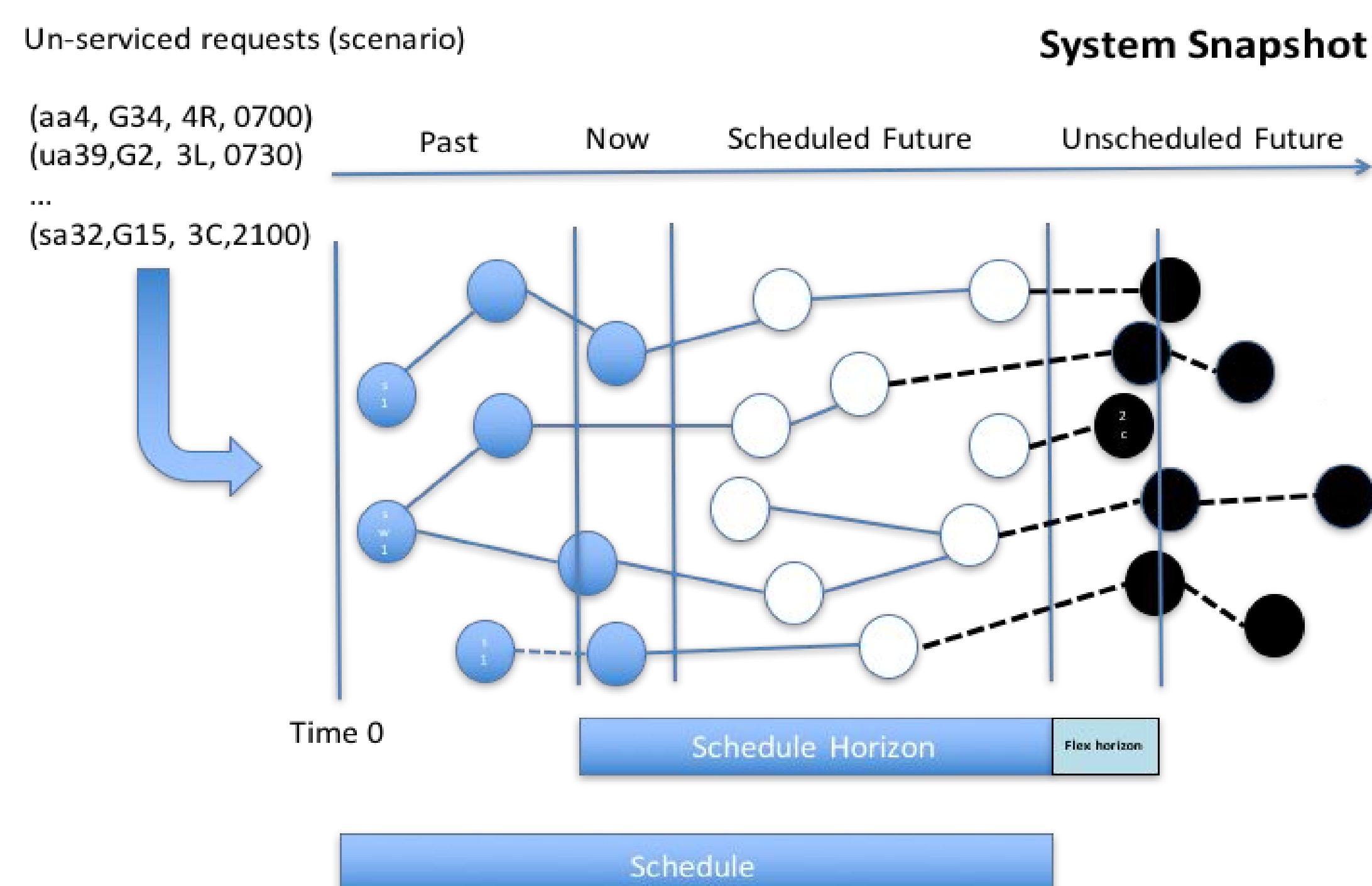
Project Goals

- To create a generic airport simulation tool
- To add uncertainty into simulation and to analyze the performance of different scheduling algorithms
- To explore different auto-scheduling methods and to compare with current FCFS method.

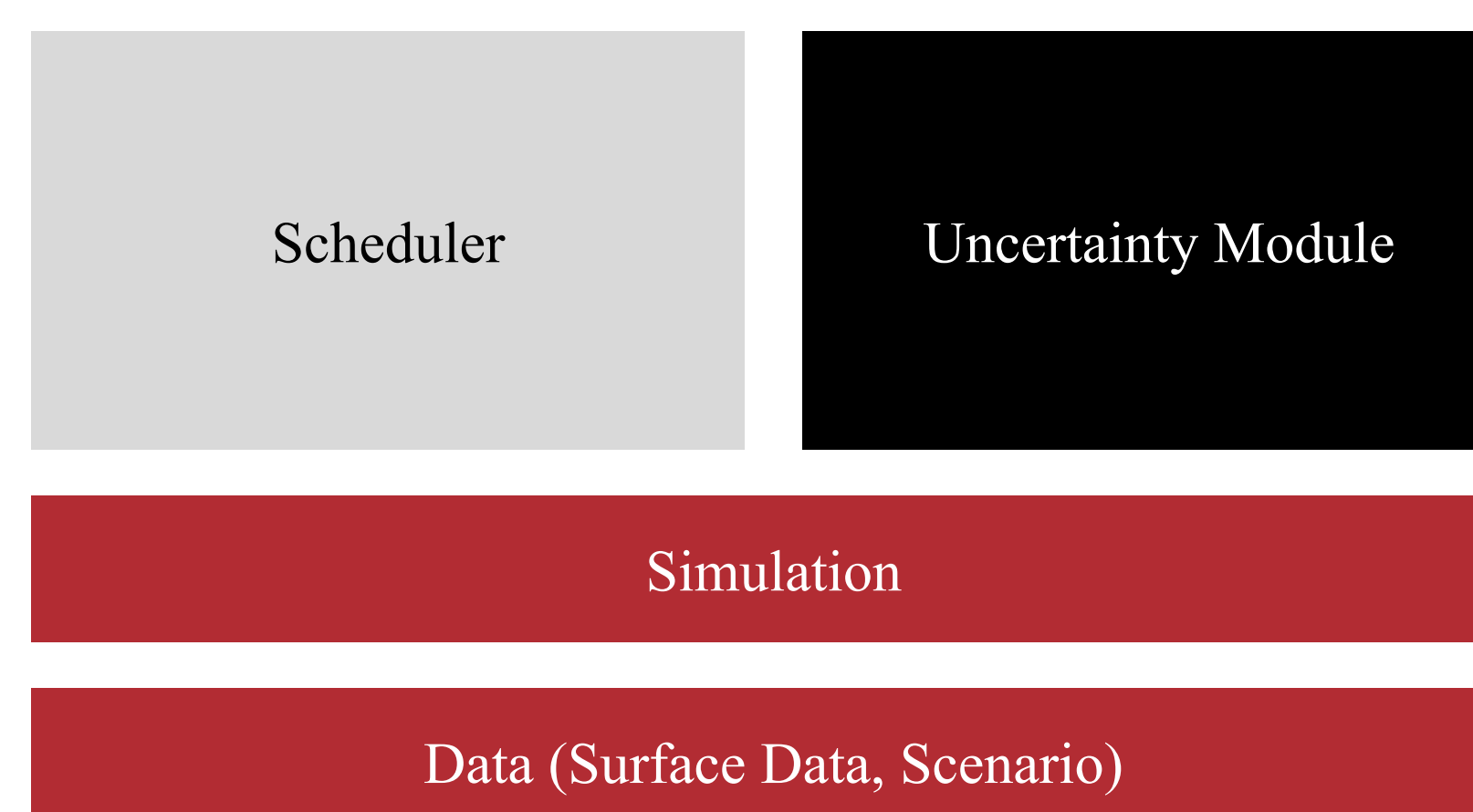
Know Your Airport



System Snapshot



Architecture



Designs an airport simulation works for multiple airports sharing the same link-node model.

Works with an external scheduler in runtime, and be able to show performances.

Be extensible for adding new constraints, features in the future.

Repeatedly generates schedules for aircrafts that enter the airport during the day.

Ensure that the schedules generated are free of conflicts in the absence of uncertainty.

Use the simulation to predict possible airport state in the future, and relax tightness at possible bottlenecks.

Simulation

A generic airport simulation written in Python

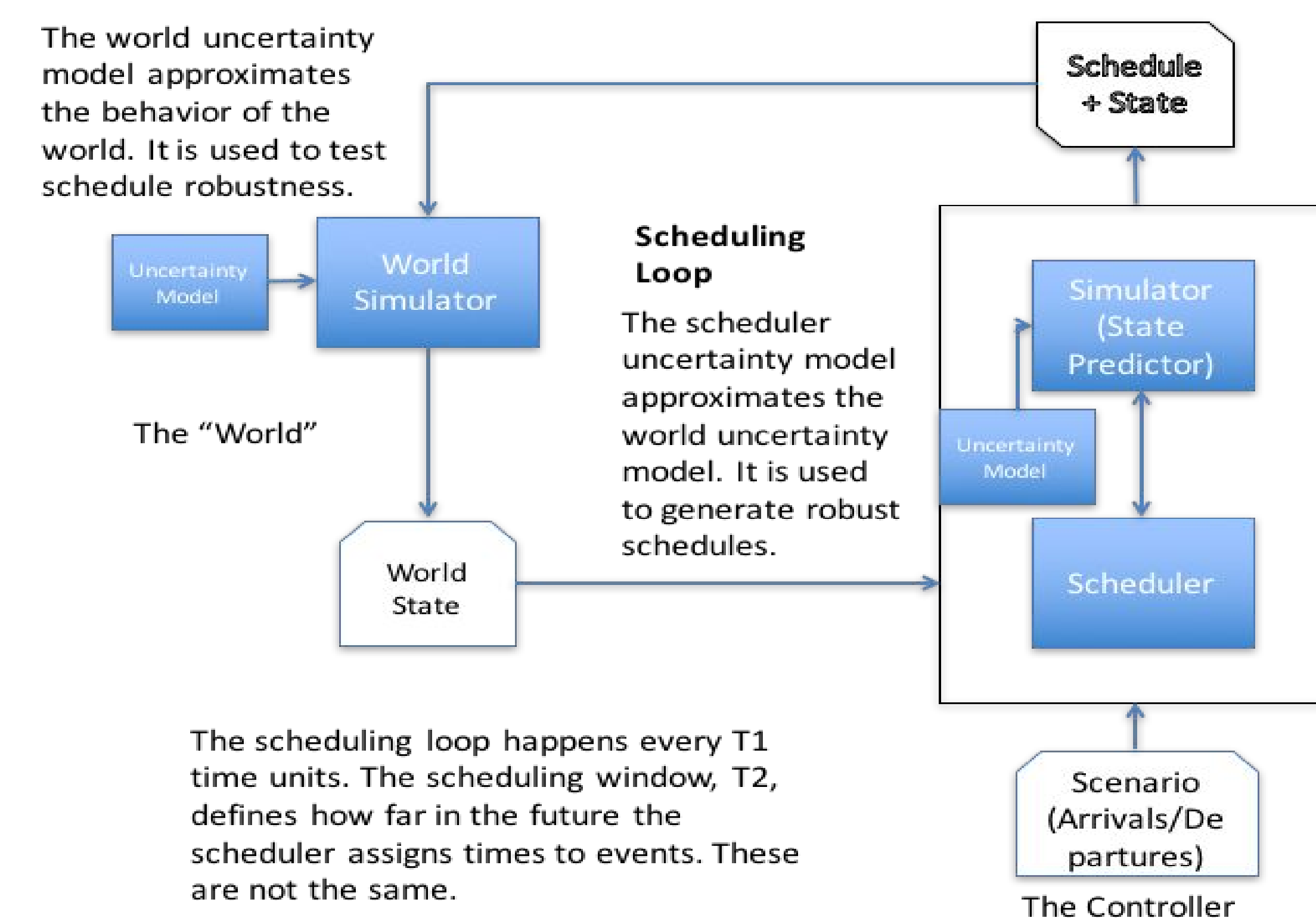
Scheduler

A scheduler for aircraft routes written in Python

Uncertainty Module

A module for simulating real-world uncertainty.

Flow



Results

