

CityTwin

Mainstay Nodes

- Receive information from Resource nodes modeling sensors
- Communicate information to Resource nodes modeling actuators
- Detect malfunctions in Resource nodes
- Detect malfunctions in other Mainstay nodes
- Save information by contacting the persistence service
- No need to know the types of Resource nodes in advance

Resource Nodes

- Reference a Mainstay node to obtain or communicate information
- Can be added or removed in real-time

Data Persistence Service

- Persistently save the state of Mainstay nodes
- Persistently save the state of Resource nodes

Fault Tolerance

- Malfunction of a node should not compromise the system's operation

Modularity

- Introduce new modules without modifying existing components

Specific Modules for Resource Nodes

- Acid Rain Detection Sensor
- Air Quality Analysis Sensor
- Noise Pollution Detection Sensor
- River Water Level Detection Module