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Event-Driven Design Approach to the QML Wrapper for SmartSlog Tool

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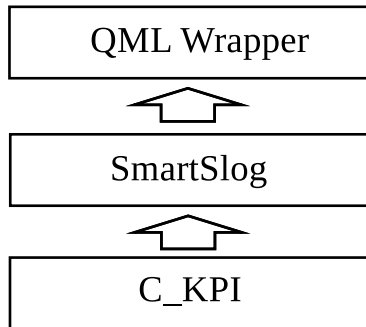


- Different platforms
- Complicated structure of applications
- Hard compilation process
- Data transferring and GUI updating

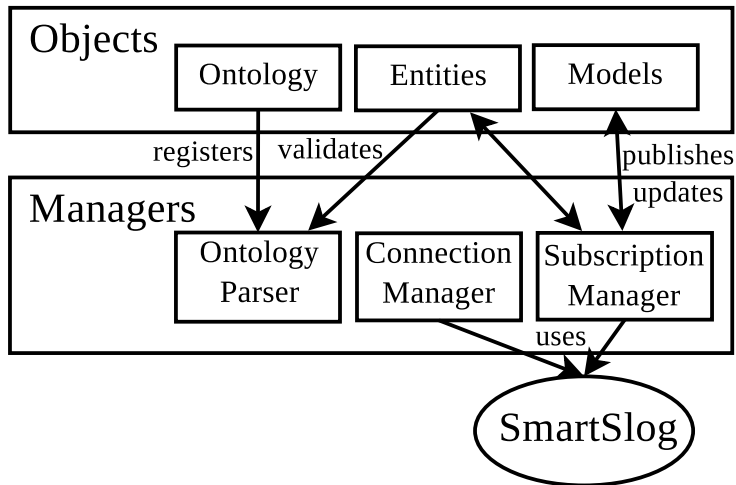


Goals

- Use of Qt and QML as a cross-platform development tool
- Code reuse
- Automatic triples publishing and subscriptions with signals/slots
- Background for triples state control in several SIBs



Design



Objects Level. API

```
Triple {  
  id: ""  
  subject: "",  
  predicate: "",  
  object: ""  
}
```

```
Entity {  
  Complex entity  
  based on ontology  
}
```

```
SubscriptionModel {  
  id: "objectId"  
  node: "nodeId",  
  query: "queryId"  
}
```

```
Query {  
  Triple, Ontology,  
  SPARQL  
}
```

- Binding/unbinding to nodes on demand
- Properties setters/getters
- “onUpdate” callbacks



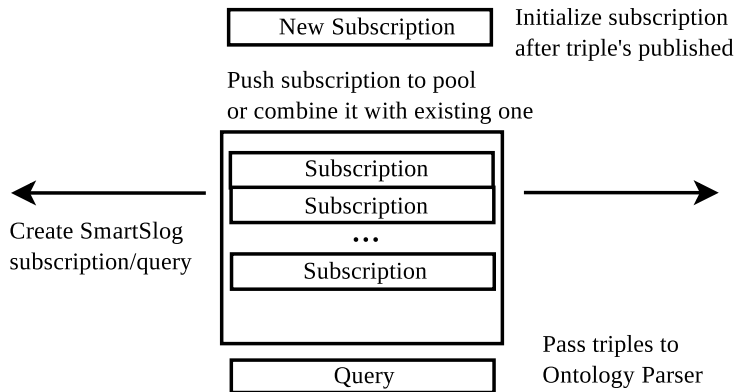
Connections

- Automatic or on-demand joining/leaving
- Binding/unbinding entities from “Node” side
- Background “Node” optimizations

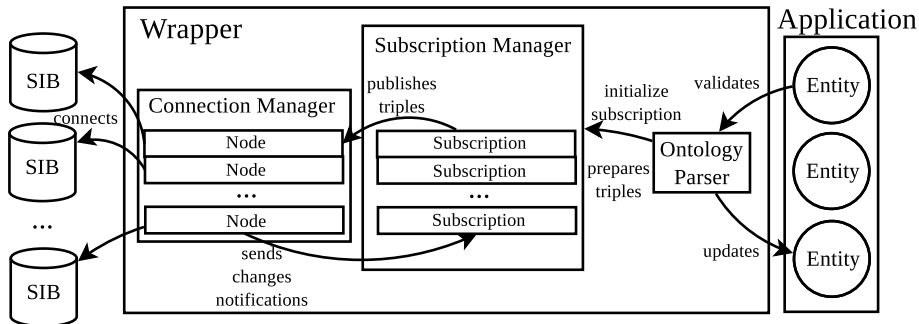
```
Node{
    id: ""
    address: "",
    name: ""
    port: ""
    Component.onCompleted {
        join ()
    }
}
```



Subscription Manager



Workflow



Current Results and Future Work

- The design approach to QML wrapper for SmartSlog tool is proposed
- The basic prototype was implemented and tested
- Ontology representation ways are planned to investigate
- Further implementation is in progress

