Train Controller UI 2

Team C: Johan, Mário P., Elísio, Kasper & Elmar

Software Specification 2006

October 17, 2006

Problem Description

Problem Description

Specify the communication between the Human Interface and Logic

Human Interface

Human Interface is the combination of Controls and Visualization

Human Interface and Logic

- Request
  - A request is a message from the Human Interface to the Logic.
  - Each request has an unique identifier.
  - Each request contains the identifier of the originating Human Interface.
  - Each request contains a body.
- Response
  - A response is a message from the Logic to the Human Interface.
  - A response contains the identifier of the originating request.
  - Each response contains a body.
- Alert
  - An alert is a message from the Logic to the Human Interface.
  - An alert contains an identifier corresponding to a real-world object and an explanation.

Human Interface and Logic (continued)

- Requests and Responses are asynchronous
- They may be sent in any order, as long as a response always comes after the request it belongs to

Human Interface and Logic (continued)

The Human Interface can send different types of Requests which all have the same properties, but are specialized in the body.

- Mark
  - The body of Mark must consists of an edge identifier and direction.
- Unmark
  - The body of Unmark must consists of an edge identifier.
- ChangeLight
  - The body of ChangeLight must consists of an light identifier and a light color.
- ChangeSwitch
  - The body of ChangeSwitch must consists of an switch identifier and a edge identifier.

Human Interface and Logic (continued)

- Commit
  - The body of Commit may consist of an explanation.
- Reset
  - The body of Reset is empty.
- PendingState
  - The body of PendingState is empty.
- CurrentState
  - The body of CurrentState is empty.

Human Interface and Logic (continued)

The Logic can send different types of Responses which all have the same properties, but are specialized in the body.

- Error
  - The body of Error must consists of an explanation.
- Confirmation
  - The body of Confirmation is empty.
- Graph
  - The body of Graph must contain a representation for the whole graph.

Problem Description

Problem Description

Specify the communication between the User and Human Interface

Human Interface

Human Interface is the combination of Controls and Visualization

User and Human Interface

Communication between User and Human Interface.

- User performs *UI Actions*
  - Follows the object-verb paradigm. This means that the User firsts selects or deselects an object and than specifies an action to be preformed on that object.
- Human Interface gives feedback
  - This can be in any form the User understands.

User and Human Interface (continued)

UI Actions:

- Mark
- Unmark
- ChangeLight
- ChangeSwitch
- Commit
- Reset

These UI actions will be translate to their corresponding requests for the Logic by the Human Interface.

User and Human Interface (continued)

Feedback:

- Selected object(s) (state of the object-verb interaction)
- Result of last action(s)
- Current State:
  - Trains
  - Switches
  - Edges (marked, unmarked)
  - Lights
- The pending state corresponding to this user
- Alerts