

Application Requirements

The following statements constitute the essential requirements for the Messages application. These are based (as a source of inspiration only) on a subset of requirements for a military communications system in which radio packs (instances of a node) can switch on and join a local network. To provide a handier example of the application of ObjectTeam to OOA&D (with UML notation), the problem domain has been changed from a military context to a more mundane venue: the nodes in the Messages project are computer workstations occupied by human users who need to send messages to each other. The Messages application, therefore, encompasses a user interface, inter-node communications and a database for storing addresses—a basic, n-tier system.

Artifacts in the analysis and design phases of the Messages project refer to the requirements by their requirement numbers. The appendix contains a specification for the user interface.

REQ001: A node shall contain functionality to send and receive messages to and from other nodes on the network. In addition, a queue is required to store messages in the event that the destination node is not available.

REQ002: There shall be one send window per node. This shall allow the creation of a text message.

REQ003: The send window shall have a destination address field.

REQ004: The send window shall have two action buttons: “Send” shall cause the text message to be sent to the addressee(s) specified in the address field; “Cancel” shall clear the text message and the address field.

REQ005: There shall be one receive window per node. This shall allow the receipt and display of messages from other nodes.

REQ006: Only one message at a time will be displayable in the receive window.

REQ007: Each node shall be capable of storing messages on receipt of a message queue.

REQ008: The receive window shall have two action buttons: “Receive” shall cause the display of the message at the head of the receipt queue; “Clear” shall clear the receive window of any display.

REQ009: The receive window shall have one text field for displaying the body of the received message and a text field showing the origin address of the sender of the message.

REQ010: The address field in the send window shall be capable of being populated from a pop-up list of addresses. This list of addresses shall be persistent.

REQ011: Any node shall be capable of sending broadcast messages to all addresses in the address list.

REQ012: Any node joining the network can detect other nodes on the network. An additional button on the send window, "Show Net", will show the addresses dynamically of all connected nodes.

REQ013: Any node shall be capable of sending broadcast messages to all dynamically-determined nodes.

REQ014: The communications shall be secure; the message shall be encrypted at the request of the writer, prior to its transmission.

REQ015: It shall be possible to save messages in named and created folders. So, selection and move facilities shall be required, plus another window per node to display folders and their contents.

Messages Application

Appendix A

A.1 Specifications for the User Interface

The messages interface shall be composed of UI-based elements arranged in views or screens. Screen layout and element formats are given here only to illustrate the basic presentation requirements.

