[TopCoder]

Mobile RSS Reader Feed Content UI Requirements Specification

1. Scope

1.1 Overview

The RSS Feed Content UI component will provide the user interface primarily for a user to carry out CRUD operations that can be performed on feeds as well as manage getting and setting the data attributes associated with a feed unto the data model. This functionality and others provided by this component are described in the following section.

1.2 Logic Requirements

The RSS Feed Content UI component will provide the user interface for a user to carry out CRUD operations that can be performed on feeds as well as manage getting and setting the data attributes associated with a feed unto the data model.

1.2.1 Provide User Interface to Manage RSS Feed

The component will provide a user interface for the behaviors enumerated below. The behaviors themselves are implemented in the RSS Feed Component (see it Requirements specification for more information).

- Create a new Feed Content: This UI does not provide functionality for creating feed content. It merely displays feed and feed entries. New feed entries are actually created when they are downloaded from the server for each feed subscription. An associated RSS Feed Content encapsulates a list of feed content entries.
- Get Feed Content: Feed entries are displayed in a scrollable list categorized by feeds which are the container for the feed entries. Feeds are further categorized by tags. (see wireframe 2.4.2)
- Post Response to a Feed Content Entry: Users can submit a response to a TopCoder forum RSS feed entry and this response will be posted to the server (see wireframe 2.4.4)

1.2.2 Mark Feed Entries as Read/Unread

Users will be allowed to intentionally mark feed entries as read or unread as well as toggle between these settings for all feeds. By default a new feed entry is marked as unread and when a selects it to read, it is automatically marked as read .

1.2.3 Accepts user input

The only time user input is required in this component is when a user posts a response to a feed. This is free form text that can be entered in a text area provided on the screen (see wireframe 2.4.4)

1.2.4 Retrieves Feed Data/Updates from the model

The RSS Feed Content UI screens will retrieve feed and corresponding feed entries from the associated business object data model objects defined in the RSS Feed Content Component.

The MVC design pattern has been adopted in this component and its associated model as well as the Mobile RSS Reader Controller Component. As such the UI screens will also receive updates from the associated model.

1.2.5 Error Handling

The RSS Feed Content UI component display user-friendly and simple error messages to the user and allow them to recover from errors.

Also, it should be possible to retrieve full error data using Jadabs-Log4j-J2ME - a stripped down implementation of a logger that is compatible with apache's log4j.

1.2.6 Thread Safety

The RSS Feed Content UI component will utilize asynchronous interactions in a thread safe manner such that control is returned to the user before the entire action is completed to ensure a acceptable response time relative to device.

The Mobile RSS Reader Controller component is responsible for navigation between screens and It will run as a Midlet while this component and other UI components will be subclasses of the screen component. The controller component is responsible for navigation between screens.

1.3 Required Algorithms

N/A

1.4 Example of the Software Usage

A user creates an RSS subscription and assigns a tag to it. Thereafter, a list of available feeds can be displayed categorized by tags.

1.5 Future Component Direction

Any future updates follow from requirements changes to Mobile RSS Reader application

2. Interface Requirements

2.1.1 Graphical User Interface Requirements

See accompanying wireframes:

- 2.4.2 View a Subscribed RSS Feed: This screen is displayed when a user selects a specific subscribed feed.
- 2.4.3 Read a Feed Entry: This screen is displayed as result of a user selecting a specific feed entry
- 2.4.4 Respond to a Feed: This screen is displayed when a user chooses the option to respond to a feed

2.1.2 External Interfaces

N/A

2.1.3 Environment Requirements

- Development language: J2ME 2.1, MIDP 2
- Compile target: MIDP 2.0 and CLDC 1.1
- Runtime environment: Any J2ME MIDP 2.0 CLDC 1.1 compatible device

2.1.4 Package Structure

com.topcoder.mobilerssreader.rssfeedcontentui

3. Software Requirements

3.1 Administration Requirements

3.1.1 What elements of the application need to be configurable?

N/A

3.2 Technical Constraints

3.2.1 Are there particular frameworks or standards that are required?

- XML – RSS 2.0 format

3.2.2 TopCoder Software Component Dependencies:

Mobile RSS Reader Controller Component version 1.0
Mobile RSS Feed Content Component version 1.0
Mobile HTTP Handler Component version 1.0

3.2.3 Third Party Component, Library, or Product Dependencies:

J2ME – MIDP LCDUI package

3.2.4 QA Environment:

- Runtime environment: Common mobile devices with J2ME CLDC support
- Testing: Sun's Wireless Toolkit 2.5.x provides an emulator for efficient developer testing

3.3 Design Constraints

Mobile devices can be subject to low resolution displays, low bandwidth connections and slow processing. These factors need to be taken into consideration.

The lowest resolution that will be supported by this application is 176 x 208. Resolutions as high as 320 x 320 are also expected.

3.4 Required Documentation

3.4.1 Design Documentation

- Use-Case Diagram
- Class Diagram
- Sequence Diagram
- Component Specification

3.4.2 Help / User Documentation

- Javadocs