

CPSC 501 Assignment 3: Reflective Object Distributor

Report

<https://github.com/natekchua/Reflective-Object-Distributor>

Overview

Reflective Object Distributor is a program which consists of two programs: a Sender Program which serializes one or more objects into a JDOM document, which is then sent over a network as a stream of bytes. The Receiver program converts this byte stream into a JDOM document and deserializes the document into objects to display on the screen.

Refactorings and Tests were applied during the implementation phase. Minor bug fixes and documentation were added to finalize the project.

Refactorings

[commit 071f687704bf91b6743923ce5fe6f644434a12a9](#)

[commit 8e975c189765da257f138cecd4b7348a4766347c](#)

[commit b580361a87a2a2ed2fe8d3a955aa9a0446b84f14](#)

The above 4 refactorings are the only significant changes I made to the program which involved removing smelly code. In all 4 cases there were smelly code such as *Long Methods* and *Duplicate Code*, I used **Extract Method** and **Extract Subclass** to create sub methods and helper methods to remove duplicate code and shorten the long methods. As a result, the methods in the program are much more readable and allows for further implementation and flexibility.

GIT LOG & VERSION CONTROL (In Chronological order from left to right)

<p>commit 19f41755aacd96ce78be210ba142d28bec3246f</p> <p>Author: Nathan Chua <nchua235@mtroyal.ca></p> <p>Date: Fri Nov 1 17:14:59 2019 -0600</p> <p>Initial Commit</p>	<p>commit eca1d5dc514a7c953c6356407c39d2275a4501b3</p> <p>Author: Nathan Chua <nchua235@mtroyal.ca></p> <p>Date: Sat Nov 2 16:01:00 2019 -0600</p> <p>Created class structure and started text-based UI for creating objects.</p>
<p>commit da3556a371c4a40acc3ce71f055fd73bde7a7afd</p> <p>Author: Nathan Chua <nchua235@mtroyal.ca></p> <p>Date: Sat Nov 2 18:03:38 2019 -0600</p> <p>Finished ObjectCreator and object types.</p>	<p>commit 65b7b32bfab262109b39dd3177e81ec00d4b1787</p> <p>Author: Nathan Chua <nchua235@mtroyal.ca></p> <p>Date: Thu Nov 7 20:14:41 2019 -0700</p> <p>Added Client and Server classes and started serialize method in Serializer</p>
<p>commit 18a0f6f9e51f67c8fa5025afe3258fca9af00e5a</p> <p>Author: Nathan Chua <nchua235@mtroyal.ca></p> <p>Date: Sun Nov 10 23:30:14 2019 -0700</p> <p>fixed object templates and objectCreator. Values of objects are now set through the constructor upon object instantiation rather than using setter methods.</p>	<p>commit 1a482d6901af0275e783e60aff61e1ffade11dc5</p> <p>Author: Nathan Chua <nchua235@mtroyal.ca></p> <p>Date: Mon Nov 11 01:25:29 2019 -0700</p> <p>finished serializer class (created helper methods for XML document tags). created sender class</p>
<p>commit 3ec0cccab35a784ef7072a34e580c6d3150f9f65</p> <p>Author: Nathan Chua <nchua235@mtroyal.ca></p> <p>Date: Tue Nov 12 21:45:46 2019 -0700</p> <p>started sender and receiver stuff & added XMLOutputter to test serialized object output</p>	<p>commit 071f687704bf91b6743923ce5fe6f644434a12a9</p> <p>Author: Nathan Chua <nchua235@mtroyal.ca></p> <p>Date: Wed Nov 13 18:01:42 2019 -0700</p> <p>fixed serializer class, had too many bugs</p>

<p>commit c28f04f18dc47f64fce72fa329fcc2f43dd863eb</p> <p>Author: Nathan Chua <nchua235@mtroyal.ca></p> <p>Date: Wed Nov 13 18:36:50 2019 -0700</p> <p>working receiver and sender. document with serialized objects successfully sent over network</p>	
<p>commit 5f6d6726743736c7235918156a3a55c7d22c5b94</p> <p>Author: Nathan Chua <nchua235@mtroyal.ca></p> <p>Date: Thu Nov 14 17:13:11 2019 -0700</p> <p>started deserialization</p>	<p>commit 968e01673f4dfe5996649b1eca52fef3ad6d1b70</p> <p>Author: Nathan Chua <nchua235@mtroyal.ca></p> <p>Date: Thu Nov 14 19:04:25 2019 -0700</p> <p>fixed issues with deserialization and added visualization of recreated objects.</p>
<p>commit 8e975c189765da257f138cecd4b7348a4766347c</p> <p>Author: Nathan Chua <nchua235@mtroyal.ca></p> <p>Date: Fri Nov 15 22:37:43 2019 -0700</p> <p>finalized serializer and deserializer classes by doing refactorings and fixing bugs.</p>	<p>commit b580361a87a2a2ed2fe8d3a955aa9a0446b84f14</p> <p>Author: Nathan Chua <nchua235@mtroyal.ca></p> <p>Date: Fri Nov 15 22:52:44 2019 -0700</p> <p>added documentation</p>
<p>commit a0ca7998c248c903baa60ef8149254bf939e3ab5</p> <p>Author: Nathan Chua <nchua235@mtroyal.ca></p> <p>Date: Fri Nov 15 23:17:03 2019 -0700</p> <p>added test classes for serializer and deserializer</p>	