Design intro and description

The project is a stand-alone library checkout simulation of the themes from checkoutthemes.com. With that in mind, we decided to go with Java, using JFrame to create the user interface.

That interface class will handle communicating with the user, and will communicate with other classes as needed. See the class diagram for a full overview.

The program will go through a series of screens, with the path shifting depending on what sort of input is received at what time.

This document also contains our estimate on program size, as well as updated roles and scheduling info.

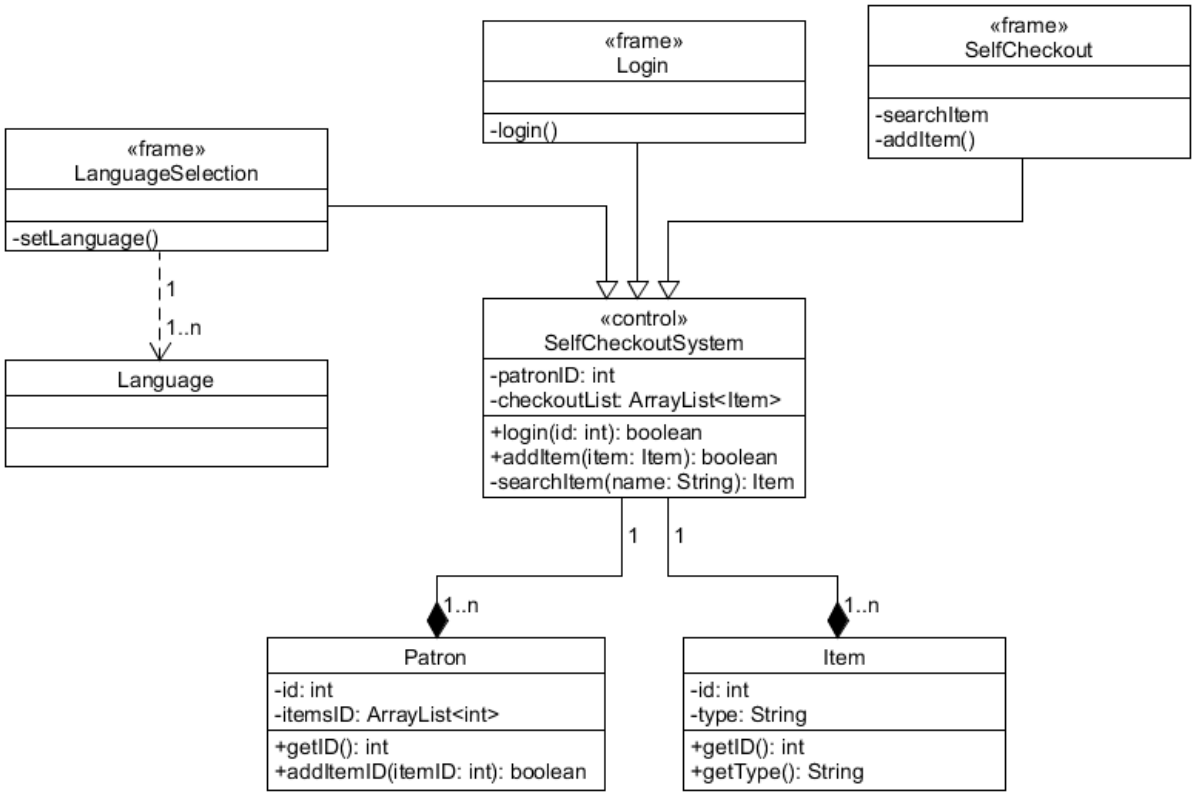
Estimated Line of Code (L.O.C.) Count

We estimated the size first by enumerating all the classes we intend to implement and made a rough estimate of the number of methods we think will be needed for these classes. Then we made a size estimate, figuring how large we think our methods will be on average. Then we took the multipliers given in a class slide, which while for C++, should be relatively similar for our Java-based program. Finally we did the math, which is shown in the following table.

Name	**Type**	**Size estimate**	**# of methods**	**Multiplier**	**Total**
Self-checkout	Setup	VS	2	3.88	7.76
UI	I/O	S	23	12.06	277.38
Language	Text	S	5	8	40
Control	Logic	S	15	10.98	164.7
ObjectList	Data	S	4	4.79	19.16
PatronListDB	Data	S	6	4.79	28.74
ItemListDB	Data	S	6	4.79	28.74
Patron	Data	S	5	4.79	23.95
Item	Data	S	5	4.79	23.95
				Total	614.38

Class Diagram

The class diagram below describes the core classes we intend to implement. Along with labels and relationships between each class, the class diagram notes essential data-members and methods which we know will be necessary for successful implementation of our checkoutthemes.com simulation.



Projected Team Schedule

Below is our projected team schedule beginning with our submission of the independent inspection for our design document, through the submission of our beta version for review by Dr. Meqdadi.

Nov 22nd	Submit design document for independent inspection.
Nov 23rd	Inspect group A3's design document.
Nov 23rd	Return group A3's inspected document.
Nov 25th – 26th	26th – Review inspected design document.
Nov 27th	Final meeting to discuss design document.
Nov 29th	Submit final design document.
Nov 30th	Work on implementation
Dec 4th	Finish beta version
Dec 7th	Submit beta version

Team Roles

Title	Role	
Andrew J Brutlag	**Requirement Phase**	Requirements Validation
	Design Phase	Development Team Leader, Development Team Member
	Implementation phase	Development Team Leader, Development Team Member
Requirement Phase Tasks		
• Assist in requirements identification • Final Draft Use Case Diagram • Contributed to Data Dictionary		
Design phase Tasks		
• Assist in Architecture • Assist in Development Plan • Helped with layout of User Interface • Helped with class structure		
Implementation Phase Tasks		
• Assist in coding • Assist in testing • (to be determined)		

Team Roles (cont.)

Title	Role	
Clay April Monoceros	**Requirement Phase**	Client Engineer, Requirements Analyst
	Design Phase	Development Team Member, Program Architect
	Implementation phase	User Documentation, Development Team Member

Requirement Phase Tasks

- Assist in requirements identification
- Write Program Purpose and Intended Outcome
- First Draft Use Case Diagram
- Contributed to Data Dictionary

Design phase Tasks

- Assist in Architecture
- Assist in Development Plan
- Wrote intro/description
- Generated “demo” images for User Interface
- Assist with designing class structure

Implementation Phase Tasks

- Assist in coding
- Assist in testing
- (to be determined)

Team Roles (cont.)

Title	Role	
Jose Martin	**Requirement Phase**	Project Leader
	Design Phase	Project Leader, Development Team Member, Program Architect
	Implementation phase	Project Leader, Development Team Member

Requirement Phase Tasks

- Create schedule
- Coordinate meetings
- Assist in requirements identification
- Generate final requirements document

Design phase Tasks

- Assist in Architecture
- Assist in Development Plan
- Assembled design document
- Assisted with designing class structure
- Assisted with User Interface design

Implementation Phase Tasks

- Assist in coding
- Assist in testing
- (to be determined)

Team Roles (cont.)

Title	Role	
Thiago Vilella Waideman Puga	**Requirement Phase**	Requirements Validation
	Design Phase	Development Team Member, Program Architect
	Implementation phase	Development Team Member
Requirement Phase Tasks		
• Assist in requirements identification • First Draft Use Case Diagram • Contributed to Data Dictionary		
Design phase Tasks		
• Assist in Architecture • Assist in Development Plan • Generated class diagram • Assisted with designing class structure • Assisted with designing User Interface		
Implementation Phase Tasks		
• Assist in coding • Assist in testing • (to be determined)		