

Object Oriented Analysis and Design (Spring 2024)

Final Project: Homework 7 Update

<https://github.com/sabi3820/ooad-final-project>

STATUS SUMMARY

Project Title:	Casino	
Project Members:	Gavin Hanville	gaha4495
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Work Done:

This week, we have finished the main interactive text-based pieces of the user interface and casino play. The casino interface in which the user interacts is fully finished- users can access a menu in which they can login/signup, customize their profiles (which stores win/loss history and account balances), and proceeds to the casino floor to play one of 3 games: Blackjack, Roulette, and Slot Machine. Out of the three games, Blackjack is the only one finished, but the user can play against the house while losing/gaining money, and this affects the user's account balance. There exists a CSV write/read function that acts as the user profile database in which user data can be saved and stored, so a user can return to a profile with the same details preserved.

Changes or Issues Encountered:

Originally, we wanted to have the casino hosted on a web application, but opted for a local way of interaction instead and that was way more time-consuming and required skills we haven't created yet. Right now, everything is entirely text-based, but we hope to add a visual interactive element for the menu and games.

Patterns Used:

Factory Pattern: We used a factory pattern in creating a new user during registration, which helps with creating custom users and their unique account balances and win/loss rates.

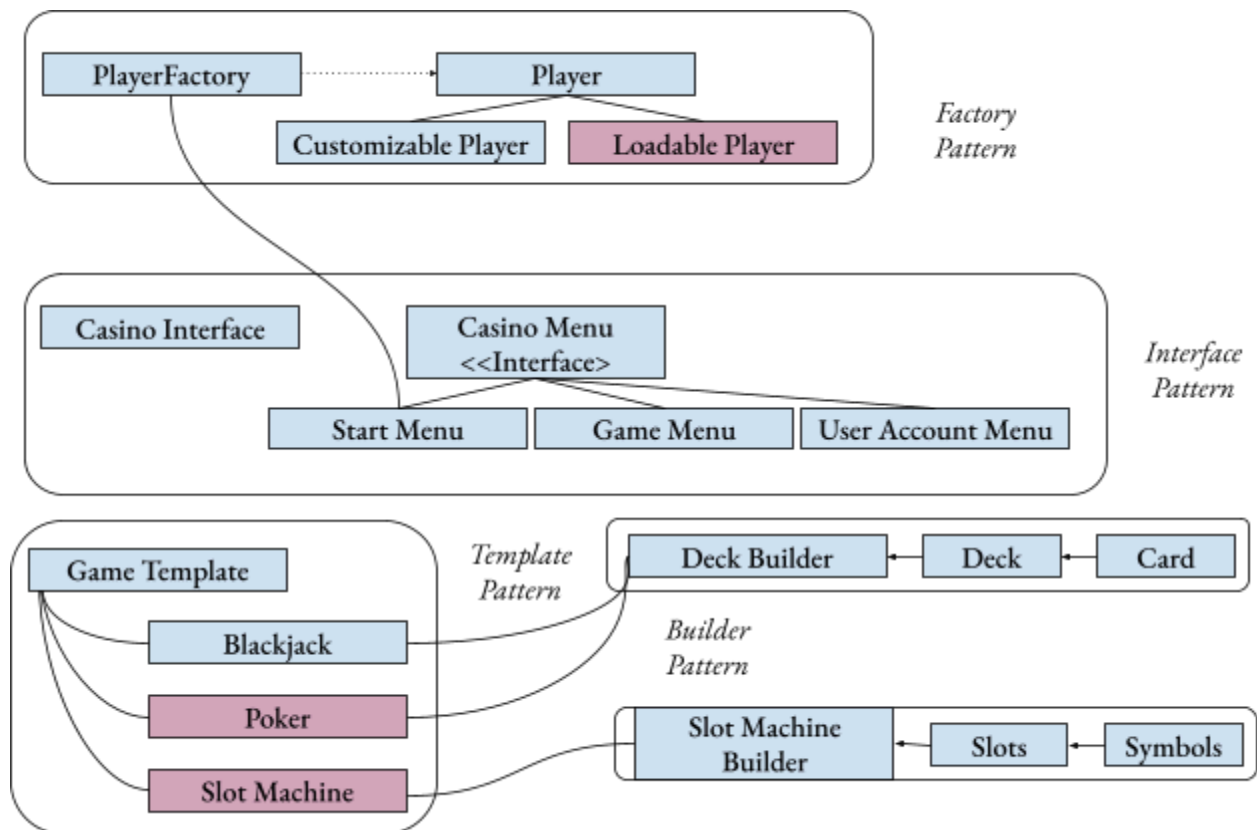
Template Pattern: We used the Template design pattern to define a Game abstract super class due to the common attributes between game classes (definedWinner, definedLoser, WinningsEarned, etc.)

Builder Pattern: Because BlackJack requires cards to play, and we were originally planning on having Poker as an additional option for users, we created a Builder Pattern to help create Cards and Card Decks for BlackJack play.

Test Coverage:

Element ^	Class, %	Method, %	Line, %
casino	83% (5/6)	91% (44/48)	61% (79/136)
> games	83% (5/6)	91% (44/48)	70% (14/20)
user	100% (1/1)	70% (14/20)	82% (29/35)
© Player	100% (1/1)	70% (14/20)	82% (29/35)

UML DIAGRAM



BDD SCENARIOS

Given the user registers a new account

When the user has not created an account previously

Then the user should be able to create a customizable profile with First/Last names, account balance of \$1000, and no win/loss record

Given the user logs in to an old account

When the user has had a history of games and customized information

Then the user should be able to retrieve their backed-up profile with First/Last names, account balance updated to most recent login, and an accurate win/loss record

Given the user's account balance is \$1000

When the user wins a game of Blackjack betting \$100

Then the user's account balance should reflect \$1100 and their win/loss ratio should increase

Given the user's account balance is \$2500

When the user loses a game of Poker betting \$1000

Then the user's account balance should reflect \$1500 and their win/loss ratio should decrease

Given the user's account balance is \$600

When the user wins a game of Slot Machine betting \$10

Then the user's account balance should reflect \$610 and their win/loss ratio should increase

PLAN FOR NEXT ITERATION

Provide an estimate of how much work still needs to be done. What are your plans for the final iteration to get to the project delivery? The work that still needs to be done remains mainly within the casino games and being able to re-upload user profile information. The Blackjack game is not fully functional yet, but will be soon once an eventbus is added to streamline the actions of the player. This remains true for the Poker game, which will follow the Blackjack line of logic and action. Finally, the slot machine game's builder pattern needs to be built. The final iteration will be a fully functional text-based CLI game where the user can interact and save user profile information to and from a CSV file that will act as a database of storing user information, and can play each

game on the casino floor, and that will update the user information accordingly after each game, including wins, losses, and money won/lost.

RECORDED DEMONSTRATION

<https://drive.google.com/file/d/1Ah0B9ICyBH9t4dcJim94hhbjq6zq-mH1/view?usp=sharing>