Name: Joseph Baskin  
Date: 11/09/2024  
Week: 4 - Create a Design Model for a Small Bed & Breakfast Reservation System

1)  
Rubric Criteria:  
Create software system architecture diagram 10%  
Your Response:

A diagram of a room

Description automatically generated

2)  
Rubric Criteria:  
Explain approach, steps, and rationale of the software architecture diagram 20%  
Your Response:

I used the event-driven Architecture Style for this diagram. The event triggering the software system’s use is the client calling in to make a reservation. First, Jane or John may be presented with 3 options to either modify/cancel a reservation (manage), make one, or manage the guest information (such as names, addresses, credit card information, etc). This view also allows John and Jane to see the flow in which the software will be designed to be used in. A bulk of their time will be in creating reservations.

3)  
Rubric Criteria:  
Create detailed UML class diagram 15%  
Your Response:

A diagram of a computer

Description automatically generated

4)  
Rubric Criteria:  
Explain approach, steps, and rationale of the detailed class diagram model 25%  
Your Response:

My first step was to create a guest class and identify all relevant variables based on the requirements of the system. This led me to create a subclass, Address, to store customer addresses for later recall, if needed. This is more efficient than having 1-4 variables that store the address and dynamically format it. The bulk of the work was to create the reservation class, which still seems light for the software system right now. While working on this class, I realized that I would need a Room class, Calendar class, and a main class (titled BNBResSys). I opted to allow John and Jane to control the prices of the room from the main class, instead of having to create an instance of the Reservation class to update the price every time. In a GUI instance, I would likely have a button that allows them to update the pricing. The last class I created was the payment class, but this would probably be better as an external payment service. If the desire was to stay with no external services, a subclass to payment or guest would need to be created to properly store credit card information.

5)  
Rubric Criteria:  
Create user interface mockup 10%  
Your Response:

A screenshot of a computer

Description automatically generated

6)  
Rubric Criteria:  
Explain approach, steps, and rationale of the user interface mockup 10%  
Your Response:

The above UI mockup shows one screen of several that John and Jane will have to navigate. Having a complex and intricate UI design will likely overload the two owners and result in them abandoning the software system. This UI allows all the major functions to be accessible at any time, regardless of the screen. The reservation system could display a calendar with the dates of each room reserved. This design also keeps the reservation search separate from the actual reservation system, as each reservation will attach a unique identifier to it for quick reference.

7)  
Rubric Criteria:  
Reflect on the learning experience and lessons learned 10%  
Your Response:

This assignment was a little tougher than the previous. While the reading resources were good in terms of providing information for the class, they could have used a few more examples of each architecture style and pattern as well as the UI design section. I learned not every style and pattern works for all software systems, and it make take extra research or trail and error to find the one that fits the current project best.