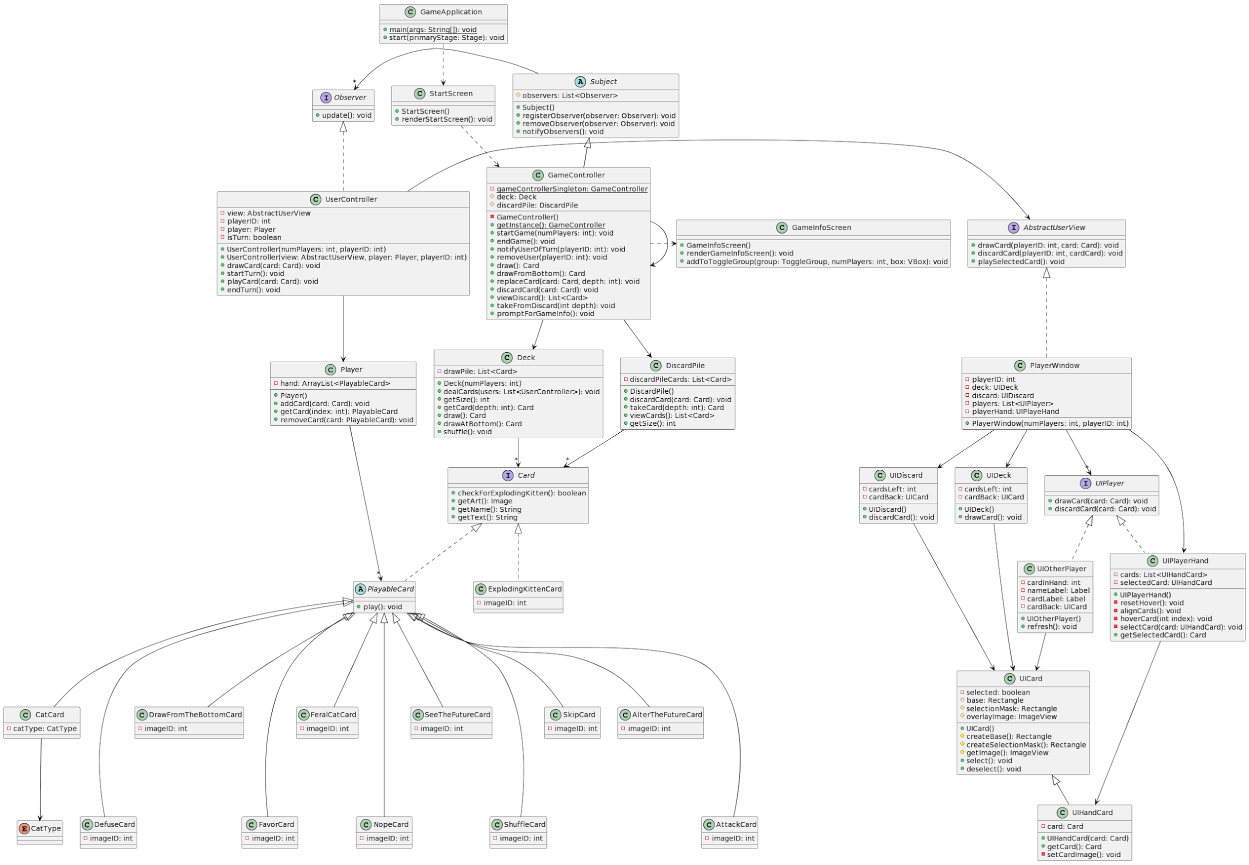
Requirements (Game Rules):

Our software will simulate the majority of elements of gameplay from the popular card game, Exploding Kittens.
The rules can be found here: https://www.explodingkittens.com/pages/rules-kittens-party
Features:

- Starting screen
- Multiple screens (1 for each player)
- Ability to play with up to 10 players
- Compatible with three languages:
    - English
    - Japanese
    - Klingon
- Tracks:
    - The deck
    - The discard pile
    - Players’ hands
    - A player’s selected cards
- Ability to:
    - Draw cards
    - Play cards with varying effects
        - Attack
            - End turn, force next player to take two turns
        - Skip
            - End turn immediately
        - Cat
            - Play as a pair to steal a card from a player of their choosing
        - Defuse
            - Avoid losing the game by defusing an Exploding Kitten
        - Nope
            - Cancel another player’s special card
        - See the Future
            - Peek at the next three cards in the draw pile
        - Shuffle
            - Shuffle the deck
        - Favor
            - Choose a random card from an enemy’s hand
        - Draw from Bottom
            - Draw a card from the bottom of the deck
    - Eliminate a player by drawing an Exploding Kitten card
    - Determine a winning player to be the last one standing

Architecture/Design:

- Refer to UML Diagram below:



Link to PlantUML here

Planned/Completed Functionality

Milestone 2

- Dynamic window sizing (Braxton, Dalton)
    - Dynamic windows scaling was initially pursued as a larger feature to be completed by Dalton and Braxton, however the means by which that could.should be accomplished were unpredictable, and this seemed to be a difficult problem to solve. We were unable to get any predictable implementation working, and we decided that this feature may need a temporary or permanent rain check.
- Sort cards within the hand

    - Cards were shown in sorted alphabetical order in each player's hands. Previously, cards were kept in the hand in the order that they were drawn, which made it difficult to tell when you had duplicates, which is a useful fact to know during gameplay. When sorting, duplicates are placed adjacent to each other in the hand, and it is easier for a user to find the card they are looking for
- Display of the various functions of decks displayed on the UI (Andrew)
    - Add labels to the various UI components to better indicate their purpose and differentiate themselves. For example, although the discard pile, deck, and elements for other players all have the same image, they now have different labels to help set them apart.
- Display of the current turn state for each player (Blanco)
    - Each user's window should display to the user information regarding their turn state. Specifically, the window should inform the user that they are still waiting for their turn (if it is not currently their turn) or that they are able to perform an action now (if it is currently a turn).

Milestone 3

- Ability to upload custom art for cards (Dalton)
    - The user will be able to upload an image to the system and specify the type of card that they'd like their image to be associated with. On the main screen of the game, before pressing start, the user can select "Change Card Images" to customize their cards. A dialog asks for which card to change the image of. It will prompt for a new .png file to upload. From then on, whenever the game is played, it will use the most recently uploaded image for that given card.
- "Pass and play" mode (Andrew)
    - The dominant view on the screen automatically changes to the view associated with the player whose current turn it is. This is already true during opportunities where a player may perform a counteraction (e.g. player is able to "Nope" an action), as new dialogs automatically are brought to the front. The current window is bright to the front so as to keep other windows visible, should players wish to view them separately or multiple at a time.
- Finishing Alter the Future (Andrew)
    - In our starting code, the "alter the future" card was not fully implemented. Much of the code was already there, but nothing happened when it was played
    - Everything was linked up and the card is not implemented as specified in the rules
- Key bindings (Braxton)
    - Binding card selection to the keyboard numbers, and playing cards with the space bar or enter key
    - In the final product delivered in Milestone 3, cards in each player's hand can be selected by pressing the number keys at the top of the standard keyboard 0 through 9
    - A selected card can be deselected by pressing the number again

    - A card can be played with either the ENTER or SPACE key
    - A card can be drawn by pressing either SHIFT key
- Spectator mode (Nathaniel)
    - The system generates a view of the game that displays more information than available to the participants. The view gives equal space for up to 10 players to showcase their player name and the cards in their hand, which is updated after each turn transition. The system is designed to be extensible, so future iterations could display even more information about each player on events other than the changing of turns (e.g. when a player attacks another player).

Milestone 4 (All team members on all tasks)

- Finalize all software artifacts for design, requirements, and architecture
- Complete remaining work on test suite
- FInalize code for last build