Product Backlog

Team 21: Jonathan Poholarz, Aaron Nordhoff, Andrew Ring, Rohan Swaroop, Khanh Quoc Tran

Problem Statement

Pandemic is a popular board game, released in 2007; while enjoyable, it has remained largely unchanged since its release, and as a result of this, it has lost some of its popularity. Recently, however, board games, Pandemic included, have experienced a resurgence in popularity. For this reason, we plan to create a modernized, more contemporary version of this classic board game that we believe will be even more entertaining.

Background Information

With board games on the rise, players are looking for modernized ways to play their favorite games. Pandemic has lost some popularity over time, partially because there is no desktop version of the game. Additionally, a single game of Pandemic can take up to an hour, which can be difficult to fit into people's' busy schedules. Memedemic will be a shorter, simpler version of the Pandemic board game with a theme that relates to today's world. It will be playable through one's computer, allowing players to quickly and easily play the game.

Environment

We will be using C++ to create Memedemic. As it is a game, we will be receiving a significant amount of user input in our functionality. We have chosen to pursue a command-line style user interface for the time being, written by ourselves. We may choose to create an optional Graphical User Interface in the future, but we will be sticking to plain C++ for the time being. No outside libraries or frameworks should be necessary.

Functional Requirements

Backlog ID	**Functional Requirement**	**Hours**	**Status**
1	As a user, I'd like to be able to access adjacent websites.	12	Completed in Sprint 1
2	As a user, I'd like to be able to access a website on a held card.	8	Incomplete: moved to Sprint 2
3	As a user, I'd like to be able to access any website given that I have the site card for my current location.	6	Planned for Sprint 2

4	As a user, I'd like to be able to access one CMC server from another.	6	Planned for Sprint 2
5	As a user, I'd like to be able to build a CMC server if I'm holding the site card of my current location.	4	Planned for Sprint 2
6	As a user, I'd like to be able to ban a meme in the website I'm in.	12	Completed in Sprint 1
7	As a user, I'd like to be able to share website cards.	7	
8	As a user, I'd like to be able to develop a meme filter if I have 5 site cards.	20	Incomplete: moved to Sprint 2
9	As a user, I'd like to be able to play the event card "Serious Discussion".	10	
10	As a user, I'd like to be able to play the event card "Power Outage".	6	
11	As a user, I'd like to be able to play the event card "Meme Forecast".	8	
12	As a user, I'd like to be able to play the event card "VPN".	4	
13	As a user, I'd like to be able to play the event card "Government Grant".	4	
14	As a user, I would like to be able to see the outbreak track.	6	Completed in Sprint 1
15	As a user, I would like to be able to see the viral quotient.	6	Completed in Sprint 1
16	As a user, I would like to be able to see the meme status.	6	Completed in Sprint 1
17	As a user, I would like to be able to see the player roles.	6	Completed in Sprint 1
18	As a user, I would like to be able to see my held cards.	12	Incomplete: moved to Sprint 2
19	As a user, I would like to be able to see the number of cubes in each website.	6	Completed in Sprint 1
20	As a user, I would like to be able to see the connections between websites.	6	Completed in Sprint 1
21	As a user, I would like to be able to see the location of	3	Planned for Sprint 2

	CMC servers.		
22	As a user, I would like to be able to see where players are on the board.	4	Completed in Sprint 1
23	As a user, I would like to be able to win the game.	20	Planned for Sprint 2
24	As a user, I would like to be able to lose the game.	20	Planned for Sprint 2
25	As a user, I would like to be able to draw cards.	12	In-progress: moved for Sprint 2
26	As a user, I would like to be able to see other players' cards.	6	Planned for Sprint 2
27	As a user, I would like to be able to see the updated board after each user's turn.	15	Completed in Sprint 1
28	As a user, I would like to autosave the game state after every player's turn.	15	Planned for Sprint 2
29	As a user, I'd like to be able to start a new game while in an active game.	2	Planned for Sprint 2
30	As a user, I'd like to be able to start a new game from the main menu.	8	Incomplete: moved to Sprint 2
31	As a user, I would like the game to be set up correctly.	24	Completed in Sprint 1
32	As a user, I would like for the infection phase of player turns to execute correctly.	10	Planned for Sprint 2
33	As a user, I would like the meme epidemic cards to function as intended.	6	
34	As a user, I would like my role to function properly.	24	
35	As a user, I would like to take the correct number of actions each turn.	6	Completed in Sprint 1
36	As a user, I would like for the meme outbreak event to occur correctly.	8	

Non-Functional Requirements

Appropriate non-functional requirements that are related to your project. These may include security, scalability, reliability, easy recovery, etc.

Backlog ID	Non-Functional Requirement	Hours	Status
1	The program will run on Windows.	~	Completed in Sprint 1
2	The code is written for easy support of possible future expansions.	~	Ongoing
3	The program is written so that it would be easy to port to other platforms.	~	Ongoing
4	As a developer, I would like to include a “developer mode” to allow the game to be placed in a specific state for testing purposes.	20	
5	Memedemic will support up to four players	~	Ongoing
6.	Code is well documented.	~	

Use Cases

Case 1: Access adjacent website

Action	System Response
1. Type ‘adj <website>’	2. Game checks that desired website is adjacent to current website, if not then an error dialog appears. 3. Player pawn is moved to target website. 4. Game updates the map.

Case 2: Move to website on held card

Action	System Response
1. Type ‘view cards’ to view cards.	2. Player’s held cards are displayed.

3. Type ‘access <website>’	4. Card is discarded, player piece is moved to desired website.

Case 3: Access any website, given player holds site card of current location

Action	System Response
1. Type ‘view cards’ to view cards.	2. Player’s held cards are displayed.
3. Type ‘access <website> ’	4. Check if player holds website card that matches the current website, if not then an error dialog appears. 5. Card is discarded, player pawn is moved to target website. 6. Game updates the map.

Case 4: Access CMC server from CMC server

Action	System Response
1. Type ‘access <website>’	2. Game checks that the current player is in a website with a built CMC server and target website also has a built CMC server, if not then an error dialog appears. 3. Player pawn is moved to target website. 4. Game updates the map.

Case 5: Build CMC server if site card of current location is held

Action	System Response
1. Type ‘build cmc’.	2. Game discards the website card from the board. 3. CMC server is built in current website. 4. Game updates the map.

Case 6: Ban meme in player’s current website

Action	System Response
1. Type ‘ban <meme>’	2. Game checks that there is a meme cube for that meme in the website, if not then an error dialog appears. 3. One meme cube is removed from the player’s current website. 4. Game updates the map.

Case 7: Share

Action	**System Response**
1. Type ‘give/take <player> <website>’	2. Game checks that the sharee is in the same website as the sharer, if not then an error dialog appears. 3. Game gives/takes the website card to/from the player.

Case 8: Develop meme filter

Action	**System Response**
1. Type ‘develop filter <card#> <card#> <card#> <card#> <card#>’.	2. Game checks that the player is at a website with a built server, if not then an error dialog appears. 3. Game checks that the player holds the correct requirement for cards. 4. Game moves meme marker to the share indicator. 5. Game checks if the meme has been eradicated. 6. Game updates the map.

Case 9: Event card “Serious Discussion”

Action	**System Response**
1. Type ‘event serious discussion’	2. Game checks that the player is holding the card, if not then an error dialog appears.
3. Type ‘<website card>’ card	4. Game removes the discarded infection from the game.

Case 10: Event card “Power Outage”

Action	**System Response**
1. Type ‘event power outage’	2. Game checks that the player is holding the card, if not then an error dialog appears. 3. Game skips the infection state of current

	user's turn.

Case 11: Event card "Meme Forecast"

Action	**System Response**
1. Type 'event meme forecast'	2. Game checks that the player is holding the card, if not then an error dialog appears. 3. Game displays the top six cards of the infection deck.
4. Type new order for the six cards '<card#> <card#> <card#> <card#> <card#> <card#>'	5. Game rearranges the order per user input.

Case 12: Event card "VPN"

Action	**System Response**
1. Type 'event vpn'	2. Game checks that the player is holding the card, if not then an error dialog appears.
3. Type '<name>(or <number>) <location>'	4. Game checks that the player is not already at website. 5. Game moves the player to the website. 6. Game updates the map.

Case 13: Event card "Government Grant"

Action	**System Response**
1. Type 'event government grant'	2. Game checks that the card, if not then an error dialog appears. 3. Game checks that there is not already a server built, if there is then an error dialog appears. 3. Game builds a server at the player's current website. 4. Game updates the map.

Case 14: See outbreak track

Action	**System Response**
1. Type 'outbreak track'	2. Outbreak track is displayed.

Case 15: See viral quotient

Action	System Response
1. Type ‘viral quotient’	2. Viral quotient is displayed.

Case 16: See meme status

Action	System Response
1. Type ‘meme status’	2. Meme status is displayed.

Case 17: See player roles

Action	System Response
1. Type ‘player roles’	2. Player roles are displayed.

Case 18: See held cards

Action	System Response
1. Type ‘hand cards’	2. Cards currently in player’s hand are displayed.

Case 19: See number of cubes in each website

Action	System Response
1. Look at UI	2. Number and color of cubes displayed next to each website name.

Case 20: See connections between websites

Action	System Response
1. Look at UI	2. Lines between websites represent connections.

Case 21: See locations of CMC servers

Action	System Response
1. Type ‘cmc servers’.	2. CMC server icon displayed next to each website name, CMC server locations printed.

Case 22: See locations of players

Action	System Response
1. Type ‘players’.	2. Player pawns displayed next to each website name, player locations printed.

Case 23: Win game

Action	System Response
1. Game reaches a state where all cures have been found	2. Displays “Victory” dialog to all players.

Case 24: Lose game

Action	System Response
1. Game reaches a state where no more player cards can be drawn. 2. Game reaches a state where the outbreak marker reaches rank 8. 3. Game reaches a state where the number of cubes remaining is zero.	4. Displays “Game Over” dialog to all meme players.

Case 25: Draw cards

Action	System Response
1. Type ‘draw cards’	2. Two new cards are drawn for the player 3. Player’s cards are updated to display new cards.

Case 26: See other players’ cards

Action	System Response
1. Type ‘cards <player name>’	2. Desired player’s cards are displayed

Case 27: See updated board after each turn

Action	System Response
1. Type ‘end turn’	2. Game board is updated

Case 28: Game autosaves after each turn

Action	System Response
1. Type ‘end turn’	2. Game state is saved

Case 29: Starting a new game from a current game

Action	System Response
1. Type ‘new game’	2. Game prompts ‘Are you sure? All current progress will be lost (yes/no)’.

3. Type ‘yes’	4. Game returns to the main menu.

Case 30: Setting up a new game from main menu

Action	**System Response**
1. Type ‘new game’	2. Game prompts for number of players.
3. Type a value between 2 and 4	4. Game prompts user to input names for each player.
5. Type names for each player	6. New game is created.

Case 31: Game initialization

Action	**System Response**
1. Setup new game	2. Distribute player roles 3. Place players on start 4. Shuffle decks 5. Deal cards 6. Distribute meme cubes to locations 7. Initialize viral quotient to lowest states

Case 32: Infection phase of turn

Action	**System Response**
1. After the user has drawn four cards and completed two actions.	2. The number of meme infection cards drawn are equivalent to the viral quotient. 3. Place one new color matching meme cube into the website. 4. If website already has three cubes of the same color, trigger a meme outbreak. 5. Discard the meme infection card. 6. Game updates the map.

Case 33: Meme Epidemic card

Action	**System Response**
1. Epidemic card is drawn	2. Increase the viral quotient by 1 3. Card is drawn from the infection deck; 3 meme cubes are placed on that website; card is discarded

	4. Cards in infection discard pile are shuffled and placed on top of the infection deck

Case 34: Player Roles

Action	**System Response**
1. Player attempts an action buffed by their roll	2. Bonuses function properly, granting additional abilities or bonuses

Case 35: Player Turn Actions

Action	**System Response**
1. Player takes an action	2. Game decrements remaining action Counter 3. Player's turn continues until no actions remain

Case 36: Correctly executing meme outbreaks

Action	**System Response**
1. Meme outbreak occurs.	2. Game increases the counter on the Outbreak track (viral quotient). 3. Game places an addition cube of meme color into every website that is connected to current. 4. If adjacent websites have three of the meme colors, then outbreak propagates from that new website repeating the process but does not add another cube to the original website.