

Product Backlog (2IP90 Programming course 2023/Q1)

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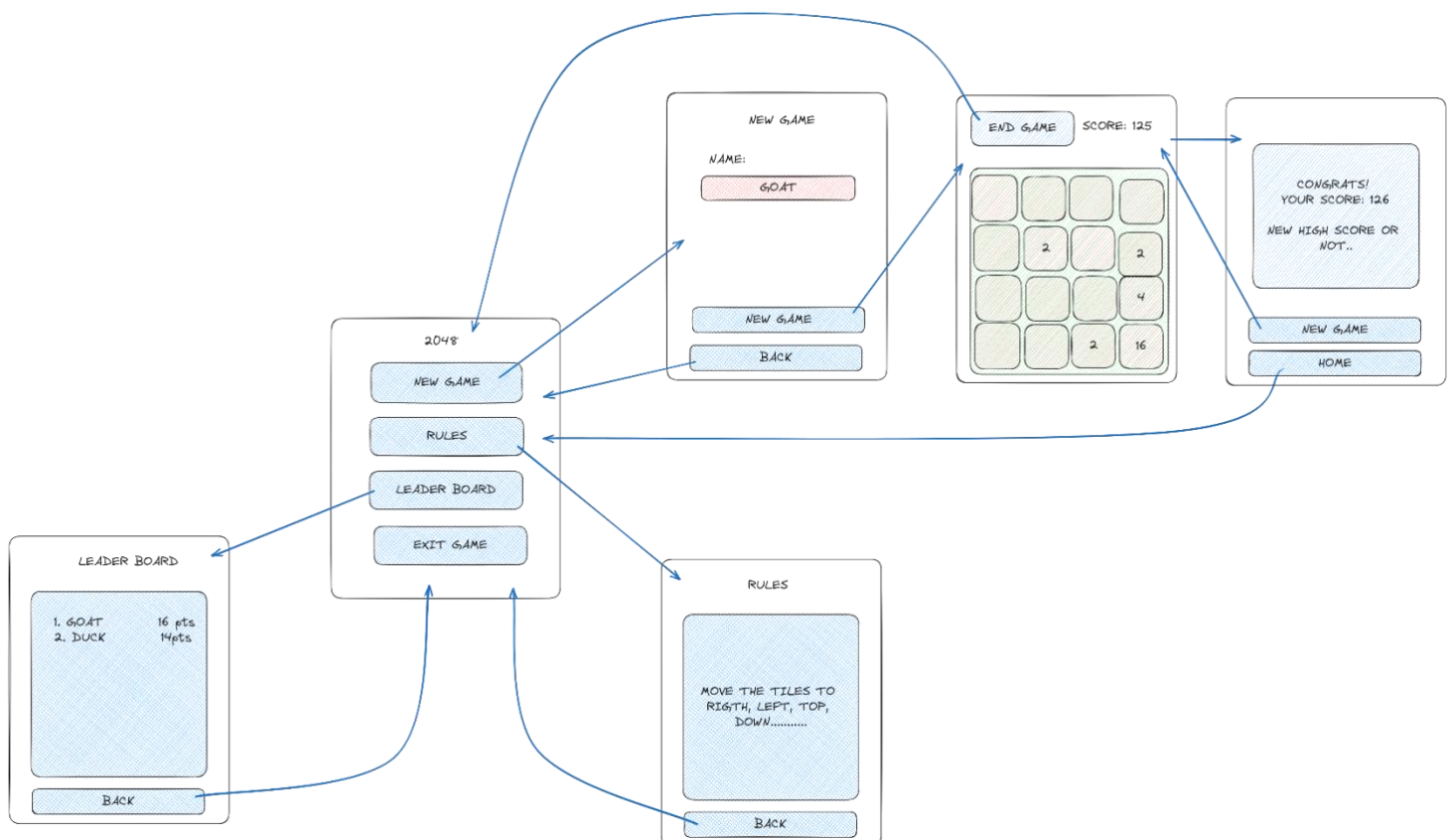
Description

We decided to make the classic game 2048 as our CBL assignment. The game will feature a rule page, a leaderboard of the 30 best results and of course the game itself.

Choice of advanced topics

- Advanced object oriented programming
- User experience (UX)

Screen design



Backlog items

| Id | Epic | Name/User story | Demo | Notes | Priority |
|----|--------------|-------------------------------------|--|--|----------|
| 1 | Main Screen | Start the program | We start the program and the main screen pops up | As a user I want to start the program and get to the main screen. | 1 |
| 2 | Main Screen | Main screen | We start the program and the main screen pops up, with 4 buttons: new game, leaderboard, rules, exit game | As a user I want to see 4 buttons on the main screen: new game, leaderboard, rules, exit game | 1 |
| 3 | Main Screen | Exit game button on the main screen | We press the exit game button, the program closes, then we open task manager and see that its actually no longer running. | As a user I want to quit the program | 1 |
| 4 | Main Screen | Rules button on the main screen | We press the rules button and the screen changes to the rules screen (as described in point 6) , without need for a new window to open, and the old to close, the window isn't resized. | As a user I want to get get to the rules screen | 3 |
| 5 | Rules Screen | Back button on rules screen | We press the back button on the rules screen and it brings us back to the main screen, without need for the old window to close and a new to open, the window isn't resized. | As a user I want to get back to the main screen | 3 |
| 6 | Rules Screen | Get rules description | We change to the rules screen and the explanation of the rules show up on screen in a clear and easy to understand way, we try and fail to resize the screen in a way to make it unreadable | As a user I want to get a short description of the rules of the game and I want to see a back button | 3 |
| 7 | Main Screen | Leaderboard button | We press the Leaderboard button and the screen changes to the Leaderboard screen (as described in point 8), without need for a new window to open, and the old to close, the window isn't resized. | As a user I want to see the Leaderbard screen | 2 |

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|----|--------------------|--------------------------------------|--|--|---|
| 8 | Leaderboard screen | Show Leaderboard | We open the leaderboard screen and a list of the top 7 previously achieved scores show up in descending order, along with the name of the player who achieved it. We go to the main screen and start a new game, we get at least as many points as the last person on the leaderboard has, then we go back to the leaderboard and see if our score has appered there, with the correct name. | As a user I want to see the best result of each player in descending order based on points | 2 |
| 9 | Leaderboard screen | Back button on leaderboard screen | We press the back button on the leaderboard screen and it brings us back to the main screen, without need for the old window to close and a new to open, the window isn't resized. | As a user I want to get back to the main screen | 2 |
| 10 | Main Screen | New game button on main screen | We press the new game button and the program changes to the game screen, without need for the old window to close and a new to open, the window isn't resized. On the game screen there is a back button a start game button and a filed for my name | As a user I want to get to the new game screen, where I can see a back button, a start game button and a textfield where I can put my name | 1 |
| 11 | New game screen | Back button on new game screen | We press the back button on the New game screen and it brings us back to the main screen, without need for the old window to close and a new to open, the window isn't resized. | As a user I want to get back to the main screen | 1 |
| 12 | New game screen | Name textfield on new game screen | We go to the new game screen put our name (or a list of random characters in the text field) we start the game and achieve enoug point to put us in the top 5. We go to the leaderboard screen and see, that out name appeared, with the correct score | As a user I want to put my name into this field, and I want the game to list my results on the leaderboard under this name | 2 |
| 13 | New game screen | Start game button on new game screen | We press the start game button and it brings us to the game screen (as described in point 16) without need for the old window to close and a new to open, the window isn't resized. | As a user I want to start the game with this button and get to the game screen | 1 |

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|----|-------------|--------------------------------|--|--|---|
| 14 | Game screen | Score counter on game screen | On the game screen (as described in point 16) there is a point counter show 0 at the beggining of the game, we merge 2 squares and our points increases by the amount described in the rules (see point 6) | As a user I want to see my score in the game | 2 |
| 15 | Game screen | End game button on game screen | We press the End game button and it brings us back to the main screen, we press the New Gmae>>Start game and a completele new game starts, clearly showing that the old one was forgotten. | As a user I want to quit the game and get to the main screen by pressing this button | 2 |
| 16 | Game screen | 4 by 4 table on game screen | We go to the game screen (see point 13) and a 4 by 4 arry of squares appear, 14 of them is empty, 2 of the has numbers in them (either 2 or 4), we press an arrow key and they move the way it was discribed in the rule set, we move 2 squares with the same value inside of eachother and they merge with the new square haveing twice 2 value of the old ones, the points on the score counter increases. We try and fail to resisze the screen in a way to turn the squares into rectangles, or have the numbers not fit in the squares. We move the squares in a way that the new ones spawning completely fill up the screen, and we get moved to the after game screen, without a need for a new window to open and the old one to close. | As a user I want to see the game happen in this table. When I press an arrow on the keyboard, every number in the table moves to that direction as much as possible. After every arrow press, a new number (either 2 or 4) spawns in a random empty field. When 2 numbers next to eachother move to the same direction, the get added together. When there are bo more empty fields to spawn a new number and it is no longer possible to add any numbers together by an arrowpress, I want the game to end, save my final score and get me automatically to the after game screen | 1 |

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|----|-------------------|------------------------------------|---|---|---|
| 17 | After game screen | Score counter on after game screen | We finish a game with the second best score then anyone has so far been recorded, and get moved to the after game screen, where three columns appear the bottom one stating our previous best score, the middle one our new ones, and the top saying "new top 2", below all of these there are two buttons "Home" and "New game". We repeat this again but this time with a new name and a worse score than the top 5 has, now the top column will say "new personal best". We repeat this again with the second user name but this time we achieve a worse score than in the previous round, this time the top column will not be there. We attempt and fail to resize the screen in a way to make any field unreadable. We go to the leader board screen (as described in point 8) and see the the first user name has appeared in the top 2 spot, and the already existing worse scores have been shifted down 1 place, with the last one completely disappearing. | As a user I want to see the score of my last game, and also see, whether it is a new personal record, a new overall record (or in the top 5 score) or neither | 3 |
| 18 | After game screen | Home button on after game screen | We go to the after game screen (as described in point 16 and 17) and press the Home button, we get moved to the home screen without need for the old window to close and a new to open, the window isn't resized. | As a user I want to get back to the main screen by pressing this button | 1 |
| 19 | After game screen | New game button on main screen | We go to the after game screen (as described in point 16 and 17) and press the New game button, we get moved to the Game screen (as described in point 16) without need for the old window to close and a new to open, the window isn't resized, we achieve a new top 5 score, then we move to the leaderboard screen (as described in point 7 and 8) and we see our new score listed with the name that we entered in our previous game. | As a user I want to immediately start a new game, with my currently used name | 2 |

