Prototype Notebook Chapter

The game "Icewave" is a simulation based reaction game, where the surfer has to balance his center of mass to counterreact the forces generated on the board by the water. This way the surfer can move along the wave and impress the audience with water spray and good looking tricks.

Prototype Rules

The prototype consists of two players, being the surfers trying to push the enemy into the water, represented as small figures.
The players have a surfboard representation, a 3x3 area with the numbers 1 to 9, representing the regions of the player's center of mass.
A small token to represent the choice of the player on the surfboard.
The game area, the wave, will be a 4x6 wide region, where the players are allowed to move. Leaving the zone the player will fall into the river and lose the round.
There are 9 additional cards with numbers 1 to 9 on it, representing the water forces on the board of this round for this player.
A dice will be used to choose a small set of cards randomly.
Goal of the game is to reach the other player, pushing him into the water and winning the game.
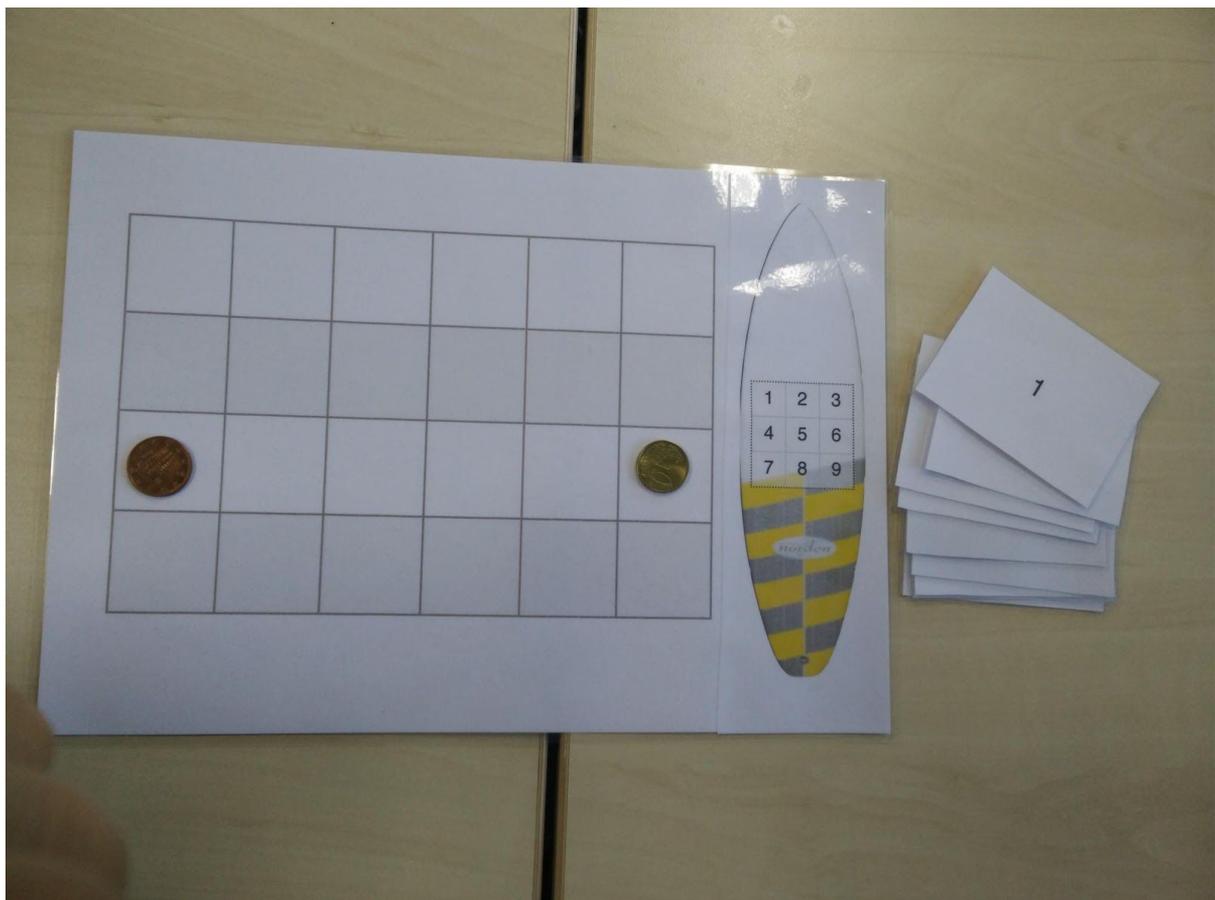
The players start on the game area at the third row on their respective sides. The system (either played by a third person or by the respective other player) will shuffle the cards and choose three numbers at random. These numbers will be shown to the first player. The first player will think of any position on his board, representing his center of mass on the surfboard. After a choice has been made by the player, the system takes the known three cards, shuffles them again and chooses one card randomly. This number will be shown to the player, as this is the final water force at the board position. Using this number as an origin, the player's choice of center of mass on the board will be the direction regarding the origin. In other words, the vector *"center of mass" - "water force"* will decide on the moving of the player's figure on the game area. If the player is still in bounds, the second player starts his turn.

The same rules apply to the second player. The system chooses 3 cards out of 9 randomly, shows this selection to the player, player chooses his surfboard position, system draws 1 card out of the previous 3 randomly, the moving vector will be created and the second player moves accordingly on the game area.

After both players have ended their round, the system will push both players one row backwards because of the river wave force. If one player leaves the area, the other player has won the round. If both players leave the area, both lose the round. If the players are still inside the region boundaries, the next turn starts, beginning with the first player.
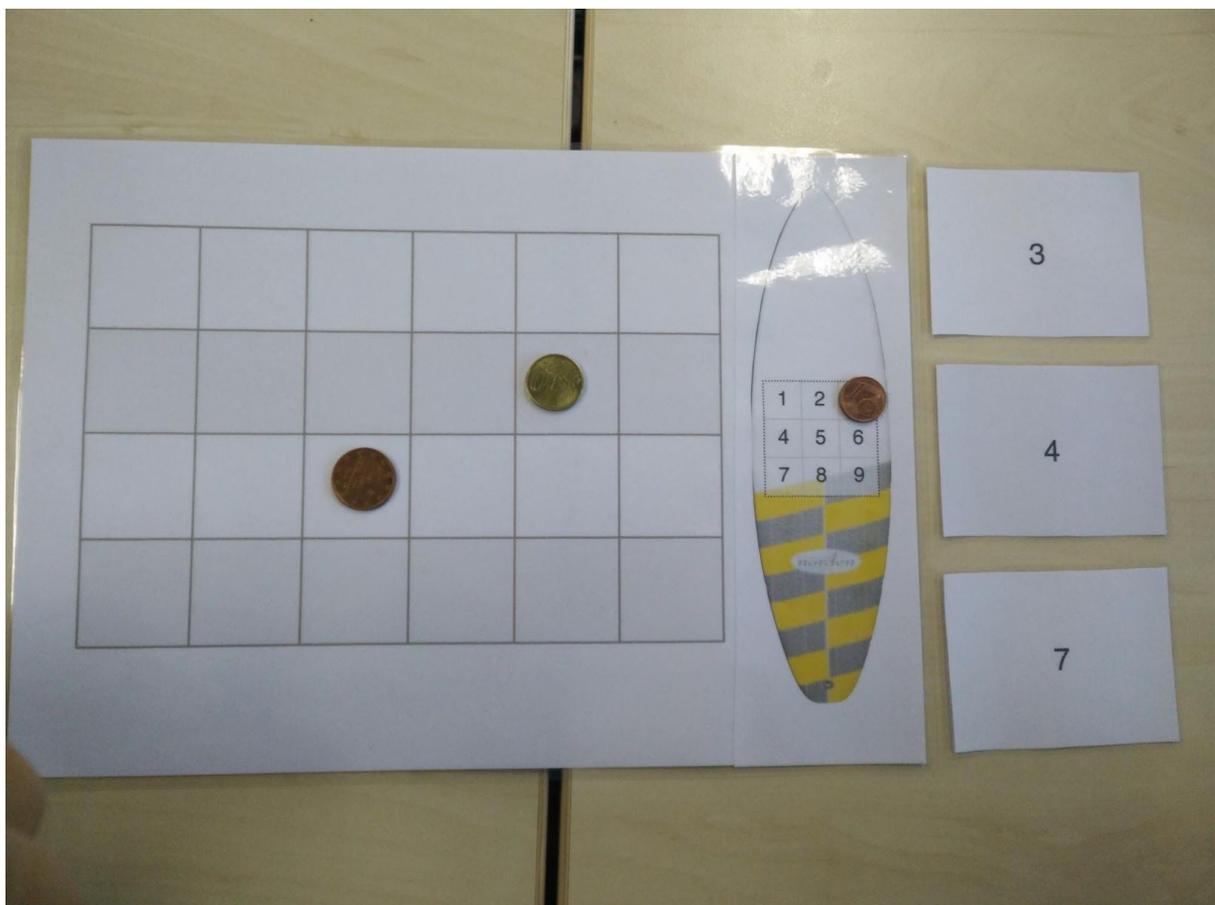
Prototype Revisions

To realize this game as a prototype idea, the core aspects of the game need to be found and created as a enjoyable feature. Problems were at first to find a way to show the foundations of the game, where everything is provided as a simulation. It took us many days to create a physical prototype worth being played, namely a game which plays against the system. After we found a way, we had many factors to change while maintaining the overall prototype structure.

We thought about a bigger playing field, number of players, different game round mechanics and translation on the field.

The first prototype iteration was with a higher area with 6x9 (row x columns) cells and one player. The system would choose three numbers randomly from a set of 1 to 9 and show these cards to the player. This numbers can be the potential wave prediction of the player, as he sees the incoming water mass and can understand the wave mechanic, but cannot be entirely sure how the water reacts on the board this round. So the player has a choice to position his center of mass on his board, a 3x3 cell approximation with the usual number layout like on a mobile phone or Num Pad on a keyboard. After his choice, the system again will choose a random number from his earlier chosen set of three cards, which will be the water force on the board. Depending on the players choice, the player would then move on the game area, the wave. If the player leaves the area, he falls down into the river.

This seemed pretty unchallenging without complex algorithms for point scoring. Therefore we integrated a second player in the prototype. The goal is to reach the field of the other player in your round to push him from the board. This seemed very entertaining for the prototype game.

But as the area was pretty big, we narrowed it down to a 3x5 area. This resulted in very short games, as the players hit each other pretty soon. Therefore we increased the size to 4x6 cells, which seemed like a appropriate size. To increase the challenge and make it more realistic, the players would be pushed backwards one row after each round. They are on a river wave after all. This resulted in a very fun and challenging game, which we wanted to create for a perfect prototype realization. We verified this with testing the bigger area (6x9) from the beginning, but it turned out that our intention was targeted to a 4x6 area.

After having built our physical prototype, we were sure that our game idea can be realized, if we have a complex single player experience for score calculation or an entertaining two-player-support. The core elements of the wave dynamics and the surfer on top of it haven't changed. The surfer still has to play against the system produced wave.