

Battle of the SeaSons

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1. Game Description

The storyline:

Since the beginning of time, two kingdoms have disputed for naval dominance. With only water between them, they fought their battles amidst the waves with mighty navies and magical powers. You, a powerful sorcerer that draws energy from nature, must now choose sides and wage war against your foe throughout the seasons. It will be a challenging task but your resolve shall not falter, it is up to you to defeat your enemy once and for all.

The game:

Battle of the SeaSons is a 2 player game where each player plays the part of a powerful sorcerer that must defend his kingdom as well as protect its navy. As shown in figure 1, each kingdom and sorcerer is on opposite sides of the screen divided by a large body of water which has a slightly curved surface to represent the curvature of the planet. From time to time (and possibly also influenced by the player) each kingdom will send forth battle ships against its opponent. If a battleship hits its target, the attacked kingdom will lose a life. The game ends when a kingdom lost all of its lives. This game is intended to be played on a large touch screen device (like a tablet) by two people at the same time on the same device.

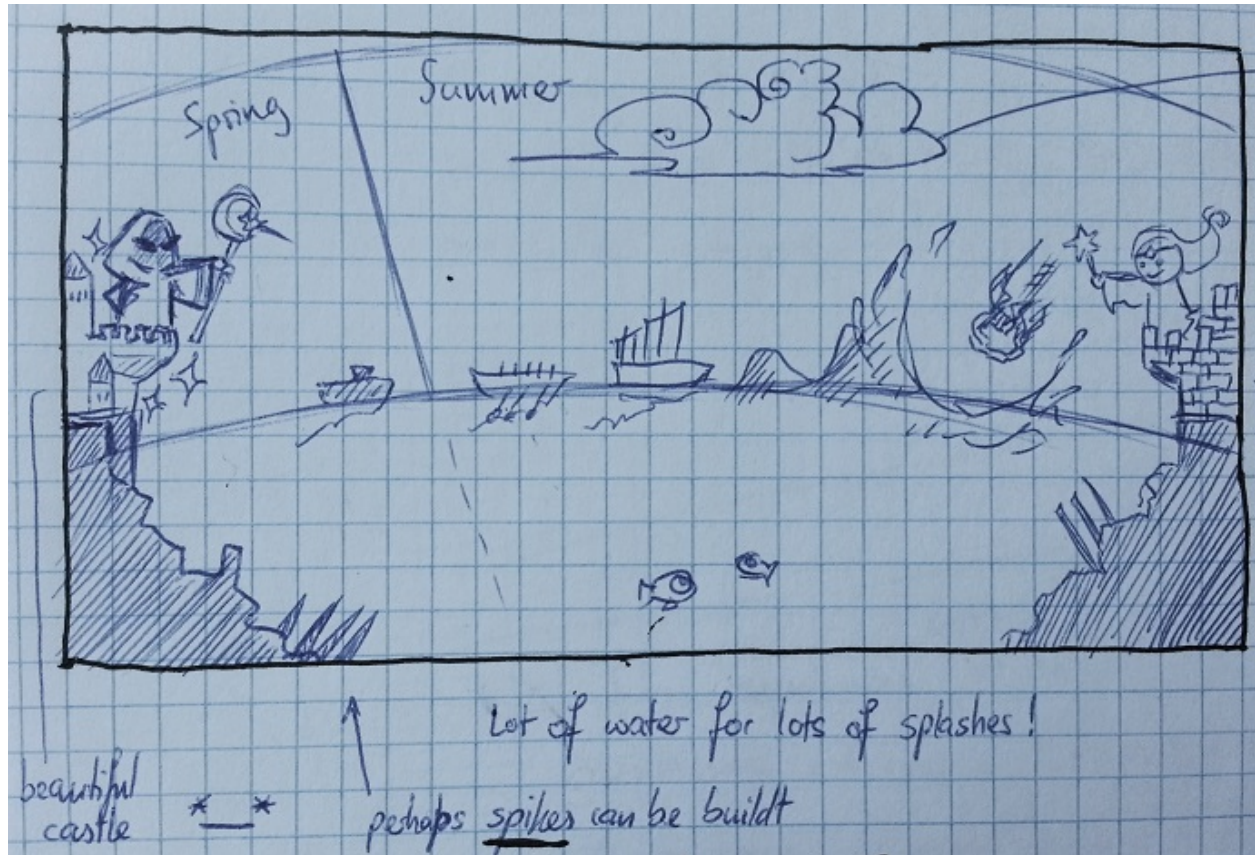


Figure 1

To protect himself, a player must use magic. The types of magic attacks a sorcerer can cast will depend on the current season but we also envision basic magic attacks that can be done during any season, like throwing a fireball. Each magic attack can have different effects, for example the fireball can be shot directly at a ship, damaging it, but it could also be shot into the water (shown in figure 1), creating waves that might slow down enemy ships and even help push forward his own ship. This means that the gameplay is greatly dependent on how the water simulation behaves.

Seasons will change from time to time and can be seen happening on the screen. As shown in figure 1, there is a slanted vertical line with "spring" and "summer" written on top. This line represent the transition from one season to the other. Just before the transition starts, the whole screen is in spring, for example, then the line starts on the right side of the screen and crosses over slowly to the left side. Everything that is to the left of the screen is still in spring, everything to the right is now in summer and the transition ends when the whole screen is in summer. The season dependent background can be imagined as a slowly rotating giant disk that is divided into 4 seasons and centered on the planet's center.

Several game elements and different season dependent magic powers have been considered for the game. Their intention is to make the game more action packed and entertaining to watch

how the water simulation and the floating vessels are affected. A few of these elements are listed below even though they may not make it to the final game. Some brainstorming images have also been added.

- Summer magic: intense light beams coming from the sun, burning ships and evaporating water
- Spring magic: Algae and wildlife may come from the sea and slow down or attack ships
- Winter magic: Freezing water or ships. Snowflakes done with same engine as water simulation.
- Autumn magic: Thunder clouds that shoot lightning at ships. Simulated rain drops.
- Manipulating water directly with touching on screen.
- Reverse the movement of seasons, instead of right to left, have it go left to right.
- Send extra ships or different types of ships.
- Releasing a Kraken
- Moses power: divide the seas.
- Summoning an underwater volcano
- Summoning falling meteoroids.
- Be able to do any of the above only when a magic fish or bird is captured by the sorcerer.



Figure 2

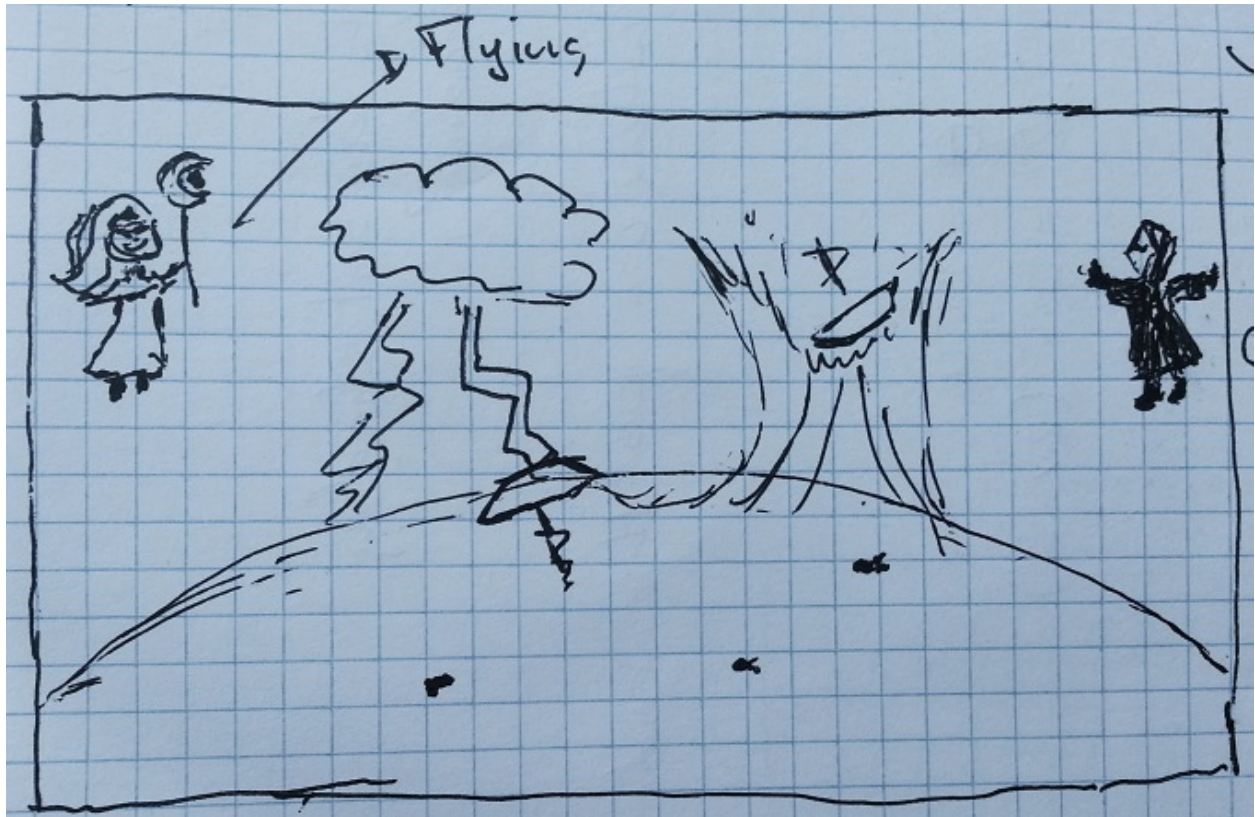


Figure 3

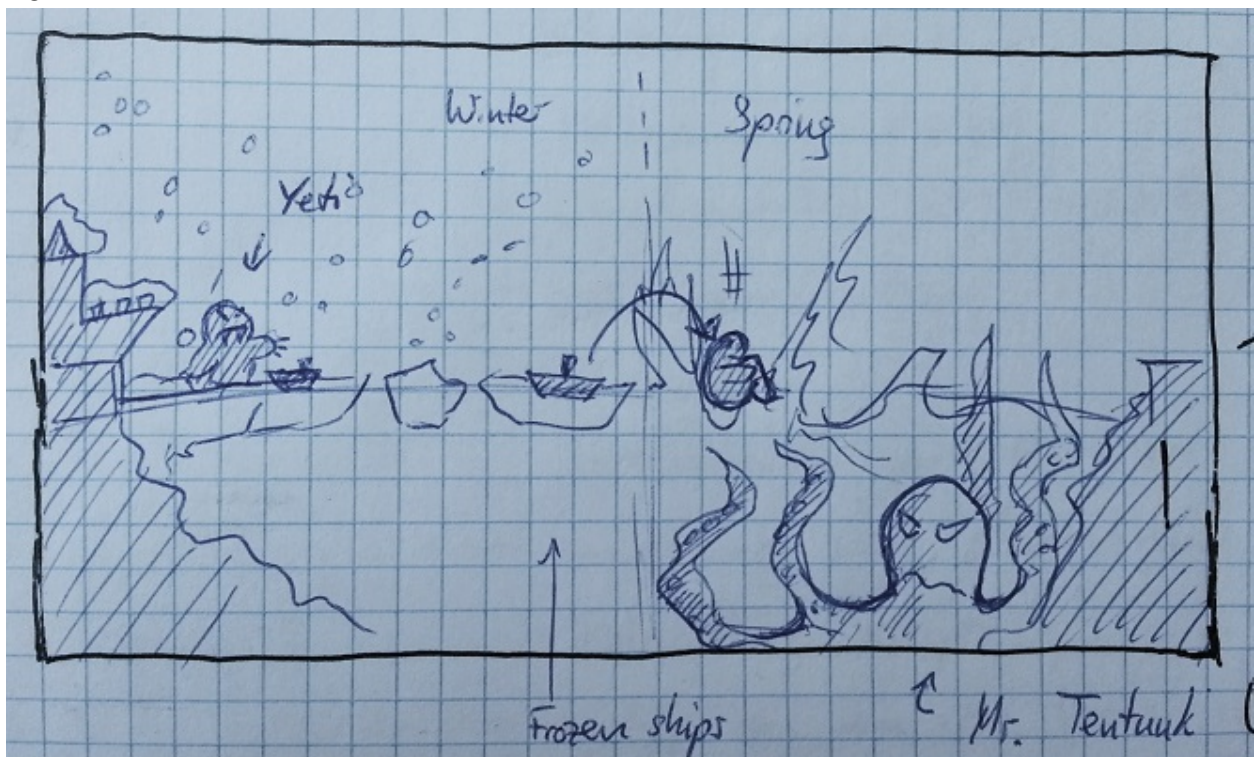


Figure 4

2. Technical achievement

Physical Simulation

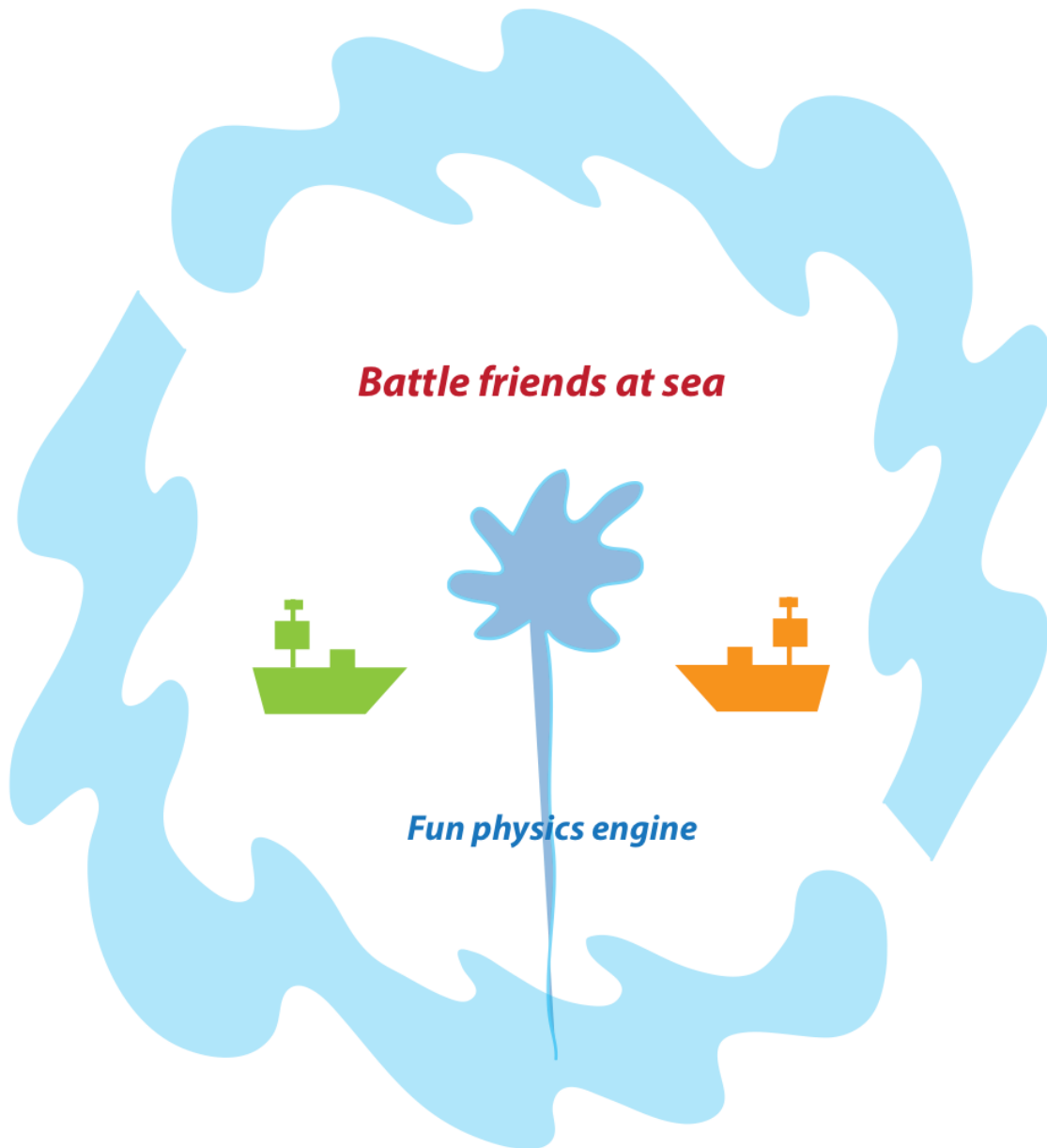
The core technical item of the game will be its physics engine with fluid simulation. The game has been set up so the simulation has a central part in the game, simulating the sea water and any rigid objects that are thrown in to it. Since it will affect gameplay, it must behave in a way that is believable but not necessarily realistic.

Since we are recommended to use unity, we will search for existing physics simulation libraries. If we find one that meets our needs, our task will be to make the best use out of it, allowing for fantastic simulations on even devices with limited resources, like tablets. If we are unable to find any, our task will be to implement the simulation by ourselves.

3. "Big Idea" Bullseye

Central idea: Battle friends at sea

Graphic Big Idea:



4. Development Schedule

1. **Functional minimum:** Basic game with no fluid simulation. Have two kingdoms on each side (that have a certain amount of lives), have one type of attacking units that glide on a fixed water surface towards the opponents kingdom (automatically) Sorcerers will be able to cast one type of attack, but they will not create waves, only damage the boats.
2. **Low target:** Implementation of basic physics system, with coarse waves and interaction between rigid bodies and fluids.
3. **Desirable target:** Implement the different seasons using the “season wheel”. Improve the graphics of the game. Physics system with fine fluid simulation.
4. **High target:** Implement magic that depends on the current season of a kingdom: sun beams, lightning strikes, ice freezing and more. Implement weather effects for the seasons (snow/rain)
5. **Extras:** Use different kind of attacking units (floating, submerged, flying etc.); Simulate snow and rain as particles rather than visual effects; Implement a one player mode; Allow players to influence the amount of fluid that are in the sea; Players can influence the attacking units; Epic magic spells: release the Kraken, summon an underwater volcano, divide the seas (Moses power), meteor shower.

Timeline:

E = Everyone G = Gustavo R = Raphael X = Xianghao

	Time (hours)	Feb 24	Mar 3	Mar 10	Mar 17	Mar 24	Mar 31	Apr -7	Apr 14	Apr 21	Apr 28	May 5	May 12	May 19	May 26
Assignments															
Proposal rough draft	20		E												
Proposal final draft	12			E											
Prototype chapter					E										
Interim report									E						

Magic that depends on the current season	30												GX	GX	E	
Weather effects	10												R			
Sound effects	10													R		

5. Assessment

Water and physics simulation, on its own, is already something that is fun to watch and interact with. Our game's main strength is that it joins that entertaining experience with a game objective to create innovative gameplay with amusing and unpredictable physical simulations.

In Battle of the SeaSons, fluid is used as a battleground so players must observe how the water behaves with each of their magic spells and learn to use it to their advantage. They are encouraged to find different ways to interact with the sea, like strategically creating waves to push their boats forward or delay incoming attacks, but must also take care that the same actions do not accidentally hinder their own forces. A second player is added to the mix, to create a more unpredictable environment as well as a more intense gameplay. The sea is not only affected by one sorcerer, but by two with contradicting objectives, thus creating a different experience every battle and challenging the player to come up with the best course of action for each scenario.