Main Objective

The main objective of the game is to get to the destination and make it in the desired time. The time is set in number of days and each day is represented by minutes in real time.

Shelter Quality

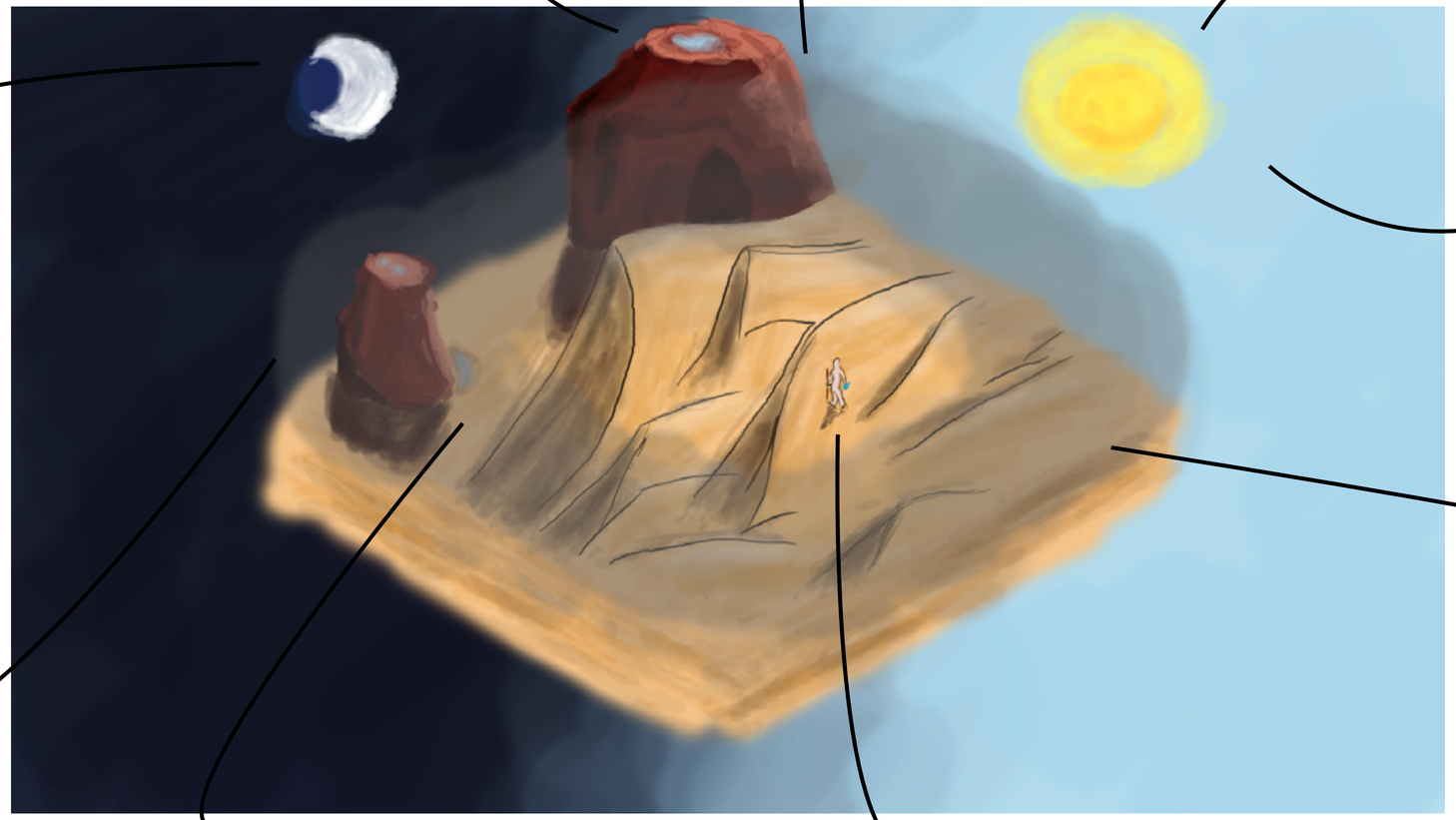
The quality of the shelter depends of the protection it gives against temperature and the elements. Many types of shelters could be improvised with simple tools like a stick or clothes, but natural shelters like caves could be more protective.

Sleep Hours

Many factors play a role in quality and number of hours slept. Hydration, skin burns, quality of shelter and even the mental state of the character. Bad sleep could lead to a positive feedback loop so is important to the player to regulate it as soon as possible.

Sun Exposure

The player can avoid or search for Sun exposure depending of the time of the day that he/she decides to walk. Looking for shadowy places at daytime could help to advance even more avoiding the burning Sun, but a high Sun exposure could cause dehydration and skin burns.



Day/Night Cycle

The game have a day and night cycle based in 24 hours that equal a number of minutes in real time. The Sun moves generating shadows in rocks and dunes that the player could use to avoid taking direct Sun. Twilight hours (around 3 hours average per day) are the more convenient to walk, but night and early morning can be good too. Around 13:30 the Sun is in its cenit, therefore no possible shadow is generated unless it's a cave. Walking at day or twilight provide better sight to find points of interest, while walking at night reduces vision and therefore the player could miss water sources or shelters.

Temperature

Temperature varies depending of time of the day. Nights are colder which helps the player to walk wihtout exposing to the Sun and with lose less body water. At daylight is really warm and walking at warmer hours could make the character sweat a lot and therefore dehydrate faster and in extreme cases causes sking burns.

Visibility

Player have a limited view of the environment around the character. At daylight and twilight this range is larger than at night and can be even be increased if the character is at the top of a dune or a rock. At night, the visibility is far worse and there is no chance to gain visibility at high ground.

Terrain

Desert terrain usually consist of dunes and rocks, with scarce vegetation and water sources. Climbing or going down a dune or rocks requires more energy and therefore dehydrates the character faster, but could also help to have a better view of the surroundings to find point of interest like shelters or water sources. Walking at night doesn't provide this view bonus.

Hydration

Hydration plays a major role in the game. Looking for water sources in rocks or encountering an improbable oasis could help to hydrate and refill the flask to carry water for a few days. Hydration is utterly important for body and mental health. An acute state of dehydration could cause character's death.

Mental Health

Mood and mental health are paramount to survive in a difficult situation. Acute states of dehydration in addition to constant Sun exposure could cause depressive states and despair. A very low Sun exposition could cause mental issues too, so is important to balance the walking hours to maintain a healthy mental state. One of the major causes of mental issues in this type of situations are related to lack of sleep.

Proposed Balance

1. Define real-time duration of hours needed to get to the final destination and real-time duration of in-game day

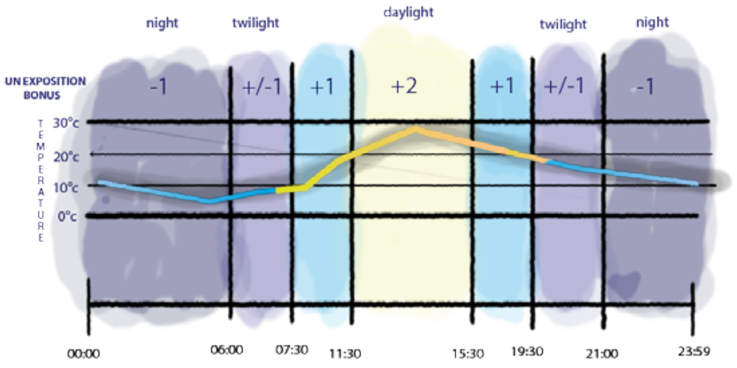
The first step is to define the duration of the complete day/night cycle. Taking into account that the player needs to move the character between different points we will define that ***24 hours in-game equals 24 minutes real-time.***

For the movement ratio we will definte that the player can move ***5 km per in-game hour*** walking in straight line. The player can walk relatively safe 25 km per day and we will define that the character needs to ***get to the objective in less than 25 days***, which is an outstanding time in a journey throught a desert, so the ***objective would be at 500 km*** of distance.

This give an average of ***8 hours of campaign***.

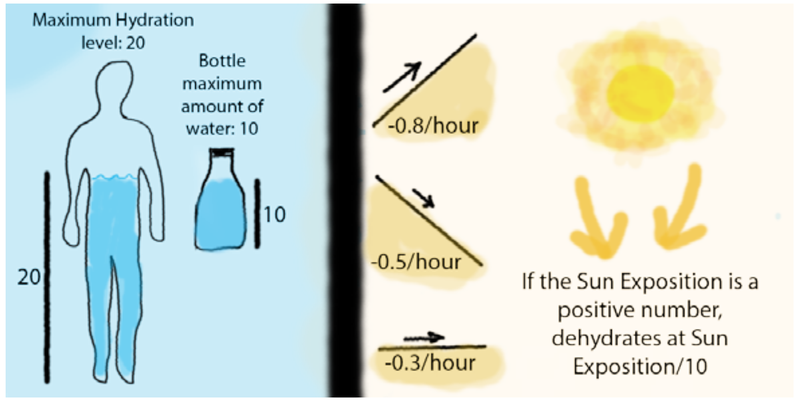
2. Define Temperature max and min values in accordance to the hour of the day, along with how hour of the day will affect the Sun Exposition mechanic

Temperature is instrinsically correlated with the hour, because of the position of the Sun. In the graph below the center line show some averages values of ***temperature*** per hour that can vary up until 5 degrees per day. In the top of the graph are the numbers corresponding to the ***Sun Exposition bonus***. These are the values that correspond to each time of the day, e.g walking at night diminish the Sun Exposition by 1 and walk at daylight could adds up to 2 per hour. Walking in twilight works as a negative feedback loop tending to 0, adding or subtracting Sun Exposition depending if this value is positive or negative.

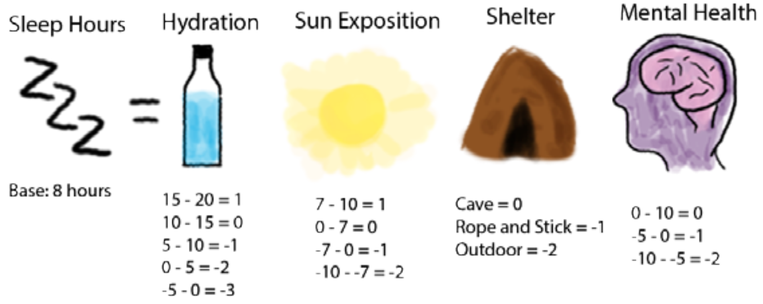


3. Create formulas to determine Hydration, Sleep Hours and Mental Health, while defininig values for different types of shelters.

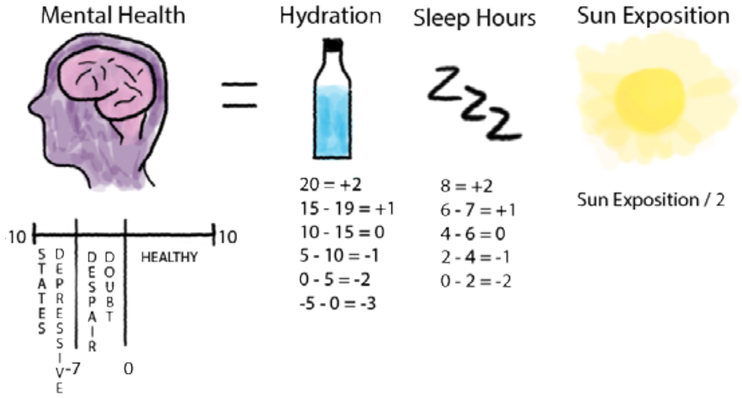
Hydration: The hydration is measured in sips of water. The maximum that the player can reach are 20 sips and the flask that he carries can save 10 sips of water. Depending if the player is climbing a dune or a rock, going down or walking in flat terrain, the water consumption would be different in each situation.
If the Sun Exposition is positive, the player would dehydrate faster, adding at the movement dehydration ratio ***Sun Exposition / 10.***
In the low extreme, hydration could ***go even as low as -5*** and in order to exit this negative state extreme measures will be required, but maintain this staste more than one day have a high chance to end in ***character's death***.



Sleep Hours: Start at a base of 8 maximum hours to sleep and from that value other mechanics like ***Hydration***, ***Sun Exposition***, ***Shelter*** and ***Mental Health*** will add or subtract maximum hours of sleep depending of the current conditions. The player would not be allowed to sleep again until ***Max Sleep Hours * 2***.



Mental Health: This is one of the mechanics that would be crucial for the player to mantain as high as possible, because is one of the more fragile elements in a experience of loneliness. ***Hydration, Sleep Hours*** and ***Sun Exposition*** play an important role keeping mental health. Besides, in each of the last 7 days the player will lose 1 mental health per day, because of the **uncertainty to reach the objective in time**.
Mental health is calculated after each session of sleep and a depressed character can be reluctant to drink water or even walk.

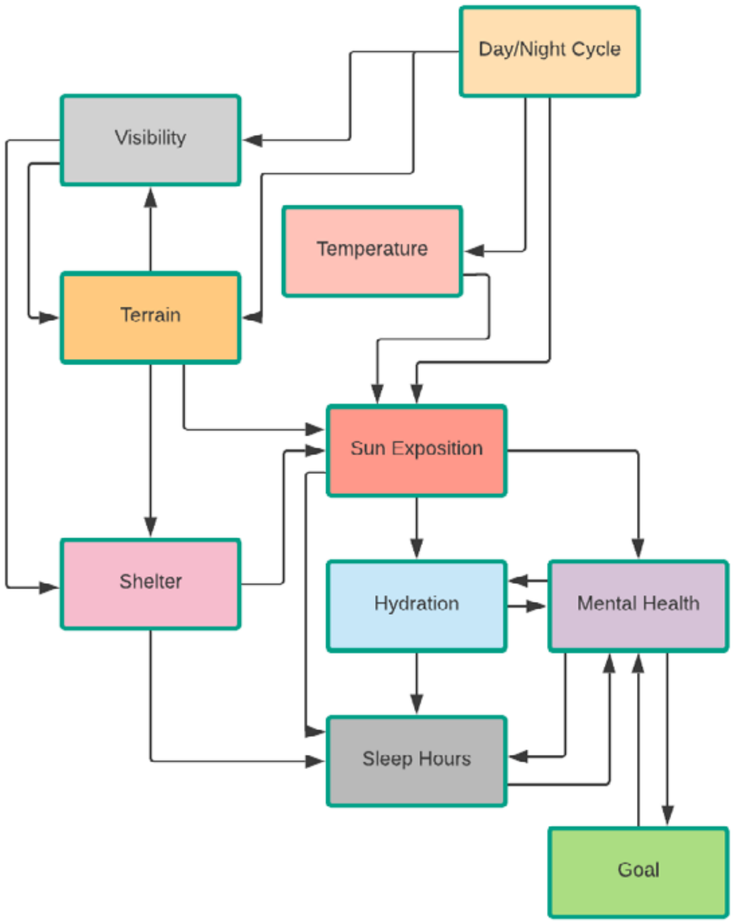


4. Iterate generating artificial scenarios

The best approach at this stage is to create a spreadsheet to put all values and formulas in one page and create a set of pages with simulations of possible play states in the game, in this case divided by days. After the values looks fairly balanced and insteresting, these values are suitable to be tested in more advanced types of prototypes, like a full paper prototype or even a digital one.

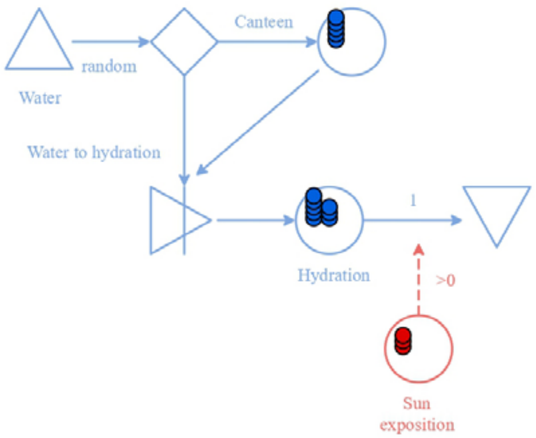
	A	B	C	D	E	F
1	Time of the day	0:00	1:00	2:00	3:00	4:00
2	Temperature	10	8	7	7	6
3	SE Bonus	-1	-1	-1	-1	-1
4	Sun Exposition	-0,9	-1,82			
5	Terrain					
6	Hydration	10				
7	Sleep Hours					
8	Mental Health	0				

Interaction between mechanics

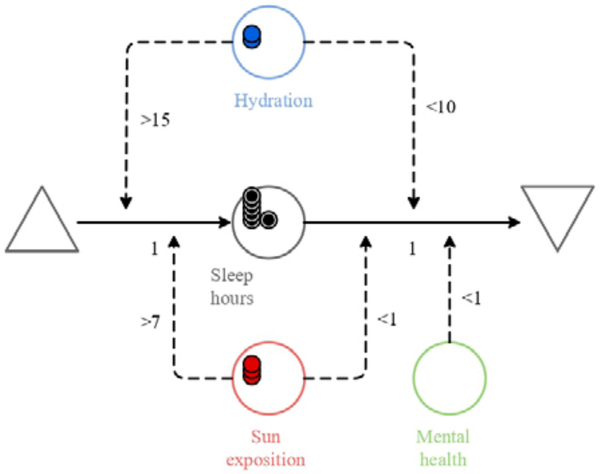


Main resources system scheme

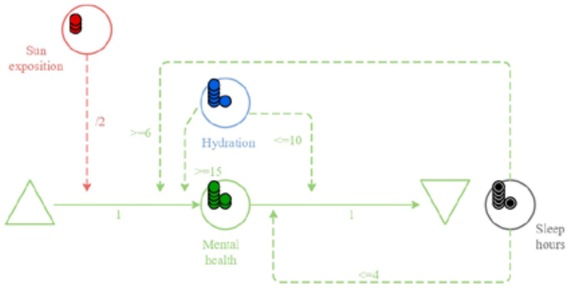
Hydration engine



Sleep hours engine



Mental health engine



Emotion through mechanics

The three main emotions that are conveyed through mechanics are **loneliness, lack of control** and **survival instincts**. All of these mechanics are depicted to a greater or lesser extent by all mechanics, but there are some mechanics that are better to make players feel certain emotions.

The first and probably the more important emotion is **loneliness**, depicted by mechanics like mental health and the effect that loneliness have in the human mind. Terrain also make players feel loneloness because of the inability to find another human being that could help sharing water or just a simple chit-chat.

The second emotion is the sense of **lack of control** over the environment and the own body reactions. This is the emotion that is supported by most mechanics because in a journey through a desert is hard to have control over some situations like finding sources of water or an appropriate shelter. Mechanics like hydration, the day/night cycle, terrain or shelter support this emotion because the player needs to have a little luck to find a good shadow to walk at daytime or a water source that could refresh him and give him new hope.

The third emotion are the **survival instincts**. These are behaviours that ensure the self-survival. Ideas that are not normally thought of can emerge in this state of survival which could lead to a whole set of hidden decisions or ultimatum in terms of mechanics. One of the mechanics that support survival instincts is the hydration level, people lost in desert had made things that seem strange or extreme, but that actions keep them alive. The need to look for shelter and the main objective, the objective of getting to somewhere in time could also make the player commit to reckless actions in order to achieve the goal.