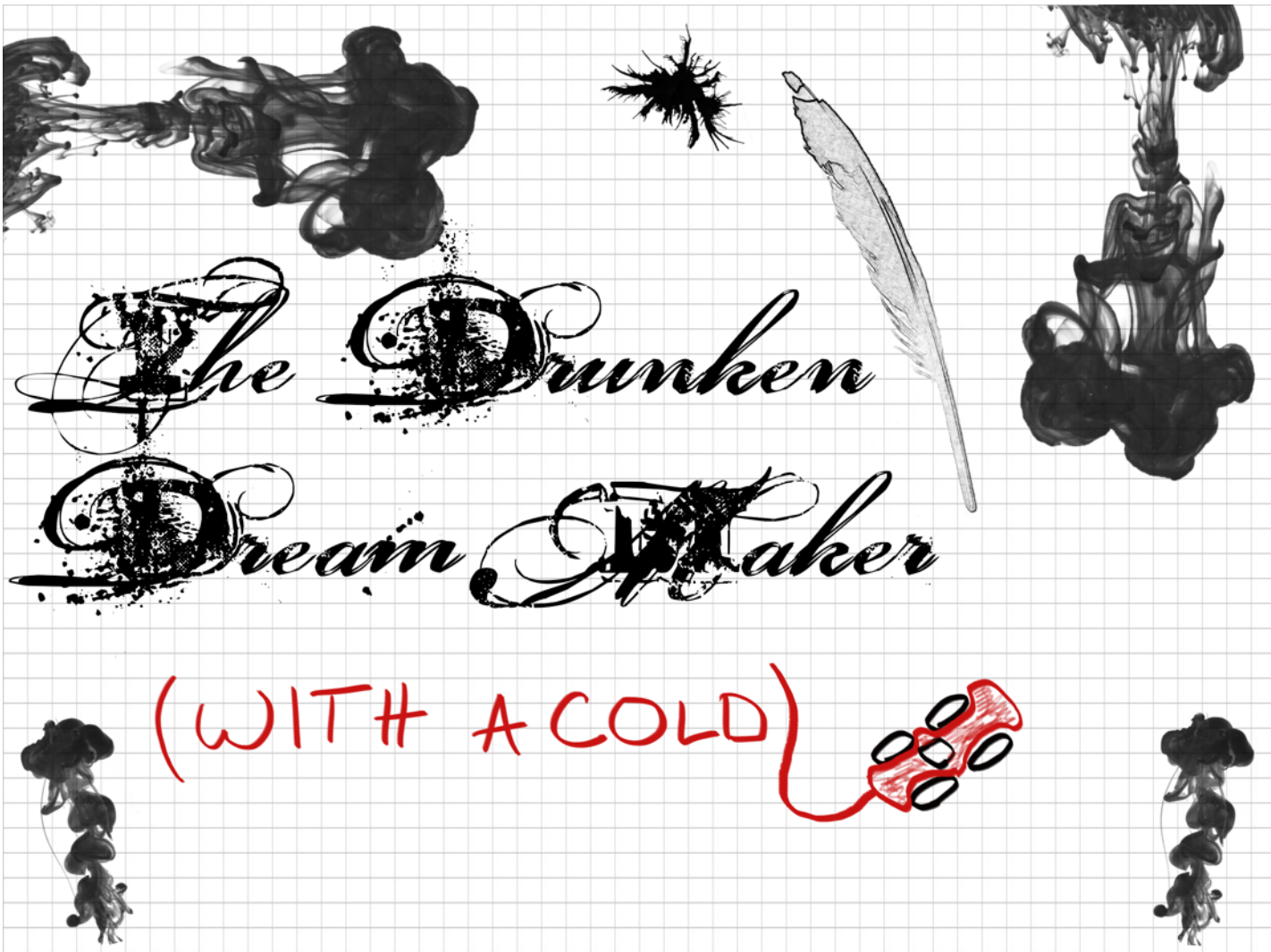
Triolozzi proudly presents



Riccardo Roveri, Vittorio Megaro & Emanuele Rudel

ETH Game Programming Laboratory
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Game Description

Background story

It is no wonder that the dreams industry has always been one of the world's economy main drivers. The business model is simple yet very efficient: every night, dream companies generate dreams for people, and profit from the energy produced by people's emotions during their sleep.

PureDreams - Dreams since 1943 is without any doubts one the biggest and most profitable company in this field. Things were going pretty well until they had to face a serious internal problem codenamed "The Drunken Dream Maker (With a Cold)". In a few words, one of their best dreams designer got into the bad habit of drinking too much whisky before his work shift, developing thus completely random dreams. Have you ever experienced a dream that was so nonsense that made you wonder how on earth it could have been generated? If your answer is yes, well, that dream was probably one of his creations.

This situation is worrying many families. For example, the parents of Julien, a ten years old kid, paid an annual subscription to *PureDreams*. Julien is thus allowed to receive generated dreams for every night of the year. Understandably, his parents are now frightened and they don't want the drunken dream maker to design their son's dreams. For this reason, they hired a small driver in a very tiny but powerful car to drive around on the designer's table to correct the storyboards of the dreams that he is drawing. Many other families had the same idea and sent their private tiny car drivers too, in order to try to alter the storyboard according to their needs.

Due to the financial crisis, *PureDreams* had to sadly downsize the workforce and fired many dream designers, therefore every dream drawn by the drunken dream maker is now shared between multiple children. This led to the situation of having multiple drivers racing on the same storyboard. Their competitive spirits, though, caused the dream storyboard to become a battlefield, where they race with no holds barred designing children's dreams.

Gameplay and Design Decisions

Overview and scene description

The Drunken Dream Maker (With a Cold), abbreviated as TDDMWAC, is a 2D multiplayer game, which can be played from 2 up to 4 players. The players challenge each other in time limited battles in a racing game fashion. Even though our game's idea features both strategic and dynamic elements, our aim is to make TDDMWAC less strategic and more dynamic in order to be played as a fast and funny party game.

Each match is played while the storyboard of a dream is being drawn. Thinking of how random and nonsense often dreams are, we imagined a drunken designer drawing a storyboard which represents a dream. This idea allowed us to achieve our main goal: conceiving a game where players can design dreams. By simply driving and drawing shapes on the storyboard, indeed, players are able to influence and manipulate the current dream.

A typical table of a designer/architect represents the main and only scene. The background is a squared paper pattern; we may also include some 3D models (such as pencils and bottles) on the table, which will make the scene more visually appealing. Arrows, ink spots, pencil drawn lines and sticky notes are drawn by the players or the drunken designer and populate the sheet of paper to make it look like a messy storyboard.

Each player controls a small car that runs on the table, directly drawn on paper with a doodle style. Each car is characterized by a unique color and is associated with a kid, with the goal of improving his/her sleep quality by coloring the storyboard with that color (the kid's favorite one). Every child has a sleep quality value which tells how much he or she liked the dream so far.

A match of TDDMWAC looks like a driving race. The main difference with most racing games is that the winner is not the player who arrives first at the finish line, but the one who reaches it ensuring the highest sleep quality value for his or her child. The cars start at the beginning of the storyboard where the dream starts, and have to drive through it in order to complete the dream. The drunken designer progressively designs the track and defines the boundaries of the storyboard in a random manner.

The scene is seen from the point of view of the drunken dream maker, who acts therefore as a top camera. The frame of the camera represents what the children are dreaming, beating the rhythm of the dream.

Sleeping Phases

During the night five different sleeping phases occur [1], where the fifth phase is the well known REM stage, the phase in which people mainly dream. The whole phases cycle is repeated during the night about three-four times. Our game simplifies this scheme and divides each cycle in only two parts:

- Pure Racing Part: groups the first four phases in a death match racing game.
- Accurate Drawing Part: represents the REM phase, where coloring accurately/badly will activate good/bad dreams for the assigned child.

[1] See http://en.wikipedia.org/wiki/Sleep

Of course the drunken dream maker is aware of this subdivision, thus the storyboard is consequently composed by areas of two different types. It alternates between Pure Racing Part areas, which cover most of the track, and sporadic Accurate Drawing Part areas.

One of the challenges of this gameplay is to quickly adapt different strategies depending on the area where the cars are.

Pure Racing Part - Gameplay

As previously said, this part of the game represents the main gameplay of TDDMWAC. Being fast is an essential skill to win the game.

Since the dream maker is drunk, the camera keeps moving and follows the car leading the race, without waiting for the others. The field of view of the camera represents the current state of the dream, which is the piece of track where the racers are allowed to drive. Every time a driver goes off screen, the associated child suddenly wakes up (because the driver gets disconnected from the current dream), and the car cannot race until only one driver is left in the field of the camera; at this moment the dream maker will notice that some drivers are missing and will place them all in the field of view once again. A new race will then start.

Every time a child wakes up, his or her sleep quality bar decreases by some value. The sooner this happens in a race, the larger this value will be. One can easily understand that the goal of the drivers is to remain alone in the screen as often as possible, thus preserving the sleep quality of their child. In the story this is explained with the fact that, since the storyboard was originally built to design the dream of a single child, being alone in the screen would mean to get rid of the competition and freely control the child's dream.

In addition to mastering the driving art, the only weapon drivers can use to win the races is their incredible drawing skill. The amazing feature of our cars is, indeed, their ability to leave a trace on the paper, thus making 2D-painting become the most important and innovative characteristic of our gameplay.

We list below all the possible actions and interactions on the storyboard.

- Cars always leave behind a colored pencil trail (for example "RED TRAIL", in Figure 1). By drawing closed shapes on the track ("CLOSED SHAPE" in Figure 1), which immediately become rigid bodies, they can try to block opponents in order to slow them down or to deviate their paths. This technique represents the basic way to manipulate other children's dreams in TDDMWAC: pushing the opponents off screen and therefore reducing the sleep quality of other kids. Drawing closed shapes (which involves driving back for a while) could be seen as a waste of time by some players, which might prefer to just focus on driving as fast as possible. Therefore we plan to empower the cars that close shapes with a temporary speed boost, to give them some advantage.

- Another way to incite the players to spend some time drawing shapes while driving is the introduction of some grey pencil lines on the storyboard ("SHAPE CONNECTOR" in Figure 1), that the drivers can exploit to close shapes by just crossing them with their own trail. Remember that a closed shape will immediately turn into an obstacle. The drunken dream maker may also draw more complex grey lines that resemble unfinished drawings; this feature will certainly introduce visually appealing and funny obstacles (see Figure 5, the batman symbol shape).
- On the other hand, other cars' pencil trails are not always dangerous: if a car follows another car's pencil trail, it gets a speed boost in that direction. This helps the cars in the last positions to reduce the gap (*Rubber Band Effect*).
- Like in every storyboard worthy of its name, there are some ink spots ("INK SPOT" in Figure 1) scattered on the storyboard, which slow down the cars and make the driving more difficult.
- The drunken dream maker includes randomly placed shapes which behave as obstacles, drawn with a black pencil ("OBSTACLE" in Figure 1).

Accurate Drawing Part - Gameplay

Even if the dream maker is drunk, he is still aware of one of his very important duties, which is to ensure intermittent REM phases for the children. Therefore, sporadic parts of the storyboard are dedicated to REM phases. When the cars cross these areas, the drunken dream maker makes the effort of staying focused, thus the camera movements become slow, regular and smooth (without following the first car anymore), to allow all the children to dream and the drivers to go wild with drawing.

Concretely, every once in a while, a new race (after one of the players remained alone in the screen) happens in a REM phase area. Here, the drivers can choose what their children will dream and adjust their sleep quality bars, by interacting with the following elements placed by the drunken dream maker:

- Sticky note with drawn a nightmare: there are plenty of sticky notes with drawn the silhouette of a nightmare ("NIGHTMARE" in Figure 1). Of course the players have to avoid driving over them, otherwise their child will immediately start dreaming of those shapes and lose some sleep quality.
- Sticky note with drawn a wish: sticky notes with drawn the silhouette of a nice wish increase the sleep quality by some value. As it can be seen in Figure 1 ("ACCURATE STRIPE + WISH"), they are always preceded by an arrow drawn with a yellow highlighting pen. The goal of the drivers is to follow these arrows pointing at wishes and drive over them as accurately as possible. The more accurate the drawing, the more the sleep quality increases. The

arrows are orientated in the track's direction to allow the cars following the camera movement, but are irregularly shaped (it's not really easy to draw straight lines in a drunken state...).

When the cars exit the REM phase area, a racing part starts again.

Final Goal

The driver who reaches the end of the storyboard with the highest sleep quality value for his associated child wins the match.

The often-forgotten-thing

Did we ever mention that the Drunken Dream Maker (With a Cold), has actually got a cold? We plan to make the gaming experience much more exciting and funnier by bombarding players with powerful sneezes and related camera shaking!

(This is kept as a high target, in case we don't manage to accomplish it we will certainly change the title of the game).

Possible Adjustments

We have some additional ideas that might be developed after testing the game or playing with the physical prototype.

For example, we could add some sticky notes also in the Pure Racing Part, and just intensify their frequency in the Accurate Drawing Part.

Another proposal is to add power ups to be gathered in the Pure Racing Part and used in the Accurate Drawing Part for drawing the arrows (such as semi-guided drawing, ...).

Sketches

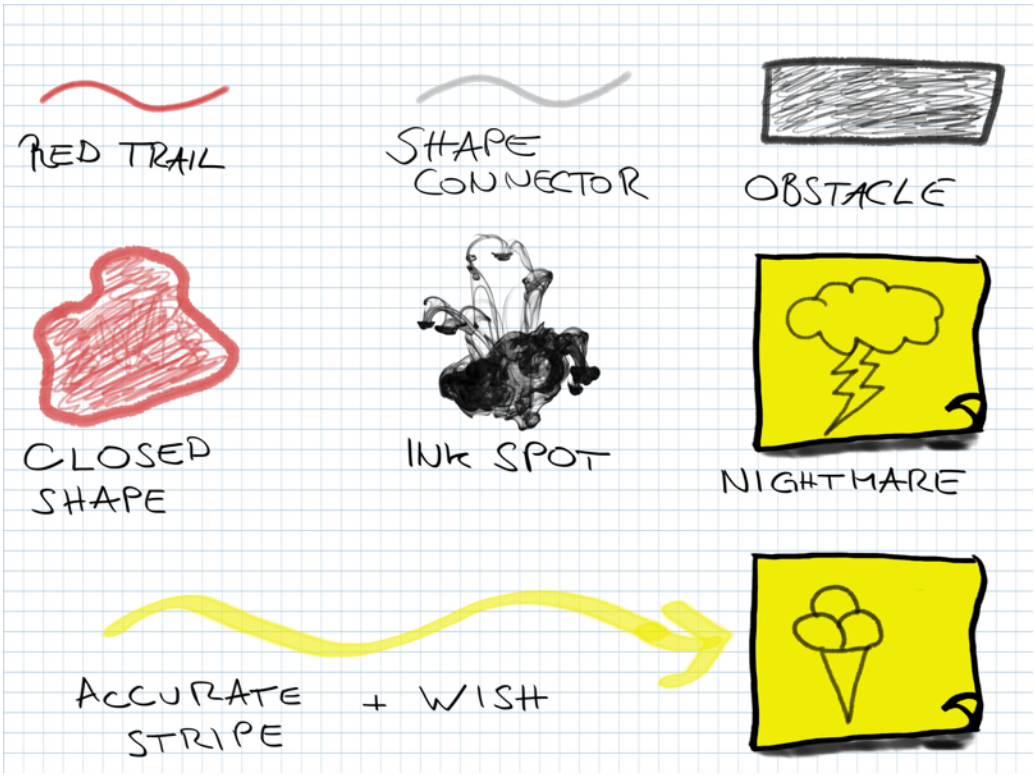


Figure 1. Storyboard Elements.

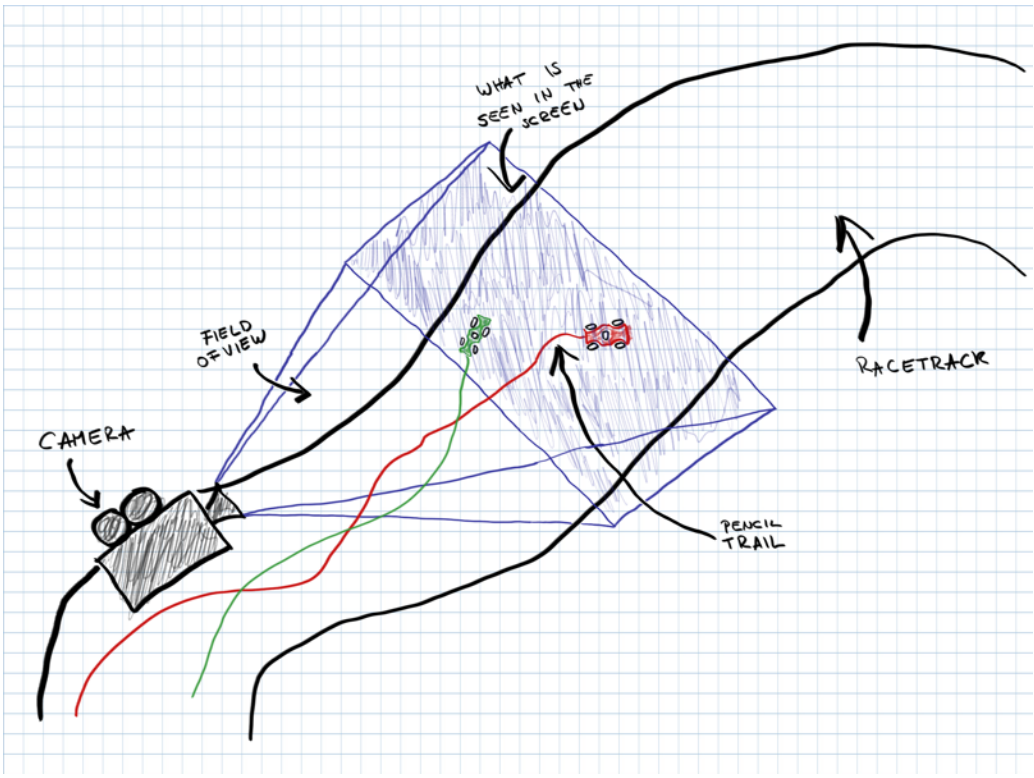


Figure 2. Camera Field of View.

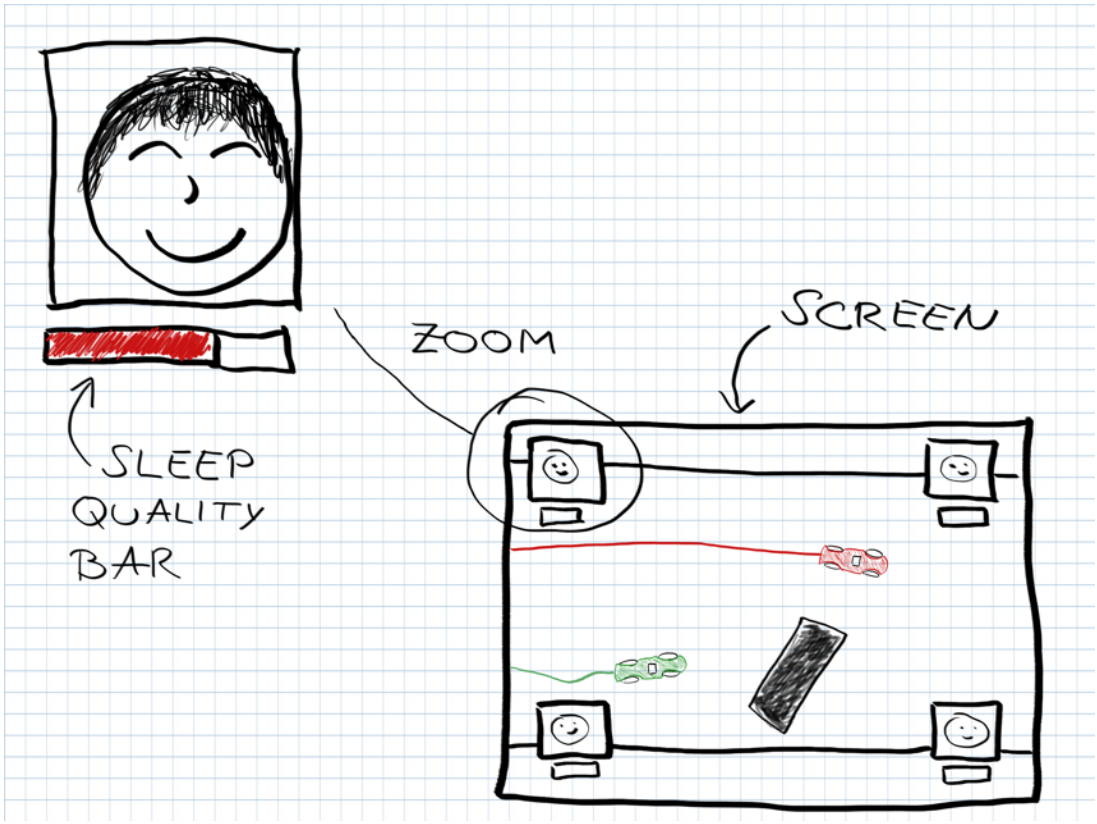


Figure 3. GUI Elements.

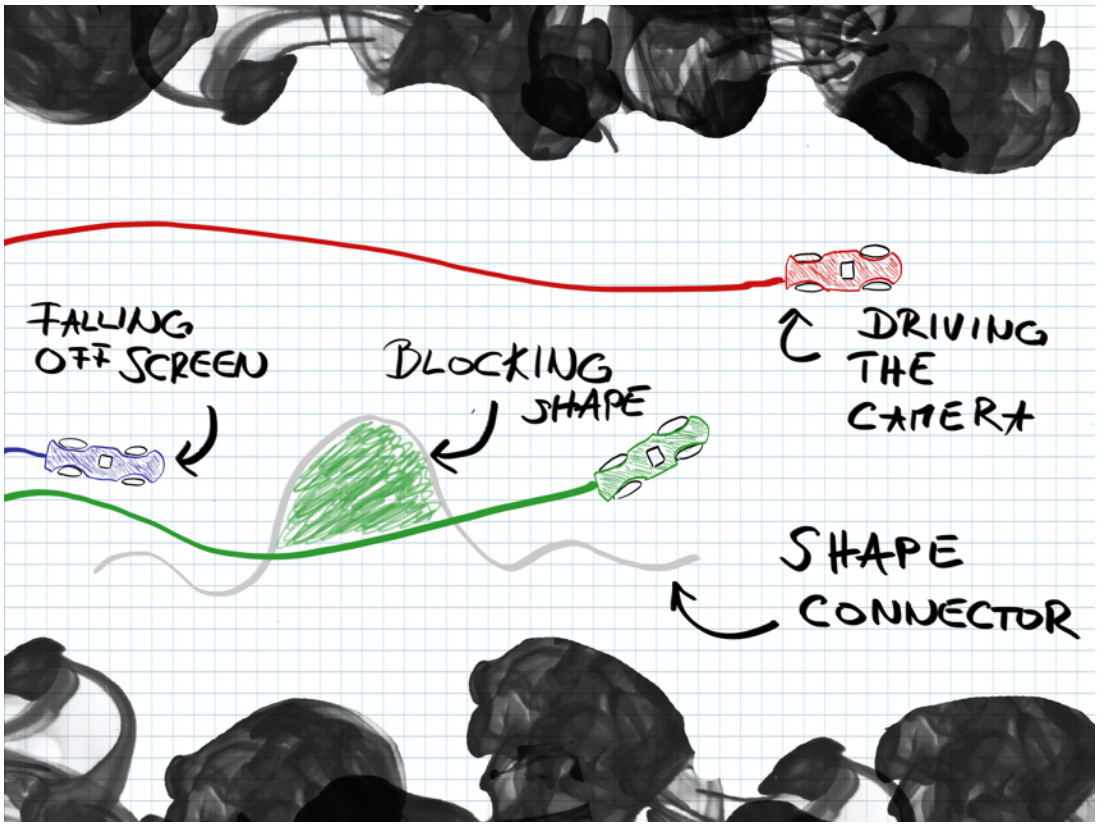


Figure 4. Game situation: the red car is driving the camera
and the green one just exploited a grey line.

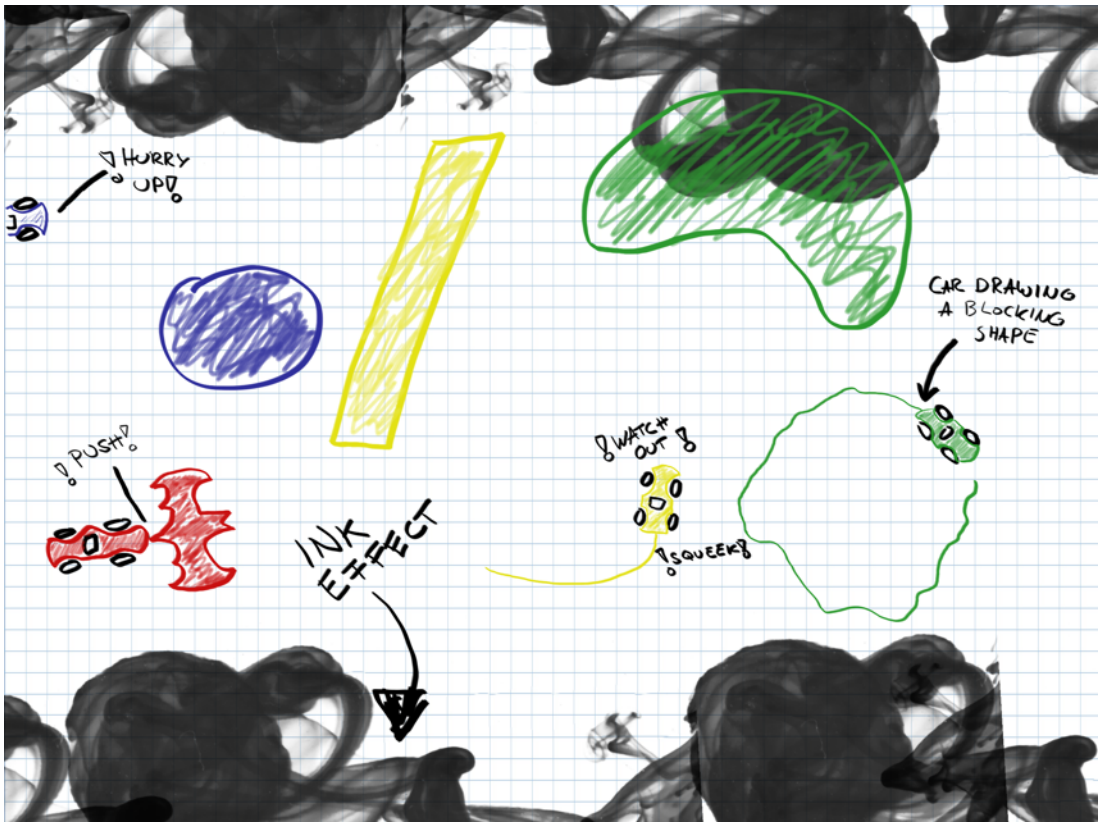


Figure 5. Game situation: the blue car has to hurry up to stay in the camera field of view, the red one is crashing against a batman shape, and the green one is drawing a ball to block the yellow opponent.

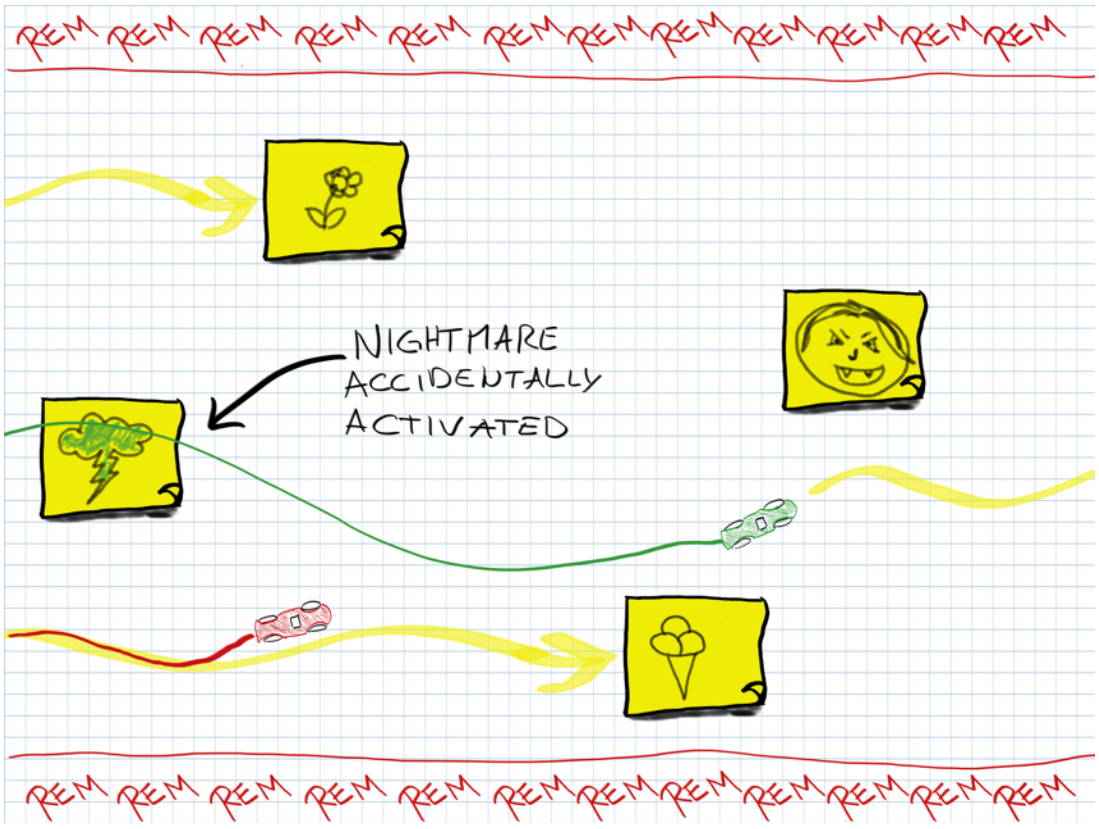


Figure 6. Game situation during the REM phase: the red car is accurately following an arrow, while the green one accidentally activated a nightmare.

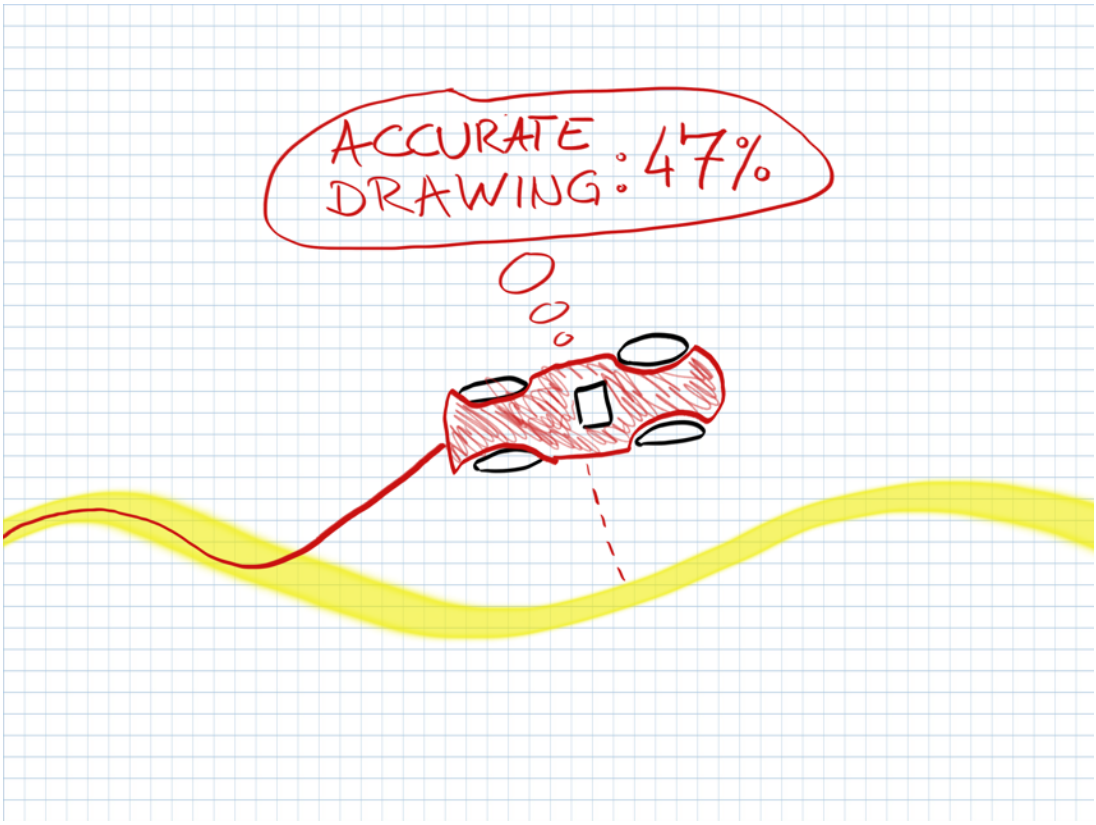
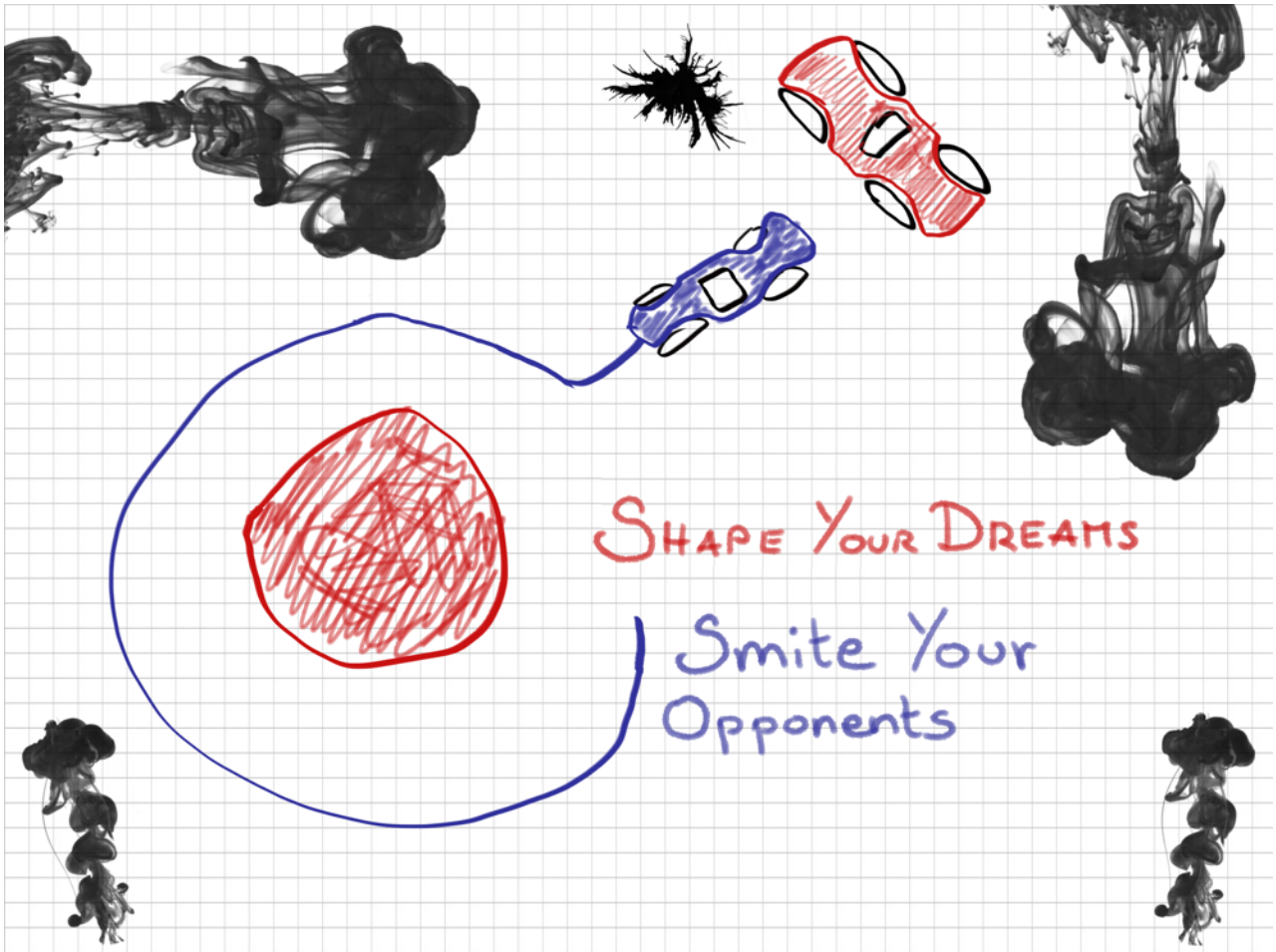


Figure 7. The red car is trying to accurately draw its trail over the arrow. The system computes a matching percentage based on the accuracy.

“Big Idea” Bullseye



Development Schedule

Preparation tasks

Task ID	Description	Assigned To	Hrs
1	Open source libraries evaluation	All	
2	Repository Setup	Emanuele	
3	Xbox and Visual Studio Setup	Vittorio, Riccardo	
4	Design Analysis	Emanuele	

Critical Tasks

Task ID	Description	Assigned To	Hrs
5	Formal project proposal	All	
6	Physical prototype	All	
7	Interim report	All	
8	Alpha release	All	
9	Playtest	All and External	
10	Conclusion and demo video	All	

Functional Minimum

Task ID	Description	Assigned To	Hrs
11	Racing game only	All	
12	User input handling	Emanuele	
13	Camera system	Riccardo	
14	Simple scores	All	
15	Single, fixed race track	Riccardo	
16	Basic collision detection	Vittorio	
17	Basic graphics	All	

Low target

Task ID	Description	Assigned To	Hrs
18	Simple drawing (trails) with boost effect	Riccardo	
19	Obstacles	Vittorio	
20	Game menu	Emanuele	
21	Nice graphics	All	

Desirable target

Task ID	Description	Assigned To	Hrs
22	Advanced scores	Emanuele	
23	Accurate drawing	Riccardo	
24	Different sleeping phases	Vittorio	
25	Background music, sound effects	All	
26	HUD	Emanuele	

High target

Task ID	Description	Assigned To	Hrs
27	Race track procedurally computed online	Riccardo	
28	Ink/pencil effects	Vittorio, Emanuele	
29	Procedural drawing effects	Vittorio, Riccardo	
30	Nice transitions between phases	Emanuele	
31	Introduction of mucus as an obstacle	All	
32	Deformable objects	Vittorio	
33	Particle effects	Riccardo	

Extra

Task ID	Description
34	Define custom dream shapes

Task ID	Description
35	Design your own car
36	Replay race feature
37	Statistics
38	Bring the game to 3D
39	Design textures to apply to user defined shapes

Schedule

This schedule provides a plan for different targets. Follow one color to see the plan for reaching the corresponding target

- Red: critical tasks must be done before deadlines
- Grey: Functional Minimum
- Black: Low Target
- Blue: Desirable Target
- Green: High Target

Week	Add to notebook	Tasks
1		5
2	Formal project proposal (final draft) chapter	6 Preparation Tasks Preparation Tasks
3	Prototype chapter Formal game proposal and prototypes	Preparation Tasks Preparation Tasks
4		
5		Functional minimum
6		7 Functional minimum
7	Interim report chapter Interim demos	Low target
8		Functional minimum
9		8 Low target

Week	Add to notebook	Tasks
10	Alpha release chapter Alpha release demos	9, 10 Desirable target
11	Playtest chapter Playtest presentation	10 Functional minimum Low target Desirable target
12		10 High target
13	Conclusion chapter Video demo Public presentation	

Assessments

The main strength of our game is definitely the combination of drawing and racing components in an original environment. Drawing 2D shapes as the only way to win the game and interact with opponents is what really sets our game apart from the other racing-like games. Although the physics involved will be relatively simple (we will mostly have rigid bodies collisions), we think the unique gameplay will bring a new and fun experience to the users.

Even though the concept of drawing is simple and easy to understand, doing it while driving requires strategies skills as players must figure out what is the best moment during the race to draw without going off screen.

Another characteristic aspect of our game are the 2D graphics effects that we plan to implement. Squared paper with ink spots and 2D sketch-style graphics will create a visually appealing and original virtual world.

Game evolution

The game has gone through some important changes from the rough to the final proposal because we realized – thanks to the feedback of other groups and teaching assistants – that the gameplay was way too complex and had too many random elements. Even if we had been able to realize the game, we are still not sure the outcome would be a fun game and we definitely do not want to take this risk.

We reduced the complexity of the gameplay by giving the accurate drawing part a less important role. In the first game proposal we wanted players to draw shapes while driving and then we would award points depending on the accuracy of the drawing using a shape matching algorithm. In this second gameplay iteration, we only want players to follow arrows on the track. This allows us to simplify the game as players do not need to worry about wishes and nightmares shapes anymore but they can focus on following the arrows. The accuracy with which the arrows are crossed triggers dreams to burst out of the track.

We also decided to get rid of the dizzy camera because it is an element that introduces too much randomness and could result in a frustrating game experience. We therefore opted for giving the racing factor a more important role in the game as it has already been proved (by countless examples in the game industry) to be a challenging and fun gameplay.