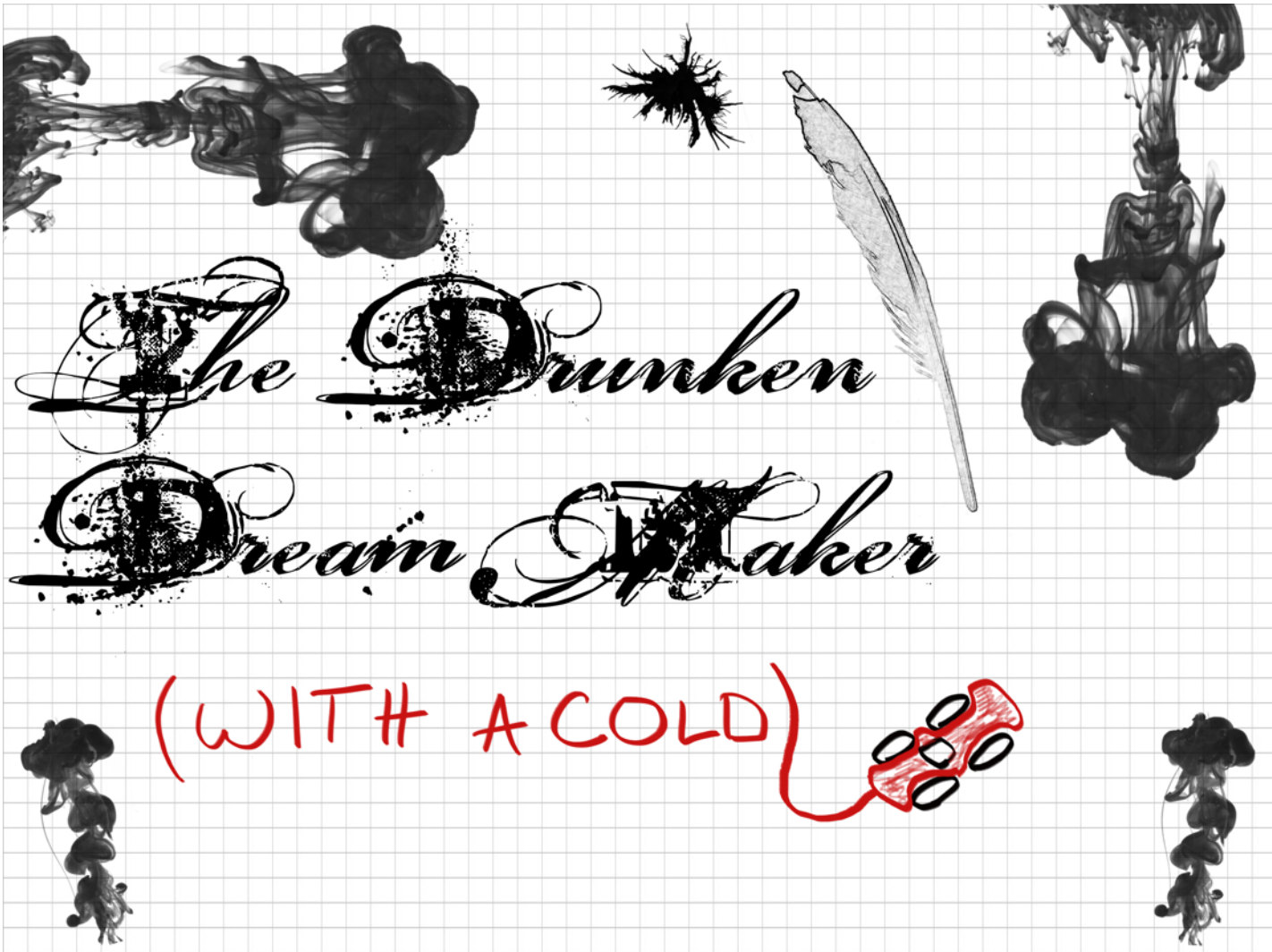
Triolozzi proudly presents



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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 With A Cold 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.

We also imagined that, due to the financial crisis, PureDreams had to sadly downsize the workforce, therefore every dream drawn by the Drunken Dream Maker With A Cold is now shared between multiple children. The competitive spirits of the drivers, 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 (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. 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.

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.

Each player controls a small car that runs on the table. The car will be either a 3D model or, more likely, will be drawn directly on the paper with a comic sketch style. Each player (car) is characterized by a unique color.

The scene is seen from the point of view of the dream maker, which is therefore a top camera. It keeps moving at a certain (variable) speed on the track and represents the current state of the children's dream. It is in fact up to the dream maker to establish the starting and ending points of the dream, as well as the main elements that compose it. The task of the players is to influence the dream according to the children's needs.

The storyboard and the sleeping children

Each match is played while the designer is drawing the storyboard of a dream. Thinking of how random and nonsense often dreams are, we imagined a drunken designer drawing a storyboard which will 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.

Of course, these children have different fears and wishes, thus the dream being drawn on the storyboard could represent a nice dream for certain kids and a nightmare for others.

Each player is associated with a sleeping kid, with the goal of protecting him/her by improving the sleep quality and worsen the ones of the others. This means that each player, during the game, should draw shapes that are enjoyed by his own child, as well shapes that other children don't like.

Every child has a sleep quality value which tells how much he or she liked the dream so far.

Drawing is fun

The amazing feature of our cars is their ability to leave a trace on the paper, thus making 2D-painting become the most important and innovative characteristic of our gameplay. More precisely, the cars draw shapes by releasing a trace on the paper (by keeping a button pressed the player can decide when to draw). Closed shapes are then filled with the player's color and act as rigid body objects in the scene, colliding against the cars and the other shapes in a 2D physical manner.

Basic gameplay

A match of TDDMWAC looks like a driving race seen from the top. 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 (like most storyboards, the playing field will be very messy), and the camera moves along it, by randomly changing velocity. We plan to design the tracks using L-systems to achieve random and visually appealing ink style paths. The cars have to stay on the road, as well as in the field of view of the camera. If a car goes off tracks or is left behind the field of view of the moving camera, it is immediately brought back to the track, but the sleep quality of its corresponding child is decreased by some amount, due to the confusion created by the driver.

The only weapon drivers can use is their incredible drawing skill. By drawing shapes in the track, 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 out of track and therefore reducing the sleep quality of other kids.

Shape matching

As previously explained, a more advanced way of influencing the dream is to design specific shapes that certain children like or dislike. This is where shape matching comes into play.

Here is how we plan to handle this: we will create a small database of simple silhouettes of different shapes (square, cake, baseball bat, and maybe some more difficult ones like a dinosaur). During the game, we randomly assign two of those shapes to each child, one representing his "secret wish" and the other his "worst nightmare", and we change them at regular intervals. To notice that the the "secret wish" and the "worst nightmare" of each child are always visible to all players somewhere in the GUI, together with their sleep quality bar.

Like in every storyboard worthy of its name, there are many sticky notes along the track, colored with the different colors of the players. While driving over one of them, a car can try to draw the shape of either the "secret wish" or the "worst nightmare" of the child corresponding to the color of the sticky note (both if the child is the one to defend or an enemy's one). We match the resulting shape against the silhouettes in our database and compute a matching score. The sticky note shape act as any other shape (with physical collisions, ...), and in addition it has a constant influence on the sleep quality of the child associated to the note's color: as long it stays in the screen, it keeps modifying the sleep quality of that child. Of course, if the shape represents his "secret wish" the sleep quality will increase, whereas if it models his "worst

nightmare" it will reduce the sleep quality. The higher the matching score is, the more influence the shape has on the sleep quality bars.

This game dynamics leads to different scenarios which will clearly add some fun to the game: for example, if player RED notices that his or her child has a very low sleep quality, he or she will try to reach a red sticky note in the track and draw the child's "secret wish" over it (let's say, an ice cream). He or she will then try to make sure that the rigid body ice cream shape stays in the camera field of view as long as possible, in order to let the child dream an ice cream for a long time and thus increase the sleep quality. On the other hand, player BLUE (RED's biggest childhood's enemy) may have something to argue with that, and will surely try to push the ice cream out of the view port.

Even though drawing on sticky notes (which clearly requires some time and to slow down a bit) may seem inadequate for a racing game like ours where players have to continuously follow the movement of the camera, we truly believe that this will add a lot of fun to TDDMWAC. Since the camera moves with random velocities, we will make sure to include moments where the camera's velocity is close to zero to let players go wild with the sticky notes battle (a bit of attention never hurts anyway: the camera may speed up at any moment... :).

The often-forgotten-thing

Did we ever mention that the Drunk Dream Maker With A Cold, has actually got a cold? In addition to random drunken movements of the camera, we will make the gaming experience much more exciting by bombarding players with powerful sneezes and related camera shaking!

Sketches

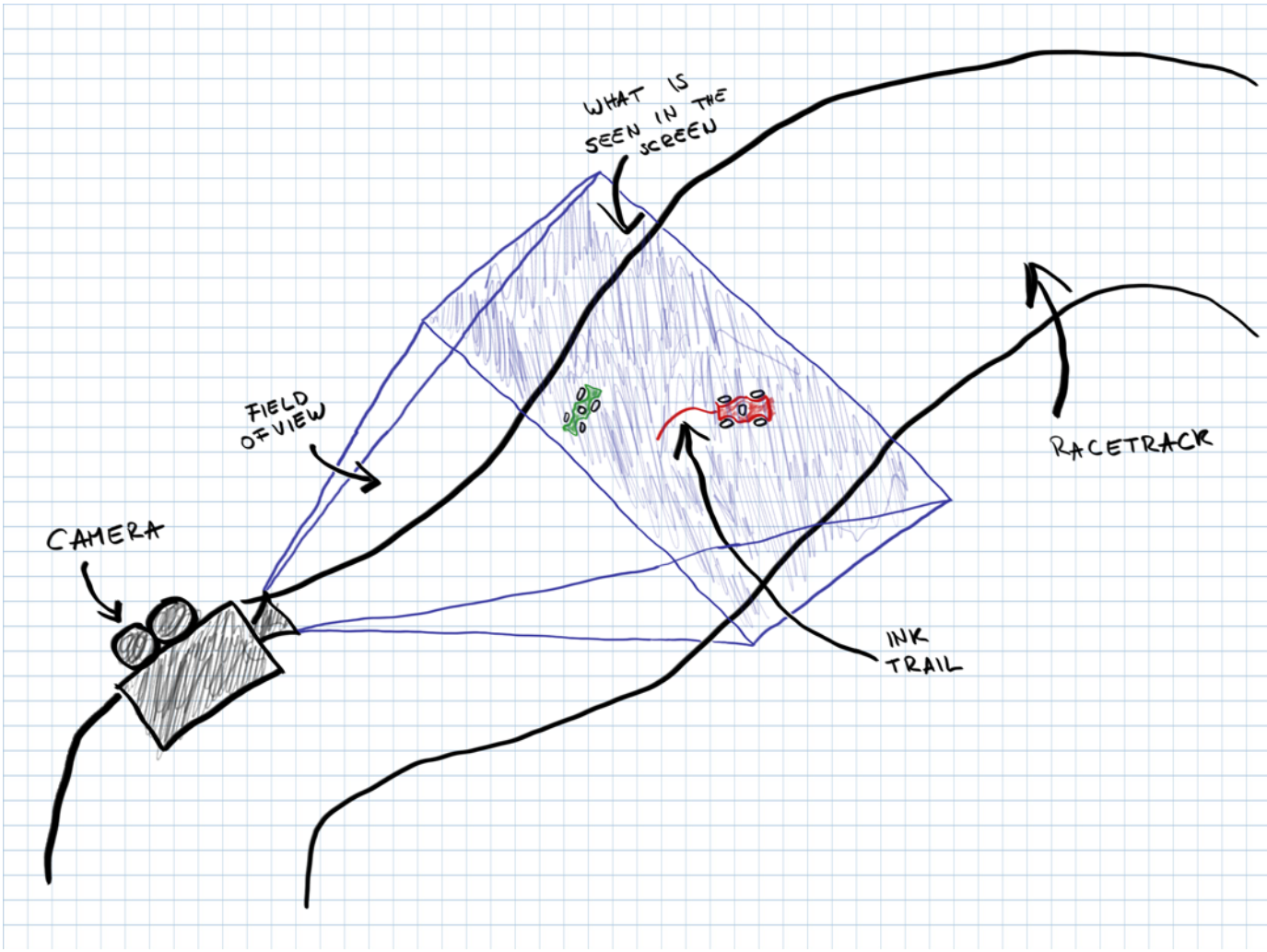


Figure 1. Part of the track and camera field of view. The camera moves along the track, and the visible part represents the current state of the dream.

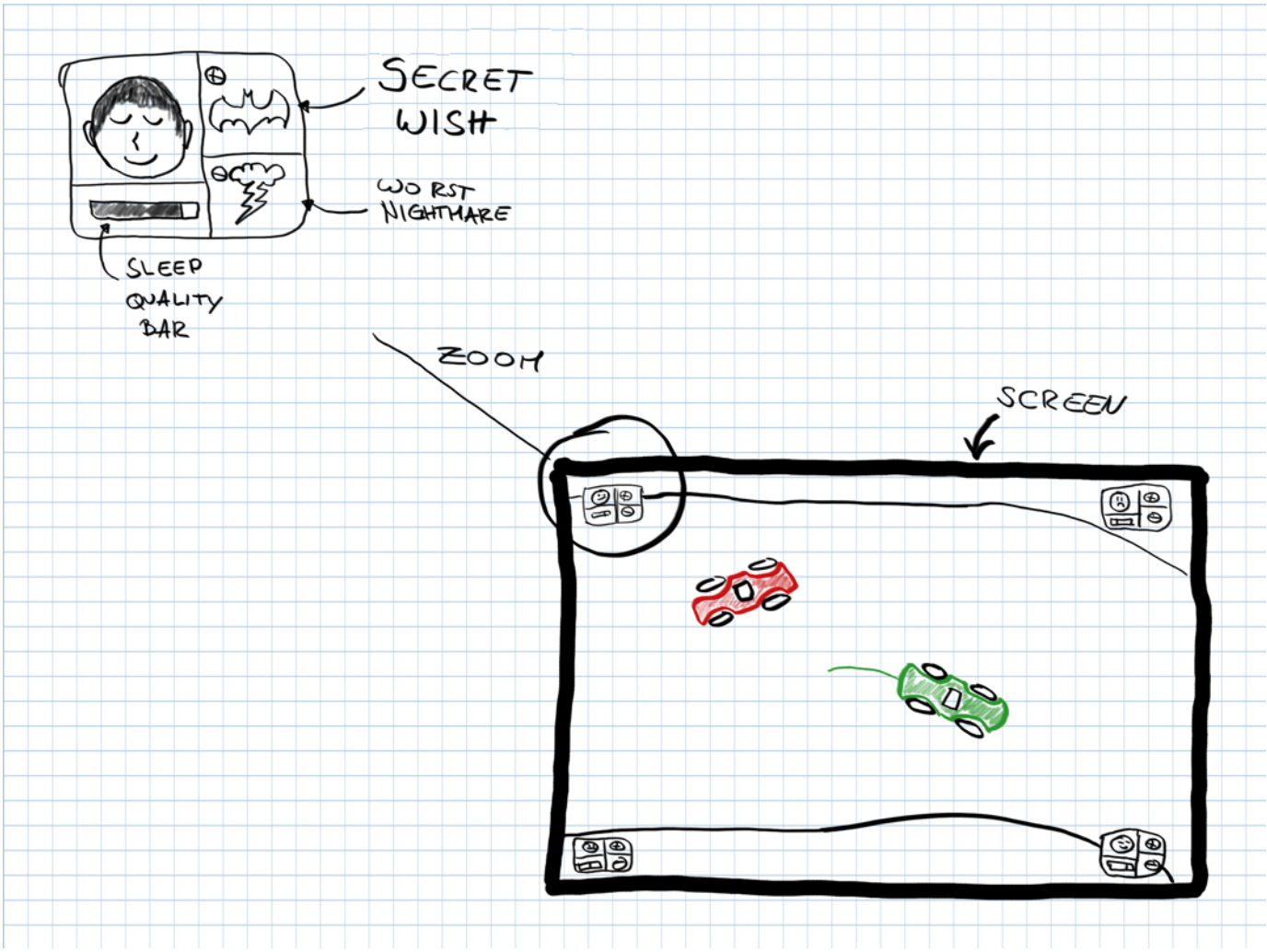


Figure 2. GUI elements: for each child, the sleep quality bar, the secret wish and the worst nightmare are shown.

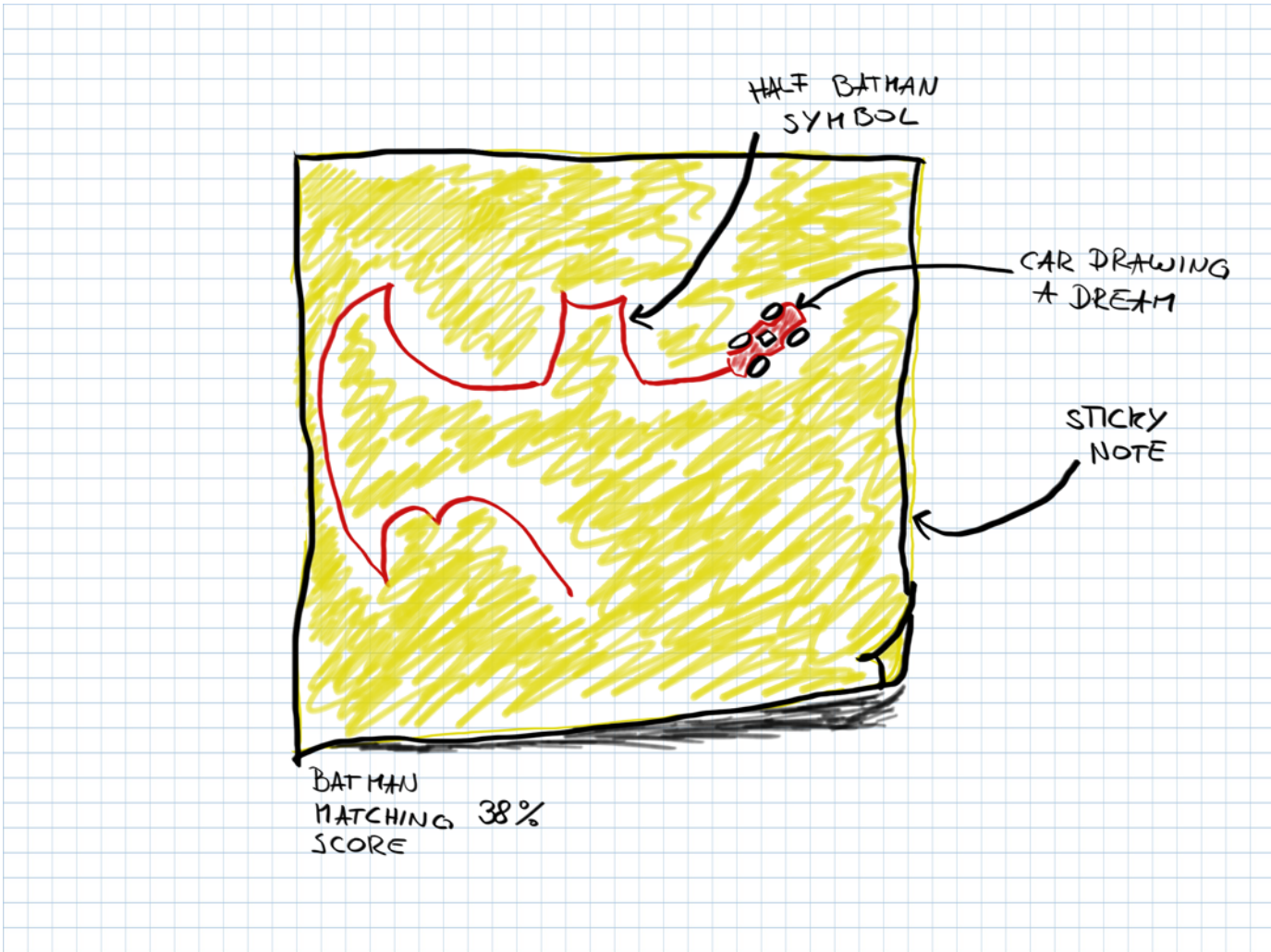


Figure 3. A car is attempting to draw the batman symbol on a sticky note.

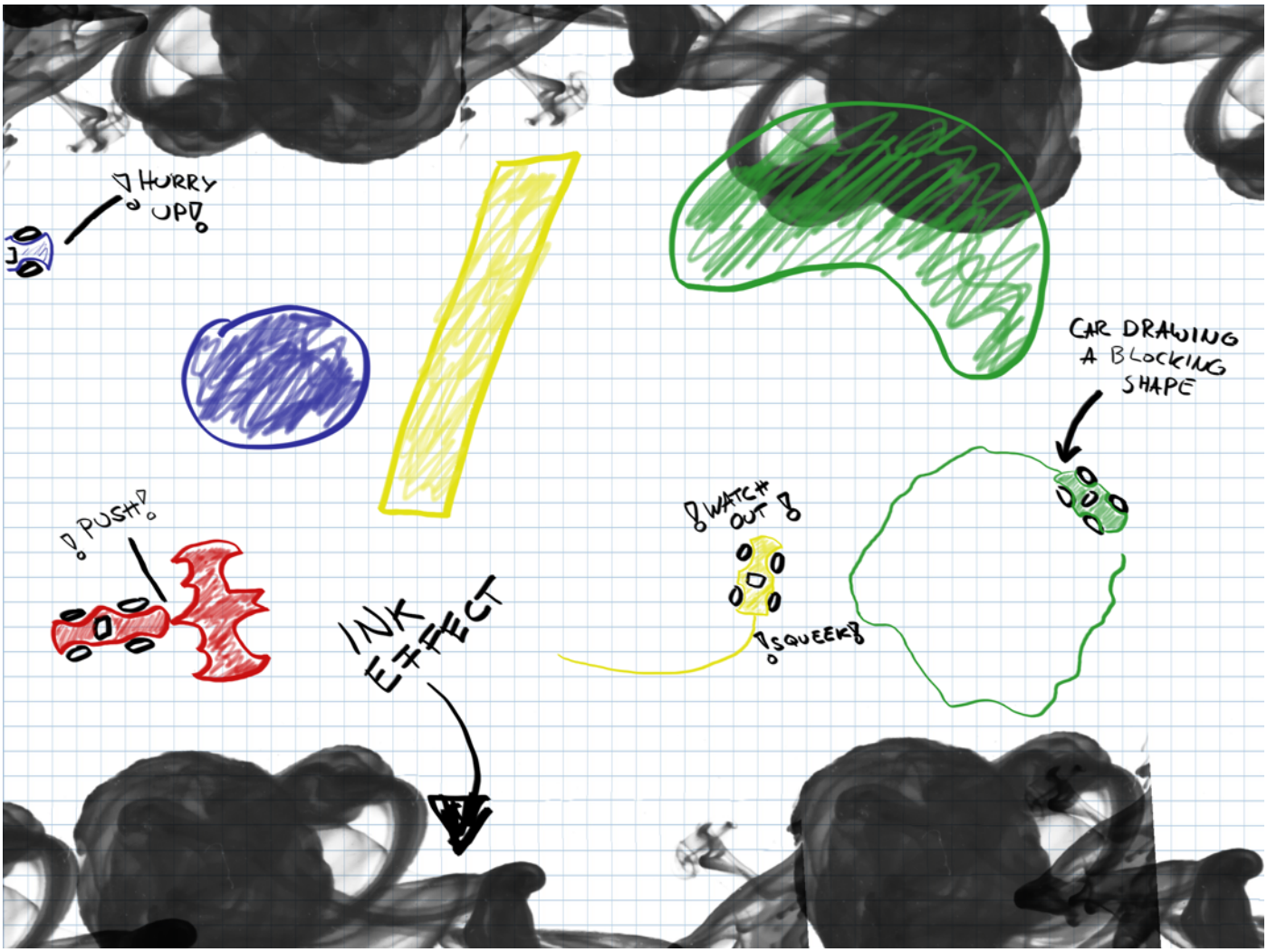
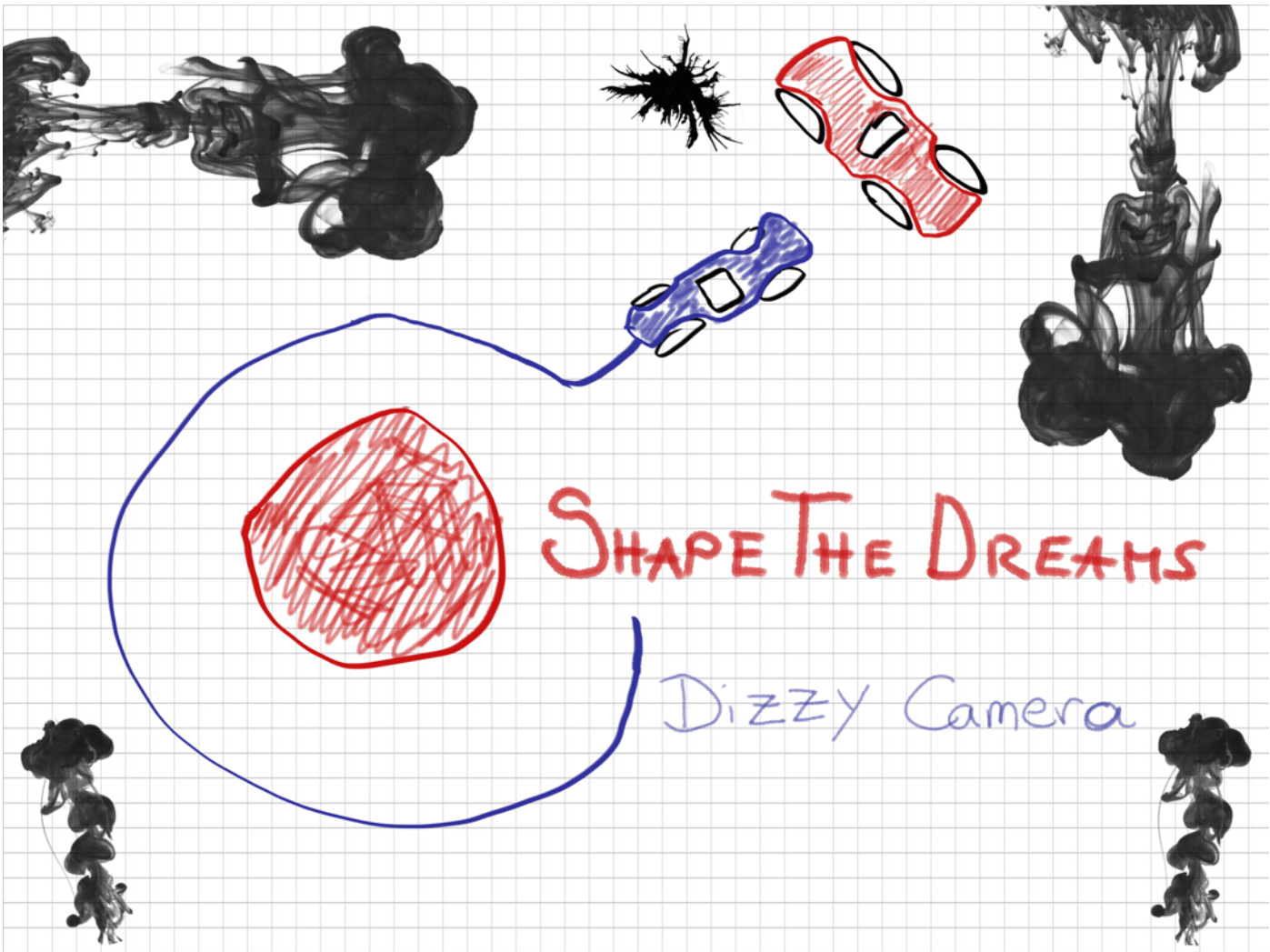


Figure 4. Typical game situation: one car has to hurry up to stay in the camera field of view, another one is proudly pushing a batman shape, a third one is drawing a ball in front of an opponent to block.

“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	Shape drawing system	Emanuele	
12	User input handling	Emanuele	
13	Camera system	Riccardo	
14	Image resources and scene	All	
15	Basic models and resources	All	
16	Basic silhouette matcher	Vittorio	
17	Single, fixed race track	Riccardo	
18	Basic collision detection	Vittorio	

Low target

Task ID	Description	Assigned To	Hrs
19	Race track computed online	Riccardo	
20	Random camera movements	Riccardo	
21	Background music	All	
22	Medium silhouette matcher	Vittorio	
23	Object dynamics and kinematics	Vittorio	
24	Image resources	All	

Desirable target

Task ID	Description	Assigned To	Hrs
25	Basic procedural drawing with L-Systems around the track	Riccardo	
26	Game menu	Emanuele	
27	Advanced silhouette matcher	Vittorio, Riccardo	
28	Multiple background music	All	
29	Pencil drawing effects	Emanuele	
30	Basic particle effects	Emanuele	

High target

Task ID	Description	Assigned To	Hrs
31	Deformable objects	Riccardo, Vittorio	
32	Smart silhouette texture	Vittorio, Emanuele	
33	Silhouette recognition	Vittorio, Riccardo	
34	Advanced particle effects	Emanuele	
35	Introduction of mucus as an obstacle	All	
36	Advanced procedural drawing	Riccardo	

Extra

Task ID	Description
37	Define custom dream shapes
38	Replay race feature
39	Statistics
40	User interaction to generate sounds
41	Bring the game to 3D
42	Design 3D textures to apply to user's 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

Week	Add to notebook	Tasks
8		Functional minimum
9		8 Low target
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 drawing system. Drawing 2D shapes as the only way to interact with the opponents is what really sets our game apart from the other racing-like games. Although the physics involved will be relatively simple (rigid bodies collisions), having many user generated shapes on the screen will bring a fun experience to the users.

Drawing shapes is easy to learn and difficult to master, therefore the game will be exciting for both novice and experienced players.

We are aware that drawing complex shapes with an Xbox controller may be quite difficult, especially for beginners. We really didn't want to give up with this shape-matching idea, therefore we thought of many solutions to make this part easier, such as displaying on the sticky note a ghost shape to follow, or activate some sort of semi-guided driving. For this reason our plan is to test the drawing gameplay as soon as possible to decide whether to adopt and focus on such strategies or not.

Another constant element of fun is surely the shaking, random and dizzy behavior of the camera, which represents the field of view of the drunken dream maker. Arbitrary sneezes will make sure to remind the players that the dream maker has got a cold!

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 word.