Formal Game Proposal
"Trunk Enlargement"

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About this document

This is the Formal Game Proposal that makes up the first chapter of our Project Notebook. This proposal should give a basic idea of the game, its setting, the development team and on how we think one should measure the success of the game.

1 Game description

"Trunk Enlargement" is meant to be a party game. We wanted to design something that makes people laugh and is fun to play and watch. Understanding the game should be extremely easy, while mastering it should be slightly more complicated.

Consistent with the overall theme "large vs. small" we thought about a game where you start with something small and try to make it large.

1.1 Setting

The overall theme of the game involves four elephants. Each elephant has a trunk. Initially both the elephants and their trunks are tiny. But right in-front of them are lots of peanuts and - if they are lucky - even sugar blocks that the elephants love to eat. The more the elephants eat their favorite food the bigger they grow and the bigger their trunk gets. The first elephant with a fully grown up trunk wins the game.

1.2 Basic Gameplay

The four elephants are located in each corner of the screen. To make watching the game more fun, the screen always shows all the elephants in a bird's eye view. At most four players may participate a game at once, each of which controls the trunk of the respective elephant. Players can move the tip of the trunk where ever they want. The remaining trunk will follow unless it's not over extended. Naturally a player tries to move its trunk towards food. Obstacles like walls and trees might be on the desired path requiring a longer trunk to get past.
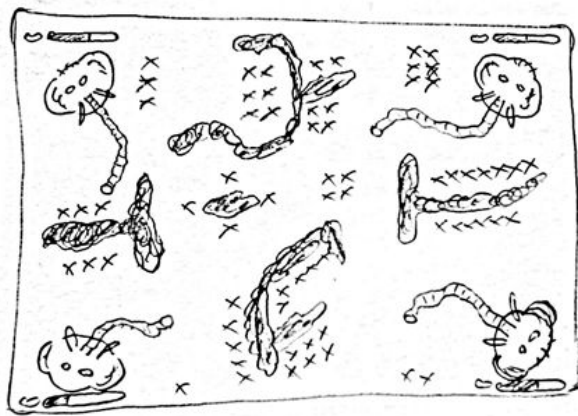

Figure 1: A sketch of a game-screen with the four elephants

The players may choose to collect as much nuts as possible, but rather than just eating, interacting with the other players is a better strategy, as you can seriously disturb the other elephants, play mini-games to get more peanuts or even steal peanuts from other elephants.

From time to time special events occur to make the game more fun and people laugh. For example a person selling ice-cream may appear on the map. A participant may buy ice cream in exchange of peanuts if he likes to. There will be four flavors namely vanilla, strawberry, banana and chocolate. The elephant trunk will then colorized according to the ice cream, but other than that, there's no benefit.

1.3 Advanced Gameplay and Tactics

Stealing peanuts

An elephant can move his trunk to another elephants head and steal his peanuts that are stored in a small bag. It can steal the peanuts with different speed as it normally collects peanuts, so that stealing is attractive but not too attractive. This offers a very interesting tactical element as the other player now has to react, for example by stealing his peanuts back, throwing a stone, or moving the cheese on the map (see below).

Throwing stones on other elephants

There is a certain amount of little stones distributed on the map which an elephant can pick up and throw against another elephants head. If an elephant is hit from a stone he gets dizzy and starts to stagger. The player then has to correct the dizzy movements with the joystick of his game pad. If the player cannot successfully correct this staggering the elephant who has thrown the stone gets some peanuts from him.

Shooting peanuts at other trunks

The peanuts can also be used to be shot at other elephants trunks which will then be disturbed and driven away to the direction of the shooting vector. The player also looses control over his trunk for a bit less than a second.

The mouse

At all times there will be a little mouse on the map. It's well known that nothing scares an elephant more than a mouse. This mouse is constantly traversing an area defined by four pieces of cheese. A small area around the mouse is highlighted and if the trunk tip of any elephant enters this area he will be scared which causes his trunk to return to the body and it'll be unable to move for a few seconds.

The cheese pieces may be relocated by the elephants. If a players throws the cheese pieces to another player the mouse will go immediately there and then continue on it's route.

Mini game: elephant in the china-shop

What do elephants to in a china-shop? Right, they destroy the china! A player can activate this mini game by shooting a stone on a small elephant made out of chine located near the middle of the map. Achieving this will be rewarded with an extra bag of sugar (worth a certain amount peanuts) if he wins. When the mini game is activated, all the space on the map will be filled with precious china. Within a limited amount of time, the elephants should destroy the china with their trunk. The elephant that destroys the most wins and gets a bag of sugar.
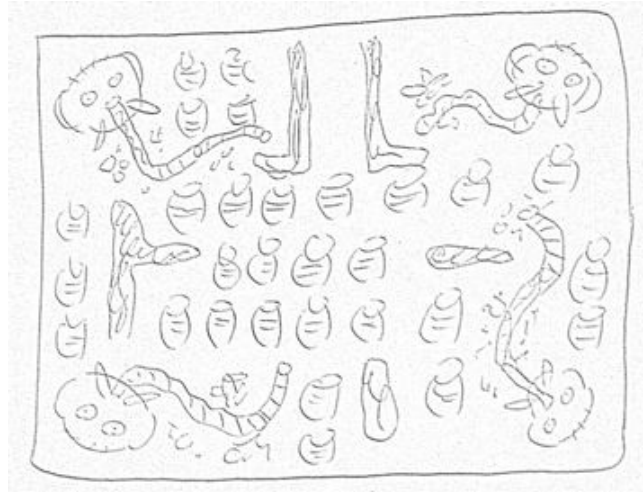
1.4 Special events and added fun

Glacé-man

From time to time a person selling ice-cream can appear on the screen. If a players wants he can buy one - either vanilla, strawberry or chocolate. The elephant trunk will then become the color of the ice-cream.

Toeroe

Of course our elephants can also make noise. If the player pushes a button on his gamepad the elephant will make a nice and loud "toeroe".

Taking a bath

Elephants love bathing their big, stinky and dirty skin in nice and clean water. From time to time it rains cats and dogs on our map and the elephants can't resist following their instincts and throwing themselves in the mud. This will take 4 - 6 seconds and the players can't do nothing else but wait.

Elephant identity

The player can choose an identity for his elephant before the game begins. In the simplest form, each player selects a color which is then drawn at the tip of his trunk. In an advanced form, the player chooses an identity for his elephant (for example, clown, ninja, zombie, business) which changes the appearance of his elephant slightly.

1.5 Trunk movement

The trunk should react quickly to the player's commands. It's not necessary that the trunk behaves exactly like the one of real elephants , but neither like a "snake" (as in the classic video game).
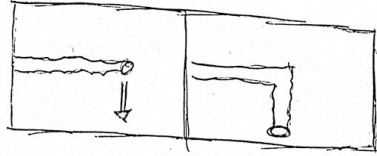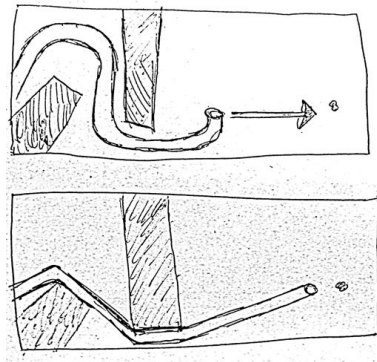

Not what we want
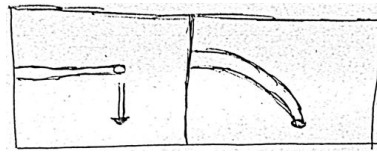
What we want

When the trunk is fully extended, it should cling to obstacles.

To not complicate the game, trunks can cross each other. As many tactical options can only be used when the trunk is large, it should grow fast in the beginning and reach the full length at half of the food aim.

2 Game control

In general the players control the end of the trunk of their elephant. Each player is also able to pause, resume and quit the game

2.1 Trunk Movement

As this is central to the game, it should be really easy to control the trunk. The players can just move the joypad in a direction and the trunk follows as long as it is not over-stretched. To go back to a point where you have been, you have to contract the trunk. We discussed the topic and want to try the following ideas and see which one is best:

- Use a dedicated button to contract the trunk
- Detect when the player wants to move the trunk in the originating direction, then contract the trunk

In any case, the player should not have to think a lot about the movement, the trunk should just do the right thing.

2.2 Aiming

When the the player wants to pick up something and throw or shoot it he pushes and holds a button on the gamepad. An aiming crosshair appears and the joypad now controls the crosshair. When the button is released, the piece is launched to its destination.

3 "Big Idea" Bullseye
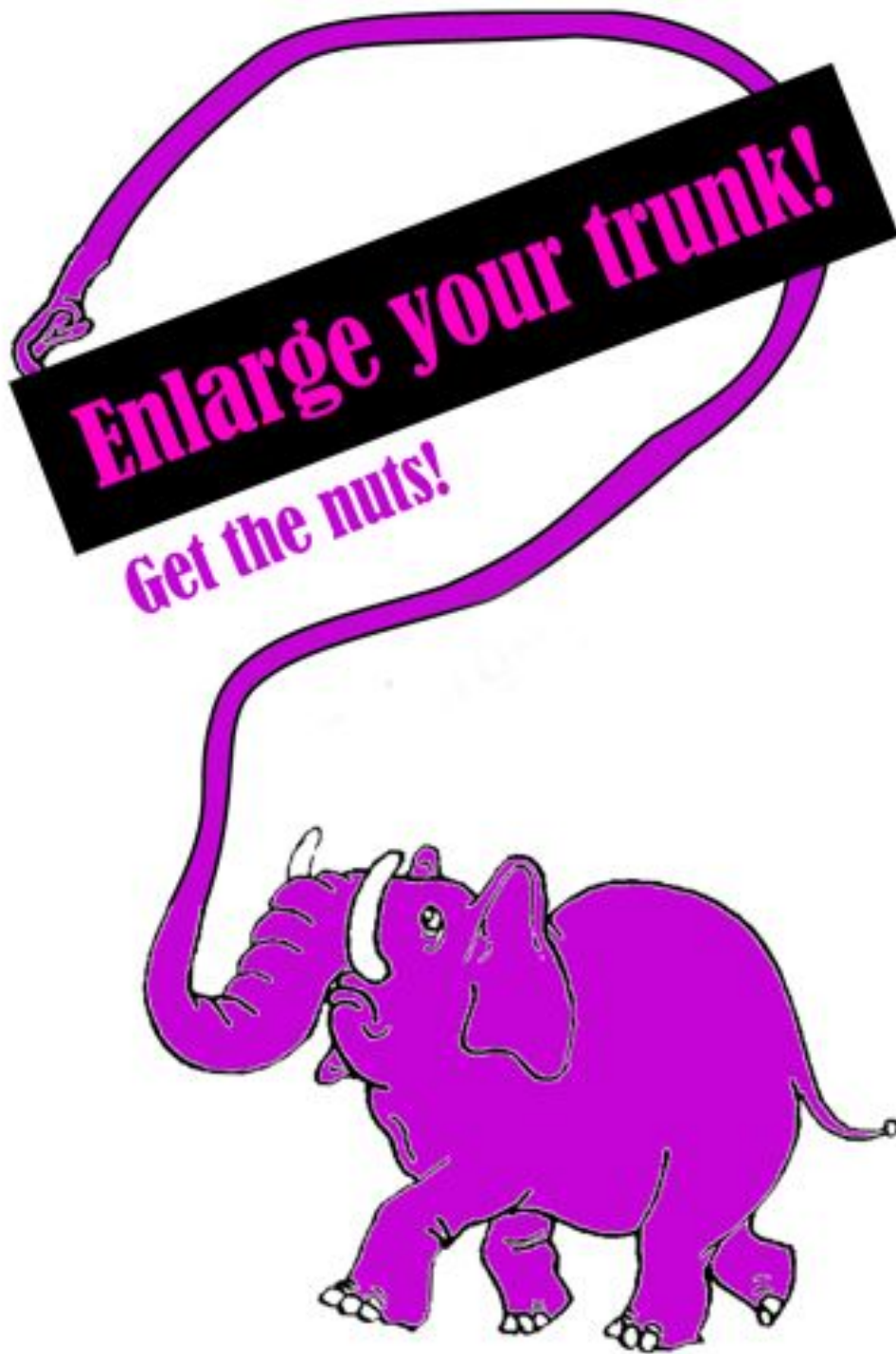
4 The Team

Thorben Bochenek (TB)   1st Master
Courses Taken: Computer Graphics, Visual Computing, Surface Representations and Geometric Modeling, Scientific Visualization
Other: Internship at Ergon and Disney

Lukas Humbel (LH)   1st Master
Courses Taken: nothing relevant
Other: Internship

Alain Illi (AI)   1st Master
Courses taken: Computer Vision (USA), Artificial Intelligence (USA)
Other: Internship

Manuel Sprenger (MS)   1st Master
Courses Taken: Visual Computing, Scientific Visualization, Geometric Computer Vision
Other: Internship

5 Development Schedule

5.1 Functional Minimum

1. Game-screen, Fixed camera, but 3D
2. Just one map, no obstacles, but peanuts
3. Elephant in each corner, human controlled
4. Basic trunk movement
5. Eating peanuts
6. Status bar
7. Minimal game logic
8. Basic models (not animated)
9. Basic sound and music

5.2 Low Target

1. Welcome-screen
2. Configure-screen
3. Small stones and walls on map
4. The mouse
5. Improve trunk movement
6. Growing of trunk
7. Stealing peanuts

5.3 Desirable Target

1. Much better models
2. Throwing stones on other elephants
3. Shooting stones on other trunks
4. Basic AI
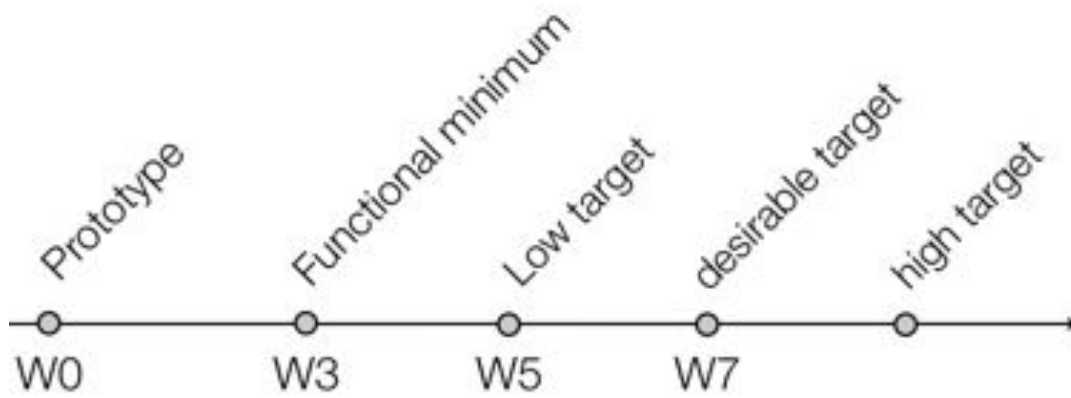
5.4 High Target

1. Balancing of eating vs. stealing vs. the mouse
2. Minigame: elephant in the china-shop
3. Special events: glace-man
4. Three different levels with adv. design (all symmetric)
5. Toeroe
6. Basic elephant identity

5.5 Extras

1. Taking a bath
2. Remove everything copyrighted to sell the game
3. Advanced elephant identity

5.6 Timeline overview

5.7 Workload

Functional Minimum

func1	TB, LH, AI, MS	2d
func2	LH, AI	1d
func3	TB, MS	1d
func4	LH	2d
func5	MS	1d
func6	TB	1d
func7	AI	1d
func8	AI, MS	1d
func9	TB, LH	1d

Low Target

low1	TB, MS	1d
low2	TB, MS	1d
low3	MS, AI	1d
low4	MS, TB	2d
low5	LH	1d
low6	AI	2d
low7	MS, TB	1d

Desireable Target

desi1	TB, MS	3d
desi2	LH, AI	1.5d
desi3	TB, MS	1.5d
desi4	AI, LH	3d

High Target

| high1	TB, LH, AI, MS	2d
high2	TB, AI	2d
high3	LH, MS	2d
high4	TB, LH, AI, MS	2d
high5	TB	0.5d

6 Assessment

As mentioned earlier, "Trunk Enlargement" is meant to be a party game. As such, we aim a target group for players who want to play the game for 5 - 30 minutes. Players should be able to understand the game in this time and have fun.

Quite untypical for most games, we want it also to be fun to watch the game. Because of this the game should have enough funny surprises to keep a crowd of people entertained for at least 20 minutes.
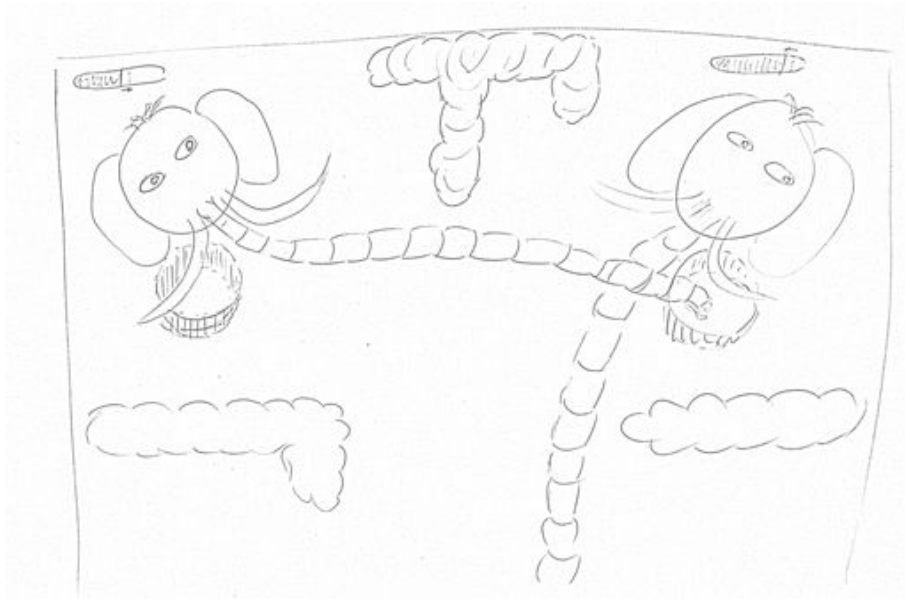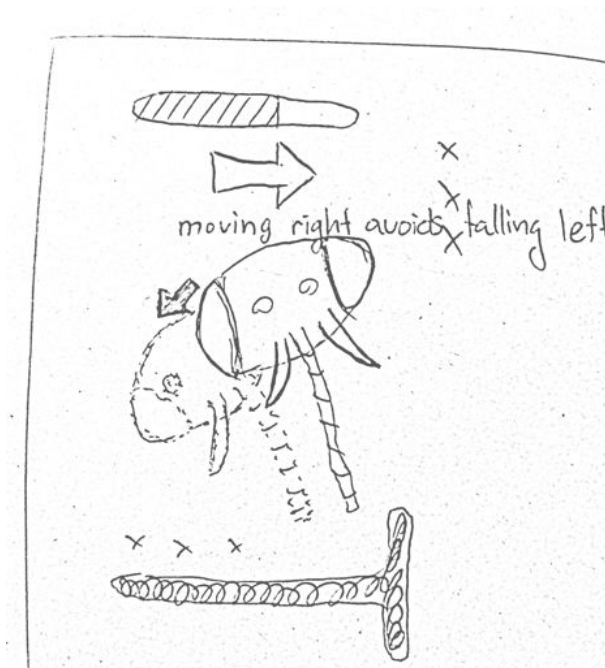
7   Sketches
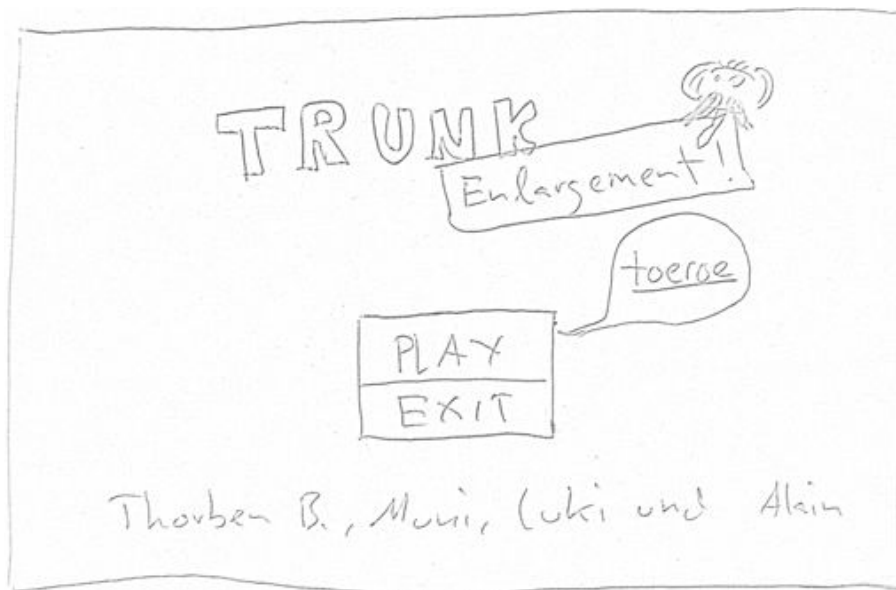
The opening screen
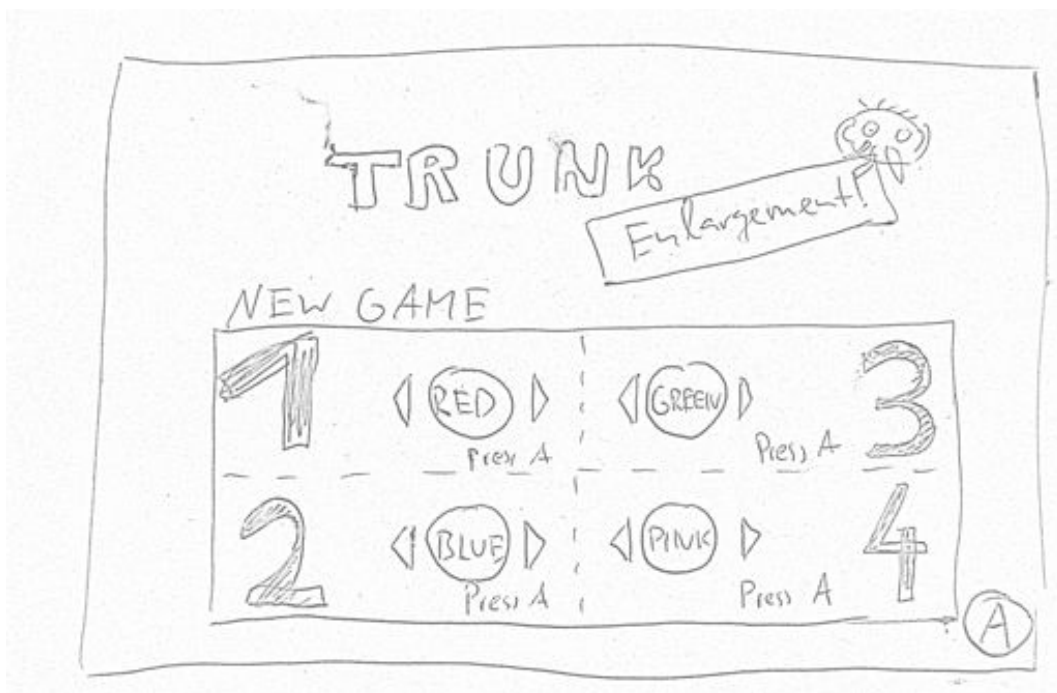
Configure screen

One player steals the other players nuts.

After a stone has hit the elephants head, he starts to stagger.