Formal Game Proposal
"Trunk Enlargement"

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Contents

1 Introduction

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

2 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 a bit 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.

2.1 Setting

The overall theme of the game involves four elephants. These elephants - of course - have trunks. First, they are small elephants with small trunks. But right in-front of them are a lot of peanuts and maybe even sugar than these elephants love to eat. The more the elephants eat their favorite food the bigger the grow and the bigger their trunk gets. The elephant that is the first to be fully grown, wins the game.

2.2 Basic Gameplay

On the game-screen the four elephants are located in each corner. To make the game more fun to watch, the screen always shows all the elephants in a bird's eye view. Each of the maximum four players controls the trunk of an elephant. They can move the end of the trunk where they want and the rest will follow, as long as that wouldn't mean to "stretch" the trunk. Also certain things - like walls or stones - on the screen could block their way and they would need a longer trunk to go around these.

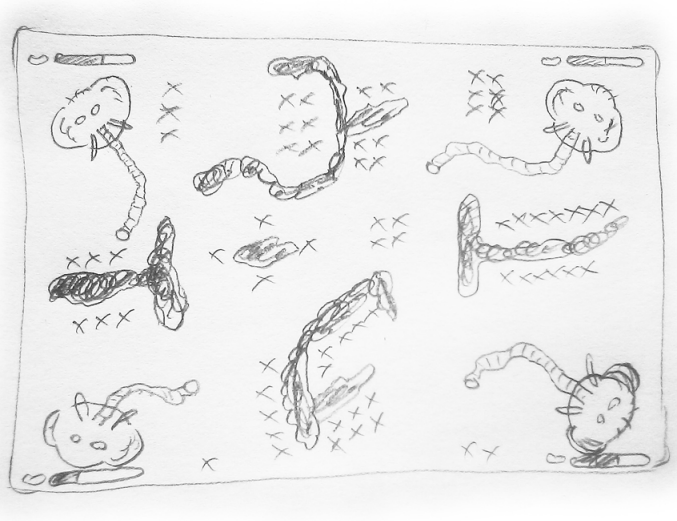


Figure 1: A sketch of a game-screen with the four elephants

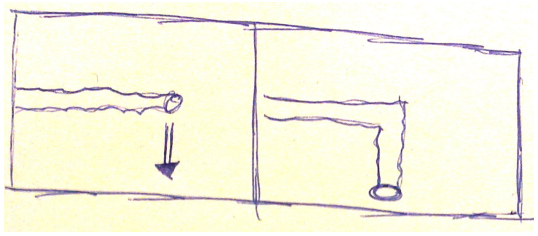
The players should try to eat as much nuts as possible. But they can also try to disturb the other players by throwing stones at them or shooting peanuts at them to move their trunk in another direction, make the elephants dizzy for a moment or even cut their trunk.

From time to time special events occur to make the game more fun and people laugh. For example a mouse can appear and - as we all know - elephants frighten nothing more than mouse.

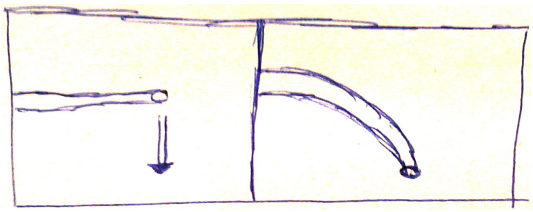
If the mouse comes to close to the end of one elephants trunk the elephant will be scared and cannot play for a few seconds.

2.2.1 Trunk movement

The trunk should react quickly to the players commands. It is not necessary that the trunk behaves exactly like the one of real elephants, but it should also not behave like a "snake" (as in the classic video game).



Not what we want



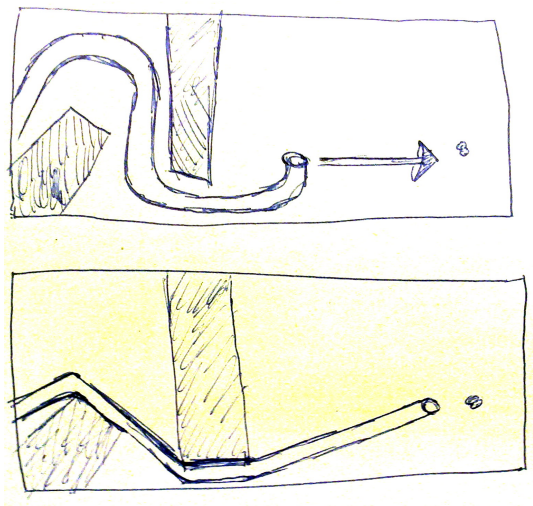
What we want

It should be easy to control the trunk, we have different ideas how we can achieve this:

- We use a dedicated button to contract the trunk
- We detect when the player wants to move the trunk in the originating direction, then we contract the trunk

In any case, the player should not think much about the movement, the trunk should just do the right thing.

Also when the trunk is stretched to his length limit, it should cling to obstacles.



2.2.2 Distracting other elephants

To make the game richer in variety a player can decide wheter he just wants to collect peanuts, or to distract other elephants.

Hit another elephant at his head A player can target with the trunk of his elephant at another elephant's head and shoot some peanuts to this elephant. If the peanuts hit an elephant at his head, the hitten elephant get distracted and cannot move his trunk for some time.

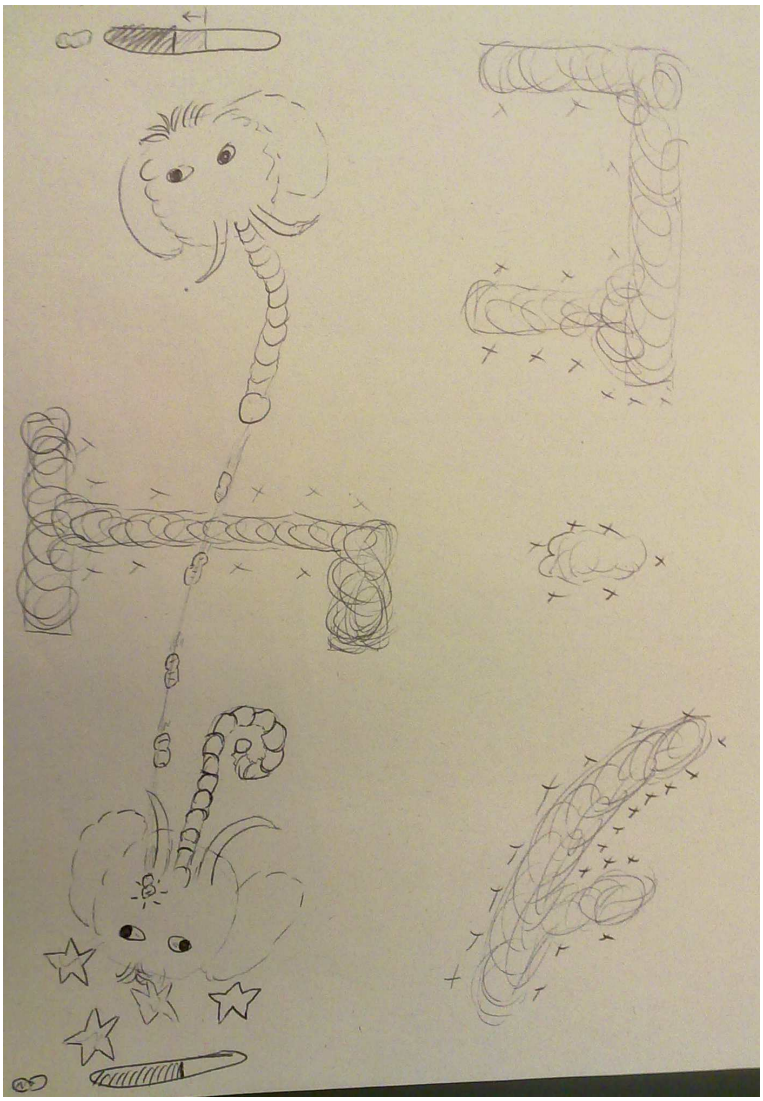


Figure 2: A sketch of the scene when an elephant shoots peanuts at another elephant's head

Hit another elephant's trunk A player has the possibillity to shoot peanuts at another elephant's trunk. If the trunk is hit at the end the end moves into another direction. If the trunk is hit somewhere in the middle the whole trunk shakes and so the end of the trunk can be at another place.

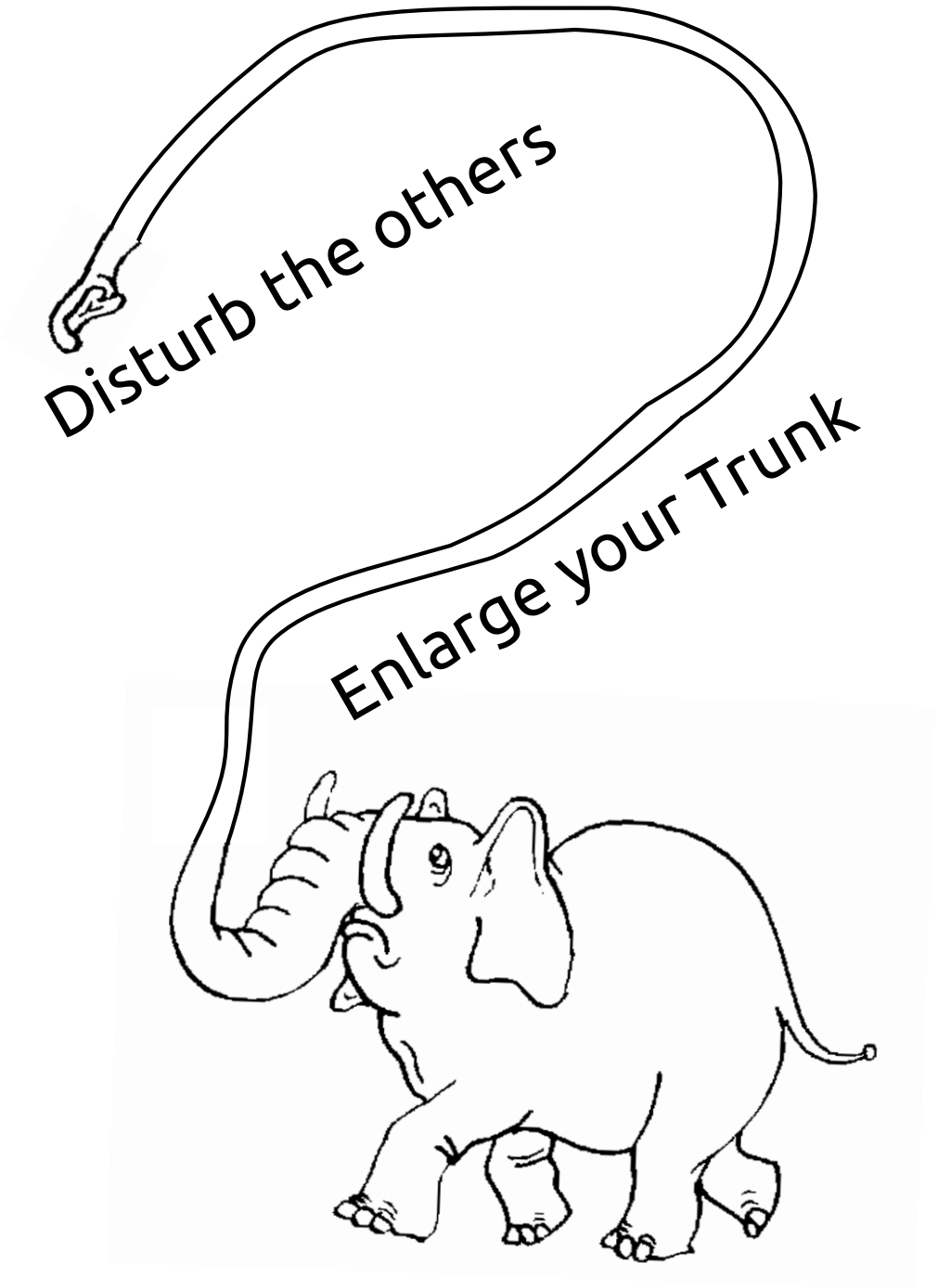
Throw a stone on another elephant's trunk A player can take a stone with the trunk of his elephant and throw it onto another elephans's trunk. An elephant who has a stone on his trunk cannot eat peanuts anymore. So he has to move back the end of his trunk to the stone to release his trunk.

Figure 3: A sketch of the scene when an elephant throws a stone onto another's trunk

2.2.3 Special events

Mouse The mouse appears on the screen and moves from one end to the other. around it is a small red circle. If the end of an elephant is inside this red circle the elephant will be scared. He stands up and winds this trunk like the cord of a telephone. After three seconds he is back to normal, but the player has to position the trunk from the starting point again.

3 "Big Idea" Bullseye



4 Development Schedule

4.1 Functional Minimum

4.1.1 Targets

1. Game-screen, Fixed camera, but 3D
2. Just one map, no obstacles
3. Elephant in each corner, human controlled
4. Basic trunk movement
5. Eating peanuts
6. Basic, non-animated models
7. Developed for Windows
8. Status bar at each elephant how much he has eaten
9. Minimal game logic: When one player has eaten enough, he wins and the game is finished.

4.1.2 Who does what?

- Everyone: Get into XNA. Setup basic class hierarchy.
- Thorben: Software Engineering: Manage everything, glue the parts together, become XNA expert.
- Manuel: Setup 3D Display
- Alain: Basic Models (Elephant, Peanuts, Trunk)
- Lukas: Trunk movement

4.1.3 Time requirements

2 Weeks

4.2 Low Target

4.2.1 Targets

10. Welcome-screen
11. Configure-screen
12. Obstacles (walls, stones, ...)
13. Basic AI
14. Basic Soundeffects and background music
15. Port and Test on XBox

4.2.2 Who does what?

- Everyone: Think about more additions (obstacles, special events) which may be fun.
- Someone: 2D artwork (for title/configure screen)
- Thorben: Port and Test on XBox
- Lukas:
- Manuel:
- Alain: Basic AI

4.3 Desirable Target

4.3.1 Targets

- Better models (moving ears, ...)
- Growing of trunk by eating peanuts
- Shooting of small stones
- Shooting of peanuts
- Cutting of other trunks
- Improve trunk movement (Shooting requires aiming, which needs better control)

4.3.2 Who does what?

- Everyone:
- Thorben:
- Luki:
- Muni:
- Alain:

4.4 High Target

- Try out special events: Mouse
- Balancing of shooting, eating and the rest

4.5 The extras

- Add a variety of maps
- Some nice winning animation
- Remove everything copyrighted to sell the game

4.6 The Team

Thorben Bochenek (TB) 1st Master
Courses Taken: Computer Graphics, Visual Computing, Surface Representations and Geometric Modelling, 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

4.7 Who does what?

Thorben: Software Engineering, Graphical Modeling, Advanced GUI
Lukas: Software Engineering, Trunk movement, Coffee
Alain: AI, Initial Design
Manuel: Graphical Modeling, Advanced Design

4.8 Tasks

1. Brainstorming
2. Map design
3. Character Design
4. Model development
5. Game Logic
6. Agent Logic (AI)
7. Introduction to XNA
8. Software Engineering
9. Audio Design
10. Project Management
11. Testing Debugging
12. Human Interface Interaction

4.9 Timeline

Task	Description	Who	Hrs	Actual
1	Brainstorm overall Design	All	2	-
2	Graphical modeling	MS	10	-
3	Graphical modeling	TB	10	-
4	Model development	AI	20	-
5	Game content	AI, MS	30	-
6	Intelligent agents design	AI	15	-
7	Getting started with XNA	All	5	-
8	Class diagrams, etc.	TB, LH	15	-
9	Sounds	TB	12	-
10	Overlook development process	TB	10	-
11	Testing, etc.	All	60	-
12	Game control	LH	10	-

5 Assessment

Like we said, "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 30 minutes.