

Game Programmming Lab

Conclusion Chapter

Pharaoh's Tomb

Melanie Imhof
Stefan Geiger
Thomas Brunner



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1 Final Results - The Game

1.1 Changes since the Alpha Release

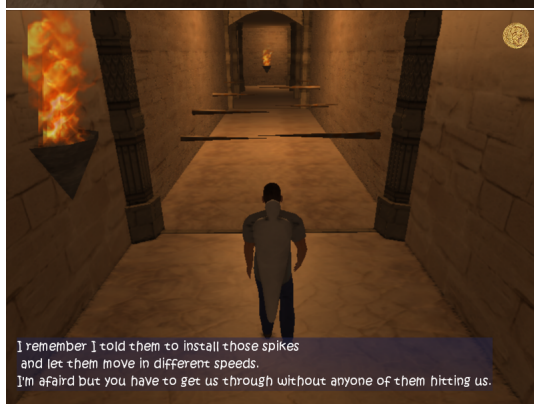
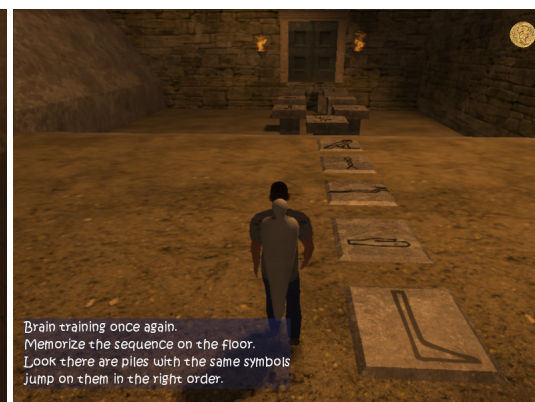
We changed some small details based on the feedback we got from the playtesting session. For example the help texts are shown longer, or we occasionally show a message that the hints can be used if the player makes no progress for a while. To improve the atmosphere we added particle systems to simulate torques at the walls and to represent the pouring water at the water wheel. Our plan was to have a stable game at the playtesting session, which we apparently achieved since no major problems appeared during the testing. This also explains why there were no big changes since the alpha release.

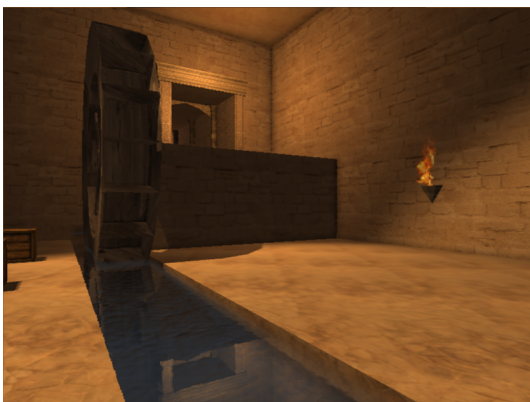
1.2 The Game

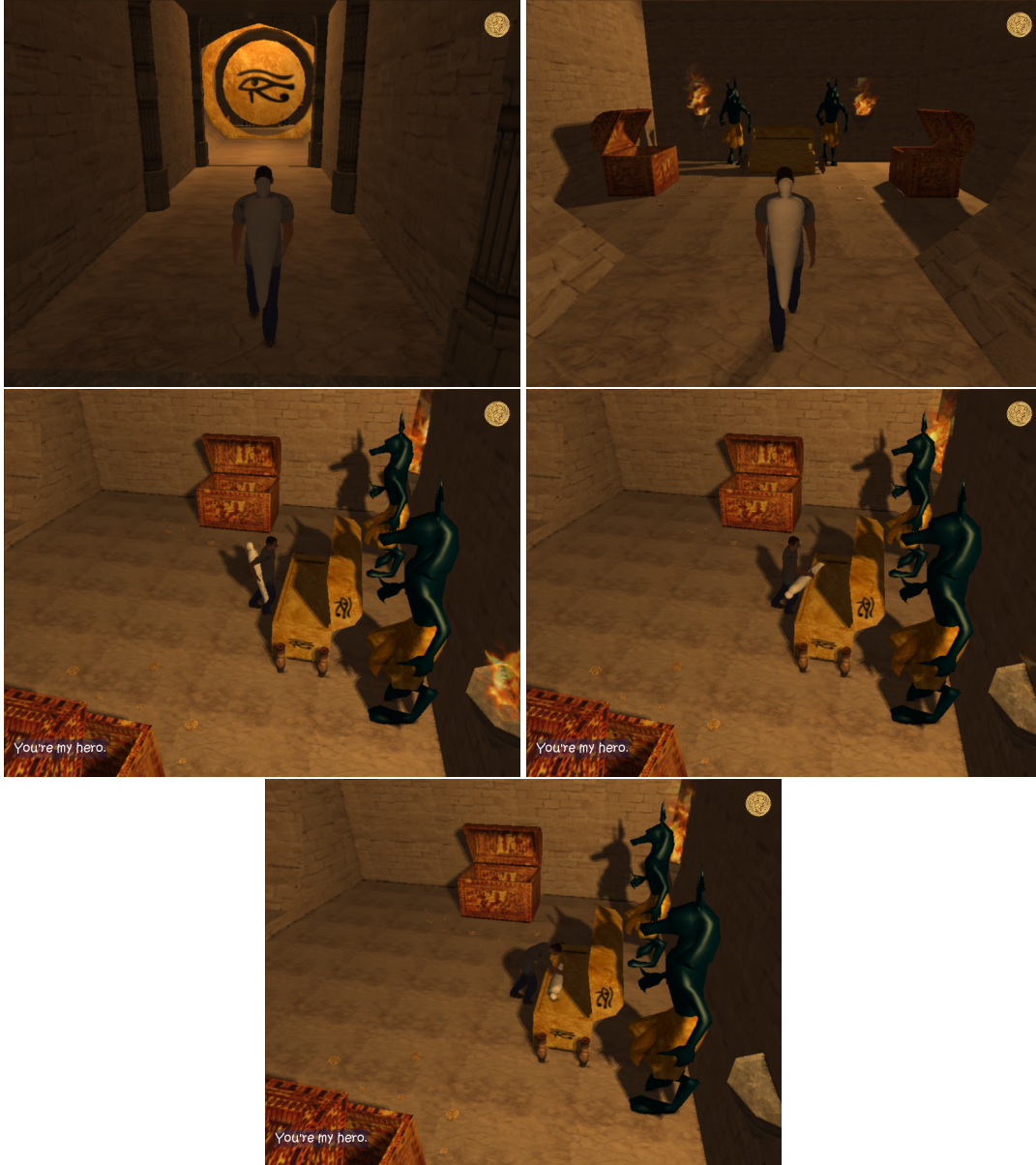
To give an impression of our final result, please enjoy the following in-game screenshots.

1.2.1 Screenshots









2 Debriefing Questions

What was the biggest technical difficulty during the project?

Since the fun of the game and the duration to play strongly depends on the size of the world and the amount of content, we knew from the beginning on that we need a very good artwork pipeline as well as that we need to keep the performance under control.

We managed it by having the I3D-Loader which allowed us to create all the content in a single maya file. Additionally we did some optimizations such as occlusion culling, state sorting, and light-shape culling using light masks which can be used to avoid a light affecting a given object. Furthermore we have added a shader

generation system which generates shaders for different light combinations for up to four lights in one pass. We have also limited the number of lights affecting an object to four, which allowed us to render the final rendering of the scene in only one pass.

What was your impression of working with the theme?

In the beginning we thought that it is very annoying that so many teams had chosen to place their game around a pyramid setting. It seemed like everybody is creating a very similar game.

After a while we realized that the games have a big diversity and we were pretty happy about the theme. It helped us to embed the game in a story, which adds more depth to the game.

The downside was that it was quite hard to find reference photos and since we all have never been to Egypt we had to do a lot just from our imagination.

What would you do differently in your next game project?

We are pretty happy with the way we did the whole project. The work load was more or less evenly distributed and no major problems came up. Therefore the only thing that we would change in a future project is that we would try to find a way not to load string content on the XBOX, because this takes quite a while.

What was your greatest success during the project?

One success is for sure that we did not have any major problems and everything worked more or less as we intended. The other success was that the playtesters really liked the game and they were playing for quite a while to finish the game, which indicates that we had created a lot of content in this short amount of time.

Additionally we are very happy that we have decided to implement the I3D-Loader, which really helped to reduce the time to bring the content into the game.

Are you happy with the final result of your project?

We are very happy with our game. We managed to implement all planned milestones up to the desired level. The game idea turned out to be fun to play and is easily extendable with more puzzles or the features we mentioned in the extra layer such as a multiplayer functionality.

To what extent did you meet your project plan and milestones?

We always met our milestones, sometimes we even had time to implement some upcoming wishes, which we did not plan in the beginning, for example the particle system which gives the game the right atmosphere, but also the waterwheel puzzle, which really shows the nice water, not to forget the screen space ambient occlusion.

What improvements would you suggest for the course organization?

We would have preferred to have some more lectures about the technical details. Also some of the technical lectures should be thought earlier during course, because we already had to solve these issues when they were discussed in the lecture. This way they are a lot less effective.

Did you like the XNA framework?

In general we liked the XNA framework since it is easy to use and gives quite a boost at the beginning.

Eventhough we have to mention that sometimes it too limited. For example the model class can not handle a whole world. Also since it is not possible to get the contents of an active render target, the refraction needs to be done in a separate pass which costs additional performance.

Of course we had to fight with the performance, which is mostly related to the security features of the C# runtime implementation on the XBOX.