

Visual Effects

Specialization Project:

Visual effects for film.

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VISUAL EFFECTS

PROJECT PLAN

Abstract

This document is a project plan, a plan to define the goals and how to reach them in the project titled above.

Public

This is a Public document available to whoever is interested.

Version history

<i>Version</i>	<i>Date</i>	<i>Author</i>	<i>Comments</i>
1.0	02-12-2008	Therese Jansson	First version.
1.1	17-12-2008	Therese Jansson	Extended the list over documents under 5.2.4. Changes made in the time schedule. Changes made in Background under 1.2.
1.2	07-01-2009	Therese Jansson	Corrections in the Milestone Plan under 4.1. Extended the list over documents under 5.2.4.
1.3	04-02-2009	Therese Jansson	Added 4.2.1. Added 4.3. Added 4.3.1.

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1 BASIC INFORMATION

1.1 PURPOSE

The purpose of this project is to learn more about visual effects and gain a deeper knowledge in particles and fluid effects.

1.2 BACKGROUND

I've always been interested in effects that are hard to achieve without computer graphics and when we had to decide what we wanted to work with in our Specialization Project I decided to work more with particles and visual effects. When it comes to the subject of visual effects and particle effects, we have so far learned the basics in how to create particle effects and use them in filmed material with compositing. I want to learn more about particle effects and when I looked around I saw that fluid effects are getting more and more common in movies. I haven't worked with fluid effects before and felt that it would be a challenge for me to learn about something new.

To present what I will learn from this project I will create a short film with fluid and particle effects in shape of a tornado that collides with our little city Skellefteå. A natural disaster that will put my knowledge in visual effects and compositing up to test.

2 GOALS

2.1 PROJECT GOALS

The goal is to deliver a short film, about 10-20 seconds long.

The film includes following:

- Filmed background material
- Fluid effects
- Particle effects
- 3D replacements

2.2 PROJECT OBJECTIVES

I want to achieve increased knowledge in visual effects, especially in fluid and particle effects. And gain experience in working with effects and compositing for film.

2.3 STRATEGY

I will film my own background material, create my own effects and work with compositing to create my short film. I will look for references and study on fluid and particle effects by looking at tutorials, reading books and learning by doing. This will hopefully give me the knowledge and experience I'm after to achieve my goals.

2.4 REQUIREMENTS

- The research for relevant facts to this project will be summed up in a Research Document.
- Create a short film including filmed background material and visual effects.

2.5 ASSUMPTIONS

- Work Station
- Maya Software
- Fusion 5.3
- Documentation Software
- Image Editing Software
- Sound Editing Software
- Movie Camera (to film background material)
- Microphone (to record sound)

2.6 INCLUDED/ EXCLUDED

2.6.1 INCLUDED

Important	Not so important
Fluid effects	Modeling
Particle effects	Texturing
Lightning	Animations
Compositing	Sound effects
Live Action Footage	

2.6.2 EXCLUDED

- Music
- Animated Camera

3 CONNECTIONS TO OTHER PROJECTS

3.1 FEEDBACK FROM PREVIOUS PROJECTS

I've experienced that you have to be careful when it comes to time. It's is easy to be an optimist and not finish before the deadline. In other similar projects who involve compositing there have always been problems with time. To avoid this problem I will reevaluate my project and my time schedule a couple of times during my project.

There have also been projects including learning a lot of new things that have been hard to present later on and I hope to avoid this by creating this short film to show what I have been working on.

4 PLANS

4.1 MILESTONE PLAN

The milestone dates assume that project can be started no later than November 17th in order to make MS1.

The following Milestones (MS) are defined:

MS/TG	Date	Scope	Exit criteria	Resp.
MS1	09-12-2008	Documentation Delivery	ProjectPlan_v1.0.doc	Therese Jansson
		Research Delivery	References_v1.0.doc	
		Presentation	MS1_presentation.ppt	
MS1 Complements	18-12-2008	Documentation Delivery	ProjectPlan_v1.1.doc	Therese Jansson
		Research Delivery	References_v1.1.doc Research_v1.0.doc	
MS2	15-01-2009	Documentation Delivery	ProjectPlan_v?.doc (updated if necessary)	Therese Jansson
		Design Delivery	Sketches: <ul style="list-style-type: none"> • Camera planning (in the Research document) • Storyboard_v1.0.doc 	
		Research Delivery	Research_v?.doc References_v?.doc (Updated if necessary)	
		Presentation	MS2_presentation.ppt	
MS3	20-03-2009	Post Production Delivery	VisualEffects_Tornado.mov	Therese Jansson
		Presentation	MS3_presentation.ppt Complete final presentation of project	

4.2 TIME SCHEDULE

Therese Jansson																			
Tasks/week	46	47	48	49	50	51	52	1	2	3	4	5	6	7	8	9	10	11	12
Proposal presentation																			
Work on Project Plan																			
Gathering References																			
Research																			
MS1																			
Testing																			
Film Background Material																			
Holidays, Christmas																			
Work on Background Material																			
Storyboard																			
MS2																			
Fluid & Particle Effects																			
3D Replacements																			
Lightning																			
Animations																			
Compositing																			
Sounds																			
Deadline																			
MS3																			

4.2.1 TIME SCHEDULE BETWEEN MS2 AND MS3

(I will render quick tests along the way while I'm working, to easier see the results.)

Week	Monday	Tuesday	Wednesday	Thursday	Friday
4				Create a workflow schedule.	Film Background material.
5	Create Fluid clouds in Maya.	Work on Fluid clouds and tornado fluids shape in Maya.	Finish Fluid clouds in Maya, render.	Render.	Work on tornado fluids shape in Maya.
6	Work on tornado fluids shape in Maya.	Work on tornado fluids shape in Maya.	Work on tornado fluids shape in Maya.	Work on tornado fluids shape in Maya.	Finish tornado fluids shape in Maya, render. (Render over weekend.)
7	Work on tornado particles in Maya.	Work on tornado particles in Maya.	Work on tornado particles in Maya.	Work on tornado particles in Maya.	Work on tornado particles in Maya.
8	Work on tornado particles in Maya.	Finish tornado particles in Maya, render.	Render.	Compositing. Using Fusion.	Work on 3D-replacements in Maya.
9 (Pres.)	Work on 3D-replacements in Maya.	Work on 3D-replacements in Maya.	Animate 3D-replacements in Maya.	Animate 3D-replacements in Maya.	Animate 3D-replacements in Maya.
10	Finish 3D-replacements in Maya, render.	Compositing. Using Fusion.	Compositing. Using Fusion.	Create the tornados path in Photoshop.	Compositing. Using Fusion.
11	Work in post. Using Fusion.	Work in post. Using Fusion.	Work in post. Using Fusion.	Add sound effects.	Work on details. (Work over the weekend.)
12 (MS3)	Deadline! Preliminary hand in for MS3.	Prepare presentation.	Prepare presentation.	Prepare presentation.	Preliminary MS3

4.3 WORKFLOW BETWEEN MS2 AND MS3

What I need to do in this Specialization Project to get the result I'm after:

- **Create Fluid effects.**
 - The clouds, 2 layers.
 - The tornado, 4 layers. Split the tornado in half for the start and the end. (A spinning tube shape.)
 - Make an RGB light pass. (This gives me more control over the light in post.)
 - Colour corrections in post.
- **Create Particle effects.**
 - Particles that work as debris that the tornado pulls up in the air.
 - Particles that work as snow flying around the tornado.
 - Particles that work as 3D-replacements for some small objects.
 - Sprite-, cloud- and multipoint-particles in separate layers.
- **Create 3D-replacements.**
 - Simple shapes, simple textures. Garbage, cars, trees, roof parts.
 - Use occlusion for shadows.
 - Animate them to being pulled up by the tornado.
 - If time:
 - Create 3D-replacements for the trees in the foreground and animate them.
- **Film some more background material.**
 - Film material with higher resolution.
 - With less camera shake.
- **Create a replacement in my background material after the tornado.**
 - Use an image taken from the film sequence and make changes in Photoshop.
 - Use a polygon mask in Fusion to reveal the tornado's path.
- **Compositing.**
 - Colour corrections.
 - Light corrections.
 - Tracking.
 - Create snow particles close to the camera.
 - Add camera shake.

- Add blur and noise.
- **Look for sound effects.**
 - Heavy wind sounds.
 - Crashes.
- **Prepare the presentation in week 9 and the final presentation in week 12.**

4.3.1 WORK IN FOLLOWING ORDER

1. Film background material.
2. Work on fluids effects.
3. Work on particle effects.
4. Compositing, to get a temporary material to work on with the 3D-replacements.
5. Create 3D-replacements.
6. Animate the 3D replacements.
7. Compositing.
8. Work on the replacement for the tornados path.
9. Work in post, create particles in post and work on details.
10. Add sound effects.

During this work I will also prepare for the presentations.

4.4 RESOURCE PLAN

I'm the only one who is working on this project.

4.5 PROJECT BUDGET

In my project there will only be a few costs.

Things that will cost:

- Literature
- Tutorial DVD on fluid effects.
- DVD with cover for the final film

These things above I will pay for my self. Other things that I need in this project I will borrow because there are expensive and I will not need them more than a day or two. Those things include a movie camera for filming the background material.

5 PROJECT ORGANIZATION

5.1 ROLES, RESPONSIBILITY AND AUTHORITY

Roles, responsibility and authority are described in the following section.

I will be doing this project on my own so I am the only authority with this Project.

5.2 REPORTING AND COMMUNICATION PRINCIPLES

5.2.1 PROJECT COMMUNICATION

The project uses a blog for tracking progress and uploading documents.

E-mail and blog comments will be used as the primary project communication tool.

5.2.2 PROJECT MEETINGS

A project meeting with LTU staff can be requested by the student if there are functional and design changes or other change requests that can not be regarded as minor in the project.

Agreements and decisions are documented in the minutes of meeting (of project meetings and technical meetings). Minutes on meetings must be available on the blog site no later than two working days after the meeting.

5.2.3 PROJECT REPORTING

Reports and results will be delivered with every milestone using the blog and upload function.

The Milestone presentation material must be available on the blog at least four working days before the presentation date.

5.2.4 DOCUMENT PLAN

The following documents will be prepared within the scope of this project. These documents will also reference documentation not listed in the plan.

<i>Title</i>	<i>Description</i>	<i>Resp.</i>
Proposal.doc	Initial concept of the Specialization Project.	Therese Jansson
ProjectPlan_v1.0.doc	Project goals and objectives, organization, responsibilities, communication.	Therese Jansson
ProjectPlan_v1.1.doc	Project goals and objectives, organization, responsibilities, communication. (With slight changes.)	Therese Jansson
ProjectPlan_v1.2.doc	Project goals and objectives, organization, responsibilities, communication. (With slight changes.)	Therese Jansson
ProjectPlan_v1.3.doc	Project goals and objectives, organization, responsibilities, communication. (With slight changes.)	Therese Jansson
References_v1.0.doc	References	Therese Jansson
References_v1.1.doc	References, extended with more information.	Therese Jansson
Research_v1.0.doc	Research summary of relevant facts to this project.	Therese Jansson
Research_v1.1.doc	Research summary of relevant facts to this project. Updated version.	Therese Jansson
Storyboard_v1.0.doc	Storyboard to my short film.	Therese Jansson
MS1_presentation.ppt	Power Point Presentation of MS1.	Therese Jansson
MS2_presentation.ppt	Power Point Presentation of MS2.	Therese Jansson
MS3_presentation.ppt	Power Point Presentation of MS3.	Therese Jansson
PostMortem.doc	Project conclusion.	Therese Jansson
VisualEffects_Tornado.mov	Short Film, according to Project Goals under 2.1.	Therese Jansson

6 QUALITY PLAN

6.1 QUALITY OBJECTIVES

The quality objectives of this project are:

The fluid effects and particle effects are the main relevance in this project and are aimed to be of a higher quality. The compositing is a huge part of this project and needs to be in a higher quality to get a good result. Camera angles, background material, lightning, sounds and 3D replacements are the things that I will put the least amount of work and effort into but I can't ignore them as they will play important parts in making a good movie. Everything goes hand in hand to look realistic but the main relevance of this project is the effects.

6.2 QUALITY FRAMEWORK

6.2.1 REVIEWS

Milestone deliveries are performed according to in chapter 4.1

Review of the Milestone deliveries are made prior to the presentation. Changes or additional work might be needed for approval. This will be notified through mail two working days after presentation at the latest. The additional work must be completed and uploaded before the presentation is scheduled.

The presentation itself is reviewed and approval/failure will be notified by mail two working days after the presentation is made.

6.3 SUPPORTING ACTIVITIES

6.3.1 DOCUMENT MANAGEMENT

All project-related documents shall be written in English.

Documents and material must be version managed. Each revision of project related documentation shall be uploaded.

Project correspondence (e-mails, faxes, and letters) with important information for the project will be treated as project documentation.

6.3.2 CHANGE MANAGEMENT

Changed requirements or exemptions can be addressed at project meetings or by e-mail

6.4 VERIFICATION

6.4.1 REVIEWS, INSPECTIONS AND TESTS

The author of a document has the responsibility to initiate a review of a document. This is planned to be for each milestone delivery. Additional reviews can be made if it considered to be needed by LTU.

The student can also ask for additional reviews which will be performed if available time and resources are available at LTU.

7 RISKS AND OPPORTUNITIES

7.1 RISKS

I have a few risks in my project:

- *The weather* is probably the largest one. I want to film my own background material and I prefer to have snow on the ground to help me when it comes to set the lights and hiding details that would take a long time to look good. The background material takes time to work with so if I don't have my ideal weather condition I have to settle with what I can get. I have put a deadline to the filming so that I don't go around and being optimistic and hoping to get a good background when I need to start on my visual effects.
- *The time*, I have tried to predict how much time I need to every state in my pipeline and I will reevaluate it a couple of times during the project to avoid being too much of a time optimist.

Most of the risks I can avoid by reevaluating the project from time to time and communicating with the faculty of the school. Trying to stay flexible when it comes to things I don't know and I haven't learned yet.

7.2 OPPORTUNITIES

I got the opportunity to learn more about visual effects and fluid effects. We have not been working with fluid effects before and I won't probably get another good opportunity like this where I have people around to help me and a lot of resources to use.

8 PROJECT CONCLUSION

The project is concluded when:

- I have delivered and completed all the documents.
- I have delivered what I needed according to my Goals in section 2.
- My final presentation has been held.

9 REFERENCES

9.1 ABBREVIATIONS

MS1	Milestone 1
MS2	Milestone 2
MS3	Milestone 3
LTU	Luleå University of Technology
3D	3 Dimensional
Resp.	Responsible

9.2 REFERENCE LIST

Look in Reference documents that I have written for this Specialization Project.

- References_v1.0.doc
- References_v1.1.doc

10 APPENDICES
