**Comp 490/491**

**Software Engineering Notebook**

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**California State University Northridge**

**Computer Science Department**

**Scorch3d Earth**

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| 3 | Preface | 4/12/2011 |
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PART I

Problem Statement

**Problem:**

- 3D-Scorched Earth has not been implemented in a way that it is enjoyable by the original users of the 2D-Scorched Earth. Other attempts have modified the game to such an extent that it no longer feels like the original 2D version designed for DOS.

**Affects:**

- The old-school gamers who want to enjoy nostalgia and the fun from the 2D-Scorched Earth with improved graphics and possibly new contents which would fix a few problems from the original game.

- Other CS students who want to revive other retro games for the same issue.

**Results:**

- The old-school gamers feel like they are playing a completely different new game without any original features that will bring back old memories.

- Ambitiously creative CS students end up losing the main direction of remaking retro games, hence the loss of core game features from the original games.

**Benefits:**

- By bringing the original game features with improvements, Scorch3d Earth players will be more satisfied as they will have a similar, if not identical, experience as with the original 2D-Scorched Earth with better graphics and interfaces.

- This project will promote further enhancements by other students for games like our version of 3D-Scorched Earth and inspire other students to revive retro games with a suggestive direction. We are also planning on making this project open source, which will allow other students to enhance our version of Scorched Earth.

- The programmers of the game will enhance their skills in game development.

**Meeting Reports**

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| --- |
| Meeting 1 |
| Date of Meeting | | | 09/07/2010 | | | Start Time | 14:30 | End Time | 15:15 | Location | RM-2211 |
| Moderator | | Matthew Hoggan | | | | | | Recorder | Hangul Lim | | |
| Other members | | | David Schaffer, Davit Stepanyan | | | | | | | | |
| Topic Discussed | | | | Talked about CMS-Subversion for data storing and sharing among team members and discussed some basic game codes and design. | | | | | | | |
| Decisions Made | | | | We will use TortoiseSVN for CMS. | | | | | | | |
| Tasks Assigned | | | | Install and set up TortoiseSVN on individual PC at home. | | | | | | | |
| Agendas for next meeting | | | | | Think about what sound library we can use for our game. | | | | | | |

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| Meeting 2 |
| Date of Meeting | | | 09/09/2010 | | | Start Time | 14:23 | End Time | 15:15 | Location | RM-2211 |
| Moderator | | David Schaffer | | | | | | Recorder | Davit Stepanyan | | |
| Other members | | | Hangul Lim, Matthew Hoggan | | | | | | | | |
| Topic Discussed | | | | Problem statement for our project, and we briefly discussed SDL for sound library. | | | | | | | |
| Decisions Made | | | | N/A | | | | | | | |
| Tasks Assigned | | | | - Start writing problem statement and possibly finish it.  - Play Scorched Earth together. | | | | | | | |
| Agendas for next meeting | | | | | Next meeting: Tuesday 14, 2010 @ 3:15 | | | | | | |

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| Meeting 3 |
| Date of Meeting | | | 09/14/2010 | | | Start Time | 14:20 | End Time | 15:15 | Location | RM-2211 |
| Moderator | | Davit Stepanyan | | | | | | Recorder | David Schaffer | | |
| Other members | | | Matthew Hoggan, Hangul Lim | | | | | | | | |
| Topic Discussed | | | | Problem statement, general design of the end game, features we are going to implement.  For design, we agreed that we should focus on maintaining main game features from the original Scorched Earth | | | | | | | |
| Decisions Made | | | | N/A | | | | | | | |
| Tasks Assigned | | | | - Play the original game.  - Begin to define a 3D version of the game that wil mimic the original version. | | | | | | | |
| Agendas for next meeting | | | | | Next meeting: Thursday 16, 2010 @ 3:15 | | | | | | |

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| Meeting 4 |
| Date of Meeting | | | 09/16/2010 | | | Start Time | 14:23 | End Time | 15:15 | Location | RM-2211 |
| Moderator | | Matthew Hoggan | | | | | | Recorder | David Schaffer | | |
| Other members | | | Hangul Lim, Davit Stepanyan | | | | | | | | |
| Topic Discussed | | | | Functional requirements and non functional requirements, talked about non/functional requirements in general and for our game. | | | | | | | |
| Decisions Made | | | | N/A | | | | | | | |
| Tasks Assigned | | | | - Generate functional requirements and non functional requirements. | | | | | | | |
| Agendas for next meeting | | | | | N/A | | | | | | |

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| Meeting 5 |
| Date of Meeting | | | 09/21/2010 | | | Start Time | 14:10 | End Time | 15:25 | Location | RM-2211 |
| Moderator | | David Schaffer | | | | | | Recorder | Matthew Hoggan | | |
| Other members | | | Hangul Lim, Davit Stepanyan | | | | | | | | |
| Topic Discussed | | | | We shared our knowledge about OpenGL and rendering terrain with it. David explained his terrain generator codes. | | | | | | | |
| Decisions Made | | | | We’ll going to use OpenGL as our base API along with GLUT library. | | | | | | | |
| Tasks Assigned | | | | Study about OpenGL and GLUT. | | | | | | | |
| Agendas for next meeting | | | | | OpenGl, GLUT | | | | | | |

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| Meeting 6 |
| Date of Meeting | | | 09/23/2010 | | | Start Time | 14:08 | End Time | 15:15 | Location | RM-2211 |
| Moderator | | Matthew Hoggan | | | | | | Recorder | David Schaffer | | |
| Other members | | | Hangul Lim, Davit Stepanyan | | | | | | | | |
| Topic Discussed | | | | We went over basic gameplay of the original Scorched Earth, and discussed how we were going to implement using OpenGL and GLUT. | | | | | | | |
| Decisions Made | | | | N/A | | | | | | | |
| Tasks Assigned | | | | Study more about OpenGL, GLUT, SDL. | | | | | | | |
| Agendas for next meeting | | | | | N/A | | | | | | |

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| Meeting 7 |
| Date of Meeting | | | 09/28/2010 | | | Start Time | 14:13 | End Time | 15:15 | Location | RM-2211 |
| Moderator | | Hangul Lim | | | | | | Recorder | Davit Stepanyan | | |
| Other members | | | Matthew Hoggan | | | | | | | | |
| Topic Discussed | | | | We talked about how sounds were going to be implemented for our game using SDL. | | | | | | | |
| Decisions Made | | | | N/A | | | | | | | |
| Tasks Assigned | | | | N/A | | | | | | | |
| Agendas for next meeting | | | | | N/A | | | | | | |

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| Meeting 8 |
| Date of Meeting | | | 09/30/2010 | | | Start Time | 14:05 | End Time | 15:10 | Location | RM-2211 |
| Moderator | | David Schaffer | | | | | | Recorder | Hangul Lim | | |
| Other members | | | Matthew Hoggan, Davit Stepanyan | | | | | | | | |
| Topic Discussed | | | | Improved terrain generating code with proper transformation of the terrain. | | | | | | | |
| Decisions Made | | | | We’ll use SDL for sounds. | | | | | | | |
| Tasks Assigned | | | | Write Software Requirements Specification and review it. | | | | | | | |
| Agendas for next meeting | | | | | SRS | | | | | | |

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| Meeting 9 |
| Date of Meeting | | | | 10/05/2010 | | | Start Time | 14:10 | End Time | 15:15 | Location | RM-2211 |
| Moderator | | Davit Stepanyan | | | | | | | Recorder | Matthew Hoggan | | |
| Other members | | | | David Schaffer, Hangul Lim | | | | | | | | |
| Topic Discussed | | | | | We talked about our project in terms of functions. We also reviewed SRS. | | | | | | | |
| Decisions Made | | | | | N/A | | | | | | | |
| Tasks Assigned | | | | | Freely add some more contents to SRS. | | | | | | | |
| Agendas for next meeting | | | | | | N/A | | | | | | |
| Meeting 10 | | |
| Date of Meeting | | | | 10/07/2010 | | | Start Time | 14:12 | End Time | 15:20 | Location | RM-2211 |
| Moderator | | Hangul Lim | | | | | | | Recorder | David Schaffer | | |
| Other members | | | | Davit Stepanyan, Matthew Hoggan | | | | | | | | |
| Topic Discussed | | | | | We studied for coming midterm together. | | | | | | | |
| Decisions Made | | | | | N/A | | | | | | | |
| Tasks Assigned | | | | | N/A | | | | | | | |
| Agendas for next meeting | | | | | | N/A | | | | | | |

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| Meeting 11 | |
| Date of Meeting | | | 10/12/2010 | | | Start Time | 14:05 | End Time | 15:15 | Location | RM-2211 |
| Moderator | Matthew Hoggan | | | | | | | Recorder | Davit Stepanyan | | |
| Other members | | | David Schaffer, Hangul Lim | | | | | | | | |
| Topic Discussed | | | | We went over study guide for midterm and talked about some codes. | | | | | | | |
| Decisions Made | | | | N/A | | | | | | | |
| Tasks Assigned | | | | N/A | | | | | | | |
| Agendas for next meeting | | | | | N/A | | | | | | |

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| Meeting 12 | |
| Date of Meeting | | | 10/14/2010 | | | Start Time | 14:11 | End Time | 15:16 | Location | RM-2211 |
| Moderator | David Schaffer | | | | | | | Recorder | Hangul Lim | | |
| Other members | | | Davit Stepanyan, Matthew Hoggan | | | | | | | | |
| Topic Discussed | | | | Discussed normal vectors for the terrain generator and tried to fix a few bugs. | | | | | | | |
| Decisions Made | | | | N/A | | | | | | | |
| Tasks Assigned | | | | Individual study about OpenGL and GLUT. | | | | | | | |
| Agendas for next meeting | | | | | How are we going to implement menus in the game? | | | | | | |

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| Meeting 13 | |
| Date of Meeting | | | 10/19/2010 | | | Start Time | 14:22 | End Time | 15:35 | Location | RM-2211 |
| Moderator | Davit Stepanyan | | | | | | | Recorder | Matthew Hoggan | | |
| Other members | | | Hangul Lim, David Schaffer | | | | | | | | |
| Topic Discussed | | | | We talked about the project plan and briefly discussed our schedules in the future. | | | | | | | |
| Decisions Made | | | | N/A | | | | | | | |
| Tasks Assigned | | | | Start working on project plan. | | | | | | | |
| Agendas for next meeting | | | | | Project plan | | | | | | |

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| Meeting 14 | |
| Date of Meeting | | | 10/21/2010 | | | Start Time | 14:10 | End Time | 15:10 | Location | RM-2211 |
| Moderator | Hangul Lim | | | | | | | Recorder | Davit Stepanyan | | |
| Other members | | |  | | | | | | | | |
| Topic Discussed | | | | We talked about our project plan. | | | | | | | |
| Decisions Made | | | | N/A | | | | | | | |
| Tasks Assigned | | | | Review and revise the project plan. | | | | | | | |
| Agendas for next meeting | | | | | N/A | | | | | | |

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| Meeting 15 | |
| Date of Meeting | | | 10/26/2010 | | | Start Time | 14:15 | End Time | 15:25 | Location | RM-2211 |
| Moderator | David Schaffer | | | | | | | Recorder | Matthew Hoggan | | |
| Other members | | | Hangul Lim, Davit Stepanyan | | | | | | | | |
| Topic Discussed | | | | We went over David’s codes for the terrain generator. We also reviewed our project plan. | | | | | | | |
| Decisions Made | | | | N/A | | | | | | | |
| Tasks Assigned | | | | Hangul will continue working on sound system for our project. | | | | | | | |
| Agendas for next meeting | | | | | Feedback on the project plan. | | | | | | |

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| Meeting 16 | |
| Date of Meeting | | | 10/28/2010 | | | Start Time | 14:20 | End Time | 15:15 | Location | RM-2211 |
| Moderator | Davit Stepanyan | | | | | | | Recorder | David Schaffer | | |
| Other members | | | Matthew Hoggan, Hangul Lim | | | | | | | | |
| Topic Discussed | | | | We prepared and revised project schedules. | | | | | | | |
| Decisions Made | | | | N/A | | | | | | | |
| Tasks Assigned | | | | Add more contents to the project plan. | | | | | | | |
| Agendas for next meeting | | | | | N/A | | | | | | |

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| Meeting 17 | |
| Date of Meeting | | | 11/02/2010 | | | Start Time | 14:08 | End Time | 15:25 | Location | RM-2211 |
| Moderator | Matthew Hoggan | | | | | | | Recorder | Davit Stepanyan | | |
| Other members | | | Hangul Lim, David Schaffer | | | | | | | | |
| Topic Discussed | | | | Full review on the project plan. | | | | | | | |
| Decisions Made | | | | We will meet on weekends for extra discussion time. | | | | | | | |
| Tasks Assigned | | | | N/A | | | | | | | |
| Agendas for next meeting | | | | | N/A | | | | | | |

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| Meeting 18 | |
| Date of Meeting | | | 11/04/2010 | | | Start Time | 14:14 | End Time | 15:15 | Location | RM-2211 |
| Moderator | David Schaffer | | | | | | | Recorder | Hangul Lim | | |
| Other members | | | Matthew Hoggan, Davit Stepanyan | | | | | | | | |
| Topic Discussed | | | | Briefly reviewed the project plan and discussed feasibility of project schedules for each team member. | | | | | | | |
| Decisions Made | | | | Extra Meeting Date: Nov 13, 2010 @ 15:00 @ RM-2211 | | | | | | | |
| Tasks Assigned | | | | N/A | | | | | | | |
| Agendas for next meeting | | | | | N/A | | | | | | |

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| Meeting 19 | |
| Date of Meeting | | | 11/09/2010 | | | Start Time | 14:04 | End Time | 15:12 | Location | RM-2211 |
| Moderator | Matthew Hoggan | | | | | | | Recorder | David Schaffer | | |
| Other members | | | Davit Stepanyan | | | | | | | | |
| Topic Discussed | | | | We talked about inventory system, main menu and main component of the project. We also talked about some societal issues regarding human (male/female relationship. | | | | | | | |
| Decisions Made | | | | N/A | | | | | | | |
| Tasks Assigned | | | | Draw some diagrams for the project architecture. | | | | | | | |
| Agendas for next meeting | | | | | Learn more about project architecture | | | | | | |
| Meeting 20 | |
| Date of Meeting | | | 11/13/2010 | | | Start Time | 15:15 | End Time | 17:35 | Location | JD-1616 |
| Moderator | Matthew Hoggan | | | | | | | Recorder | Hangul Lim | | |
| Other members | | | David Schaffer, Davit Stepanyan | | | | | | | | |
| Topic Discussed | | | | Discussed project architecture by drawing graphs, Talked about an initial version of state diagram for our project, Briefly went over our presentation. | | | | | | | |
| Decisions Made | | | | Who will speak about which part for our presentation. | | | | | | | |
| Tasks Assigned | | | | N/A | | | | | | | |
| Agendas for next meeting | | | | | N/A | | | | | | |

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| Meeting 21 | |
| Date of Meeting | | | 11/16/2010 | | | Start Time | 14:12 | End Time | 15:15 | Location | RM-2211 |
| Moderator | David Schaffer | | | | | | | Recorder | Davit Stepanyan | | |
| Other members | | | Matthew Hoggan, Hangul Lim | | | | | | | | |
| Topic Discussed | | | | We talked about tank modeling and implementation in the future. By using AC3D program, we can make some simple models for our tanks. | | | | | | | |
| Decisions Made | | | | We’ll use AC3D for modeling. | | | | | | | |
| Tasks Assigned | | | | Individual study on AC3D. | | | | | | | |
| Agendas for next meeting | | | | | N/A | | | | | | |

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| Meeting 22 | |
| Date of Meeting | | | 11/18/2010 | | | Start Time | 14:20 | End Time | 15:35 | Location | RM-2211 |
| Moderator | Hangul Lim | | | | | | | Recorder | Matthew Hoggan | | |
| Other members | | | David Schaffer, Davit Stepanyan | | | | | | | | |
| Topic Discussed | | | | We did our presentation about our project architecture and talked about menu system. | | | | | | | |
| Decisions Made | | | | Extra Meeting Dates: Nov 27 & Dec 17, 2010 @ 3pm @ RM-2211 | | | | | | | |
| Tasks Assigned | | | | N/A | | | | | | | |
| Agendas for next meeting | | | | | Mapping textures on the terrain. | | | | | | |

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| Meeting 23 | |
| Date of Meeting | | | 11/23/2010 | | | Start Time | 14:00 | End Time | 15:15 | Location | RM-2211 |
| Moderator | David Schaffer | | | | | | | Recorder | Hangul Lim | | |
| Other members | | | Matthew Hoggan, Davit Stepanyan | | | | | | | | |
| Topic Discussed | | | | Talked about how to map textures on models. David showed an early version of our terrain mapped with a texture. | | | | | | | |
| Decisions Made | | | | N/A | | | | | | | |
| Tasks Assigned | | | | Complete each document so that we can put them together during the next meeting. | | | | | | | |
| Agendas for next meeting | | | | | N/A | | | | | | |

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| Meeting 24 | |
| Date of Meeting | | | 11/27/2010 | | | Start Time | 15:05 | End Time | 16:55 | Location | RM-2211 |
| Moderator | Matthew Hoggan | | | | | | | Recorder | Davit Stepanyan | | |
| Other members | | | Hangul Lim, David Schaffer | | | | | | | | |
| Topic Discussed | | | | We revised all the documents and put them together | | | | | | | |
| Decisions Made | | | | N/A | | | | | | | |
| Tasks Assigned | | | | N/A | | | | | | | |
| Agendas for next meeting | | | | | N/A | | | | | | |
| Meeting 25 | |
| Date of Meeting | | | 11/30/2010 | | | Start Time | 14:18 | End Time | 15:15 | Location | RM-2211 |
| Moderator | Hangul Lim | | | | | | | Recorder | Matthew Hoggan | | |
| Other members | | | David Schaffer, Davit Stepanyan | | | | | | | | |
| Topic Discussed | | | | Software design document | | | | | | | |
| Decisions Made | | | | We will submit it without the menu system description complete | | | | | | | |
| Tasks Assigned | | | | David Schaffer will finish the document before final due date | | | | | | | |
| Agendas for next meeting | | | | | None | | | | | | |

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| Meeting 26 | |
| Date of Meeting | | | 12/02/2010 | | | Start Time | 14:09 | End Time | 15:15 | Location | RM-2211 |
| Moderator | Matthew Hoggan | | | | | | | Recorder | David Schaffer | | |
| Other members | | | Davit Stepanyan, Hangul Lim | | | | | | | | |
| Topic Discussed | | | | Final Exam/Documentation | | | | | | | |
| Decisions Made | | | | None | | | | | | | |
| Tasks Assigned | | | | None | | | | | | | |
| Agendas for next meeting | | | | | None | | | | | | |

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| Meeting 27 | |
| Date of Meeting | | | 12/07/2010 | | | Start Time | 14:04 | End Time | 15:15 | Location | RM-2211 |
| Moderator | David Stepanyan | | | | | | | Recorder | Hangul Lim | | |
| Other members | | | David Schaffer Matthew Hoggan | | | | | | | | |
| Topic Discussed | | | | When to meet over winter break, and the final | | | | | | | |
| Decisions Made | | | | Meet on next Friday | | | | | | | |
| Tasks Assigned | | | | Come ready to code | | | | | | | |
| Agendas for next meeting | | | | | Finish Documentation Round One | | | | | | |