

Redesign of Touch

PROJECT PLAN

Semester Thesis

Project period: 17.04.05 – 15.07.05

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Status : 7-th semester

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1. PROJECT DESCRIPTION

1.1 Overview

Since Winter 2003 the Introduction to Programming Course at the department of Computer Science applies a teaching approach called Inverted Curriculum. In this approach the student is given a full Library to start with. In this case this is Traffic, a library that includes classes to model a city and its transport connections. Accompanying are two applications given: Flat_Hunt and Touch. Flat_Hunt is a small game where players try to catch the hunted on a city map. Touch is used as a framework for the examples and exercises in the textbook "A Touch of Class", written by Bertrand Meyer, which will be used to guide the students through the course.

During the winter semester 2004/2005 Sibylle Aregger improved the Traffic library and Rolf Bruderer extended ESDL to offer features that are needed for using it as visualization library for Touch (instead of EiffelVision2). This semester project aspires the redesign of Touch to use ESDL. This includes providing a framework where the examples and programming exercises from the book can be implemented. One of the key aspects of this work will be to find suitable examples in the source code which will then be used in the textbook.

1.2 Scope of the work

This work focuses on Touch. The graphical representation is to be switched from EiffelVision2 to ESDL. Since Touch is the application for the examples and exercises of the textbook, it has to be easy to use and should provide useful and easy to understand examples. Finding interesting examples for the textbook is a key point of this work. Another aspect is to integrate them into Touch and provide a cleanly designed interface for integrating new examples. Chapters to be considered are the chapters one to five.

1.3 Intended results

Having Touch with new graphical representation in ESDL and provide useful and simple examples within Touch for the students.

2. BACKGROUND MATERIAL

2.1 Reading list

- Bertrand Meyer, Touch of Class: Learning to Program Well - With Object Technology, Design by Contract, and Steps to Software Engineering, to be published.
<http://se.inf.ethz.ch/touch>
- Sibylle Aregger, Semester Project: Redesign of the Traffic Library
http://se.inf.ethz.ch/projects/sibylle_aregger
- Marcel Kessler, Master Project: Exercise Design for Introductory Programming "Learn-by-doing" basic OO-concepts using Inverted Curriculum
http://se.inf.ethz.ch/projects/marcel_kessler
- Rolf Bruderer, Master Project: Object-Oriented Framework For Teaching Introductory Programming
http://se.inf.ethz.ch/rolf_bruderer

3. PROJECT MANAGEMENT

3.1 Objectives and priorities

- Get to know ESDL, Traffic and the current status of Touch.
- Cleanly redesign the framework for examples and exercises coming from the book and incorporate ESDL for visualization
- Find suitable examples for the textbook and incorporate them in the framework. Only chapters one to five have to be considered.
- Implement Touch and the examples

3.2 Criteria for success

3.2.1 Visual representation

As the application is used for teaching purposes it should not be too casual and dry, but animate the students to look deeper into the framework, the examples and the code.

3.2.2 Design of the Examples

The mechanism for integrating examples should be held very small.

The examples should be very well designed and elaborated.

3.2.3 Quality of the Code

Since the full source code is visible to the students it is necessary to keep the code clean, well documented and compliant with style guidelines.

3.3 Method of work

The code will be written with the Eiffelstudio 5.5 for windows and .net. For some of the work I will have to arrange with Ursina Caluori, an other student currently working on the Traffic Library.

4. PLAN WITH MILESTONES

4.1 Project steps

- Project Start: 11.04.05
- Projectplan: 29.04.05
- Overview over Status of ESDL & Traffic: 06.05.05
- Porting Touch From EiffelVission2 to ESDL: 04.06.05
- Building the examples framework: 04.06.05
- Incorporate examples: 02.07.05
- Finalize report and update Guides: 15.07.05
- Project End: 15.07.05

4.2 Tentative schedule

Timeline													
Name	Work (h)	April			May			June			July		
Start Up													
Installation	5												
Project Plan	3												
Reading	15												
Redesign Touch													
Analysis	15												
Design	15												
Implementation	15												
Incorporating Examples													
Reading	5												
Elaboration	15												
Installation	12												
Paper Work													
Report	25												
Guides	5												

5. REFERENCES

- [1] Chair of Software Engineering: *Semester-/Diplomarbeiten*; Online at: <http://se.inf.ethz.ch/projects/index.html>, consulted in April 2005.