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PROJECT FACT SHEET

Project Name: Jawbreaker

Date: June 2005

Project Ref: 2005JB1

Elaste Time / Completion: 1 Month

Reporting: Jonathan Hawkins

Developer: Jonathan Hawkins

Main Objectives:

Java Programming

The original goal of this project was to establish a pilot project for the final year. An AI project whereby the player that can play the game as well if not better than a human. The problem was not complicated enough for a final year project, the author decided to continue to develop the game for enjoyment and to learn more about graphics.

The game was a simple one, an 11 by 11 grid of different coloured balls. If the same coloured balls are next to each other they create a block of balls. The larger the block the more you score. When a block is selected they are removed from the screen and the balls above it fall into its place, (depending on what type of game is being played at that point). The score system uses an algorithm, if two balls in the block they score 2, 3 balls 6, 4 balls 12, 5 balls 20 etc.

Technical Environment:

Language Used: Java with Applets, Java IDE: Eclipse
Windows XP Pro, Linux Server (Ubuntu)
FireFox + IE6 + IE Beta

Project Approach - Design / Development / Test:

The project was broken down into a number of sections, how the game worked, how to simulate this in java and how to display to the user and allow them to interact with the game. As the project was originally envisaged as a human and computer interaction situation it was designed to have separation from the front end user display and the back end processes. This design was to allow the AI player to be able to interact with the game in the same way as a human user would.

A large part of the project was making sure the mechanics of the game were fully understood and modelled on paper before coding began. The design specified 4 different types of available game therefore effort was made to produce an abstract class and only need to represent the difference of each game in different classes.

When this was complete the front end was developed. This was more advanced in graphical design, display and interaction for the author. It was decided to use buttons for each ball as this provided an easy way of displaying and triggering the user's actions.

The final game was put into an applet and put online with great success, to date over 2400 games have been played across the internet.

An extension to this project was to improve the user interface and experience of the game. Instead of using buttons the 2D graphics package was used within java to draw and control the balls. This was very successful and produced a more professional looking product.