Plan of Attack  
ISGPKBS

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# Introduction

This document is our Plan of Attack for the KBS of the Games Programming minor. In this document we shall mainly describe in which phases we shall create our game and a planning. This planning will contain what will be done when, and by whom.

# Assignment

Our assignment for this period is creating a 2d side scrolling game. The game must have at least three levels which are created with tiles. The main character has to move around the levels, getting from the left to the right and we have to make it fun to play.

In the first period of this minor, we have to create a 2D side scrolling game. Our game has to exist of at least three different themed levels, which we must create with tiles, which we must ‘import’ from a large bitmap, the ’level map’. One of the things we can do, is animating the tiles, by using different bitmaps. Each level has to be three screens wide (we thought with a resolution of 800x600px, this would be at least 2400px) and one screen height (600px then).

The main character of our game must walk around in some directions, like left and right. Also he must be able to jump. Besides that we have to implement some physics so our character, and the other objects, will fall down when they are not supported by objects where they can stand on. The falling must happen natural. Besides this, the character must face in the direction he is walking and the movement must be handles by the arrows of the keyboard. Also, when hitting things, we have to detect the collision, so you can’t move further (boundary collision) , get some points when hitting a gadget, die when hitting a ghost or something changes in the world. When alive and not entering or leaving a world, the main character has to be in the centre of the screen. When he dies and his lives are depleted, the game has to end.

For the background we must create depth with the use of parallax scrolling, using at least two background layers. Before each level and before the game starts or ends, there must be a splash screen showing some of the theme which comes. After the splash screen of entering the game, there must be a menu where the user can load this last game and see his highscores, when in game the user also can save his game here.

In the levels there must be some kind of gadgets around; these gadgets will make up the game play of our game. With different gadgets for different purposes we can change how the game is played. Besides, with this use of gadgets, we can make the game appealing to play. The enemies in the game will walk around in an adjustable range and they will be aware of their environment (example).

The game has to use a state machine pattern. The game constants are saved in a configuration file called ‘params.ini’. Besides, the enemies must have some AI behaviours.

# Milestones

This project contains the following milestones:

|  |  |
| --- | --- |
| **What?** | **Finished when** |
| Plan of attack | End of week 1 |
| Class diagram and board representation | End of week 2 |
| Move validation, check for wins and player input | End of week 3 |
| AI player with minimax and alpha-beta pruning | End of week 4 |
| Transposition table, move ordering and killer heuristic | End of week 5 |

# Planning