Experiment No: 2
Game Specification Document

Aim : To create a template Game Spec Document for the game Thinking Tank.

Game specification :

A game specification is a vision document that describes the final product and serves as a goal for all developers, when the code strictly adheres to the game play spec, then the product is ready to release

1. Overview :

Thinking Tank is a classic Arcade game which involves player tank, obstacles, rocks, and bonus points for time efficiency and minimum number of steps during the gameplay. Ultimate goal of the player is to put the rocks in the marked location.

1.1 Purpose :

- To describe how the game will work
- To communicate how you see that end result being accomplished.

1.2 Genre :

The game is basically an Arcade game which involves a basic strategy of manouvering the tank and moving the objects to the required location.

1.3 Life cycle Model Used :

The model that will be used for the current application will be Agile / Extreme programming.

2. Players :

- Single player game.

3. Look & Feel :

- Its a 2D game.
- The objects on the screen consists of Tank , Rocks , Walls and tiles.

- The lighting will be abstract.
- Top view – Standard 2D camera position
- Abstract modern art style
- Musical Sources – Background Score, Loser sound, Level sound, Winning sound, individual sounds - Tank Sounds, Rolling stone sounds.

4. Interface :

- Player has to use keyboard navigation keys to play the game.
- Keyboard: Arrow keys, Esc key
- Speakers are used as a sound device.
- Available command icons: start game, pause game, resume, restart game, exit game.

5. Startup :

- The position of the objects , wall and the final destination is fixed for every level.
- The player has to move the rocks to the destination by pushing the rocks to the final destination.
- Three difficulty levels will be provided.

6. Objectives :

- Move the rocks to he destination.
- Avoid getting into deadlocks.
- Avoid the collision of 2 rocks or of the rocks with the wall.
- Minimum no of steps and minimum time.

7. Entities :

The entites in the game are :

- Tank
- Rocks
- Wall
- Boundary
- Goal

8. Features :

- Integral – The tank should be able to push the rocks.

- Chrome – Abstract graphics , funky modern artistic design,melodic music.
- Subsitute – This is a single player game.

- Three difficulty levels will be provided.

9. Rules :

- Tank can only push the rocks.
- Pulling is not possible.
- The rocks should be places exactly at the destination.
- The score will be calculated according to the time taken and the no of moves.
- If the rocks are stuck and cannot be moved further towards the destination then the player loses the game.
- When all the rocks are placed at their desired location , the player advances to the next level.

10. Game Play :

- A player has to manouver the rocks from the initial position to the final position.
- The obstacles will be walls which the player has to intelligently avoid getting their rocks stuck from a position from where it cannot further be moved.
- The no of steps used and the time taken is inversely proportional to the player score.
- The strategy involved in the gameplay are as follows.
    - Dominated strategy : Shortest path required to finish the level.
    - Dominant Strategy : Pushing the rocks.
    - Near-dominant option : Time taken to finish the level.
- The different levels will be full of different mazes and the player will have to think to complete the level. The following 3 levels of difficulty will be there.
    - Difficulty level **Noob -** No time and no of moves constraints.
    - Difficulty level **Geek –** Time and no of moves will affect the score.
    - Difficulty level **Einstein –** If you dont finish the level in the given time , the player will lose.

11. Level Design :

- There will be 3 levels in the game.
- To finish every level the player has to manouver the rocks in the destination location and try to avoid the obstacles.
- Status message and the current score.
- After the last level, high score will be displayed.

12. Technical Requirements:

- Hardware :
  - Processor : Pentium 4 and up.
  - Ram : 512 mb.
  - Storage : 50 mb.
- Keyboard :
  - Arrow Keys, Enter Key , Escape Key.
- Operating System:
  - Posix System.
  - Linux Debian.
  - Macintosh 9 and up.
  - Windows XP and up.
- Software Requirements :
  - Python 2.7 or up.
  - OpenGL for Python.
  - ALSA sound mixer.

13. Marketing:

- The game will mainly appeal to children from the age group of 5 – 15.
- Since it involves a good amount of logic , it will also serve the purpose of helping the child develop a logical and problem solving skills .
- Due to the attractive funky artistic designes and the melodic music , the game will be attractive as well as addictive to an extent.
- The basic essence of the game will be make education fun through gaming and entertainment.