PRISON BREAK

SOFTWARE REQUIREMENT SPECIFICATION

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Software requirements:

- We need to have CODE BLOCKS integrated development environment installed on the pc with an operating system windows 7 or above/ubuntu 12.04 and above.
- Then we need to have simplecpp graphics package installed on the pc and integrated with the CODE BLOCKS.
- Simply open the game with code blocks simple cpp and play !

INTRODUCTION:

The aim of the project is to develop a game named "PRISON BREAK". This document explains in detail the game, certain technical specifications involved in it's implementation, algorithm for creating the game.

The game is sort of copy of the game "UNBLOCK ME". It will provide the player with a brain twisting experience. The aim of the player is to rescue or unblock the prisoner from prison by making a way for it through the hole or gate.

TECHNICAL SPECIFICATIONS:

The whole software will be developed using CODE BLOCKS integrated development environment and SIMPLECPP for the graphics. We have main two algorithms.
1) **Creating the levels randomly**
2) **Playing the game.**

The program goes like, user will decide to play a difficulty level and 1st algorithm will create a level of that difficulty. Then the corresponding arrangement of blockers is passed to second algorithm and level is played. Again the player is asked to tell which level he/she wants to play and game runs accordingly.

Approximate algorithms are given in subsequent pages of the document.

Algorithm for creating random arrangement of blocks

0,5	1,5	2,5	3,5	4,5	5,5
0,4	1,4	2,4	3,4	4,4	5,4
0,3	1,3	2,3	3,3	4,3	5,3
0,2	1,2	2,2	3,2	4,2	5,2
0,1	1,1	2,1	3,1	4,1	5,1
0,0	1,0	2,0	3,0	4,0	5,0

Divide the Prison into 36 equal parts. The parts are named as above.

First of all, a random value is given to the number of blocks.

The information of a block is given by its x and y co-ordinate as explained above,length of the block. The block can be horizontal or vertical.
Define a structure for this.

Write a function such that block is not paced outside the prison.

Write a function such that the blockers would not overlap.

Similarly write a function for the prisoner taking into consideration the places assigned to other blockers.

Also,write a function so that all the blockers and the prisoner are able to move.

Algorithm for calculating minimum number of steps

Calculate the number of steps allowed for each block for a specific arrangement. Similarly calculate the number of steps for each particular step.

Store the number of steps for each arrangement.

Also write a function such that a particular arrangement does not repeats itself.

See whether the prisoner escapes the prison or not at each step. Thus calculate the number of steps taken for the prisoner to escape each time.

Thus, calculate the minimum number of steps.

Define the difficulty level depending upon the minimum number of steps calculated.

The information of a single block is converted to the co-ordinate system defined in simplecpp.
The click function is used extensively in the program.
The ASCII code for w,a,s,d is used.