Course Project Documentation

CS-101 Project

Bomberman Game Team-Cuse

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Table of Contents -

1. Introduction:

The motivation of this project was to create an interesting classic game which was fun to play and at the same time have some challenges to make. The game bomberman has various interesting test cases (from the project point of view) and also it had the basic use of graphics.

2. Problem Statement:

The aim of this project is to create a game which features an object controlled by the user as well as few automated bots whose movement is controlled by a random(rand) function in simplecpp.

3. Requirements:

A) Software Requirements –

1. Simplecpp: To compile the program and run it.

4. Implementation:

A) Functionality –

1. Each level would have a key which needs to be found by Bomber man which unlocks the door.

2. In the game there would be a main character (Bomber man) and some enemies which on contact with bomber man kills him.level has two types of walls one of which can be destructed through the bomb while one is indestructible. The user would control bomber man through keyboard.

3. The bomber man would not have a limit on the number of bombs with him which would aid him to break the destructible walls.

4. When the bomber man encounters a wall he would be unable to move through it unless he breaks it. This would be controlled by his coordinates.

5. A key would be hidden behind a destructible wall. Bomber man has to find and take it to the door in order to win.

5. Testing Strategy and Data:

A video has been created to illustrate and test the various cases and their consequences in the game.

Also comments have been added to the main code of the program so as to explain the constituent functions.

Results –

The bomberman program can execute the following –

1. The bomberman can complete the game only by reaching the door.

2. Also, the bomberman must have acquired the key which appears only after all the bots have been killed.

3. The bomberman has 3 lives i.e. he can survive thrice after being killed by the bots or his bombs.

4. There are 2 types of bricks in the game, one which are destructible by bomberman's bombs and the other which cannot be destroyed in any case whatsoever.

5. The newly added feature has been explained in detail in another field below.

6. Discussion of System:

A) What are worked as per plan?

1. Everything mentioned in the SRS has been executed so it has all been going the way it had been planned initially.

B) What we added more than discussed in SRS?

1. One feature named 'Invincible' has been added where if bomberman finds and takes that power, he cannot be killed by the bots for the next 10 seconds. After 10 seconds however, he loses this power.

Note that bomberman can die due to his bomb even when invincible mode has been activated.

(C) Changes made in plan:

No changes have been made in our plan.

7. Future Work:

1. We are planning to extend this game to a 3-D version where we can have projectile motion bombing i.e. just like throwing grenades.

2. As this is a vintage game and as this is played by mostly young children so we like to make a user friendly and a well designed GUI.
3. This could well be extended to a multiplayer version where a group of users can fight against the enemies by bombing their stations just like CounterStrike.

8. Conclusions:

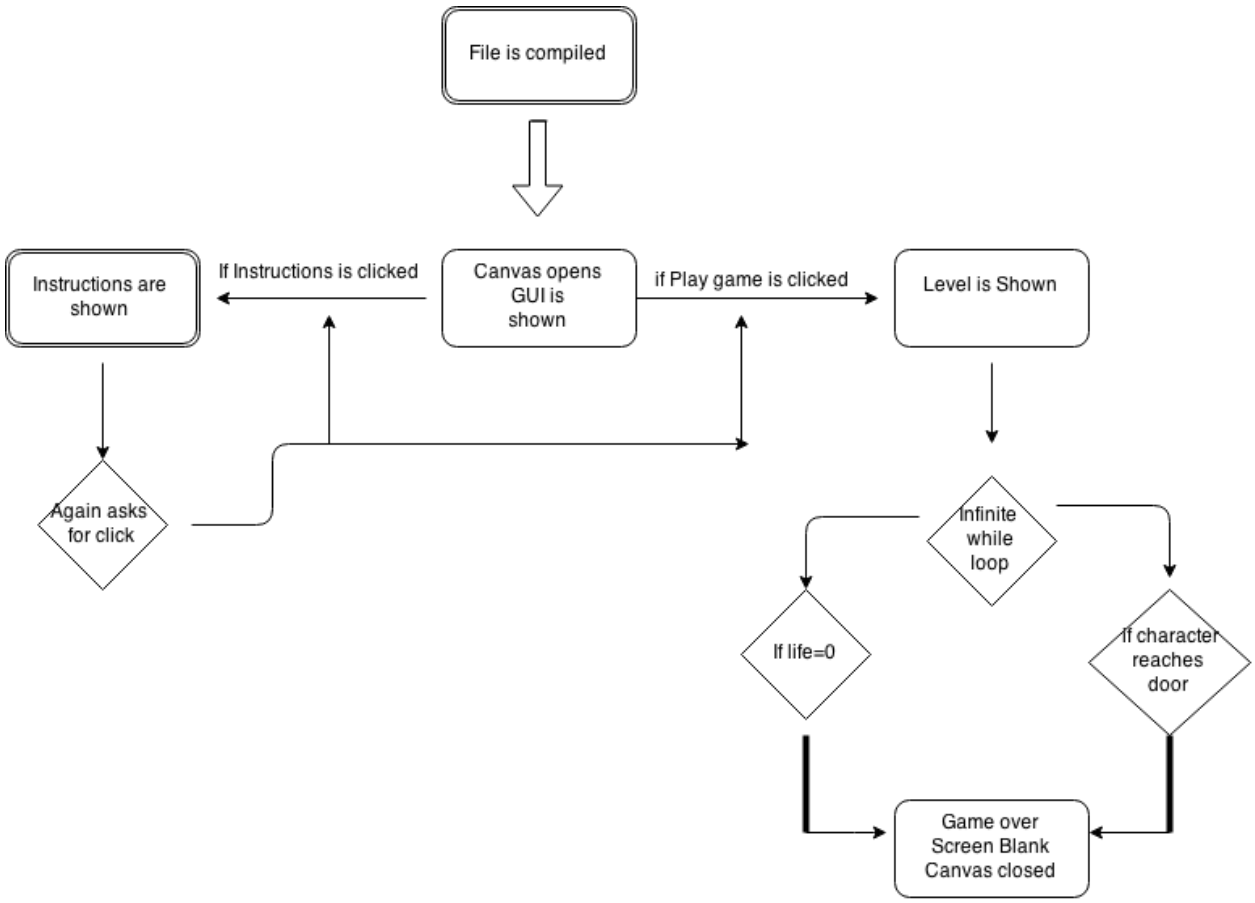
This project has been a great way to learn new things related to coding as well as in a team.

Regarding the project, the program has been running normally after all the debugging, etc. and is completely ready for use.

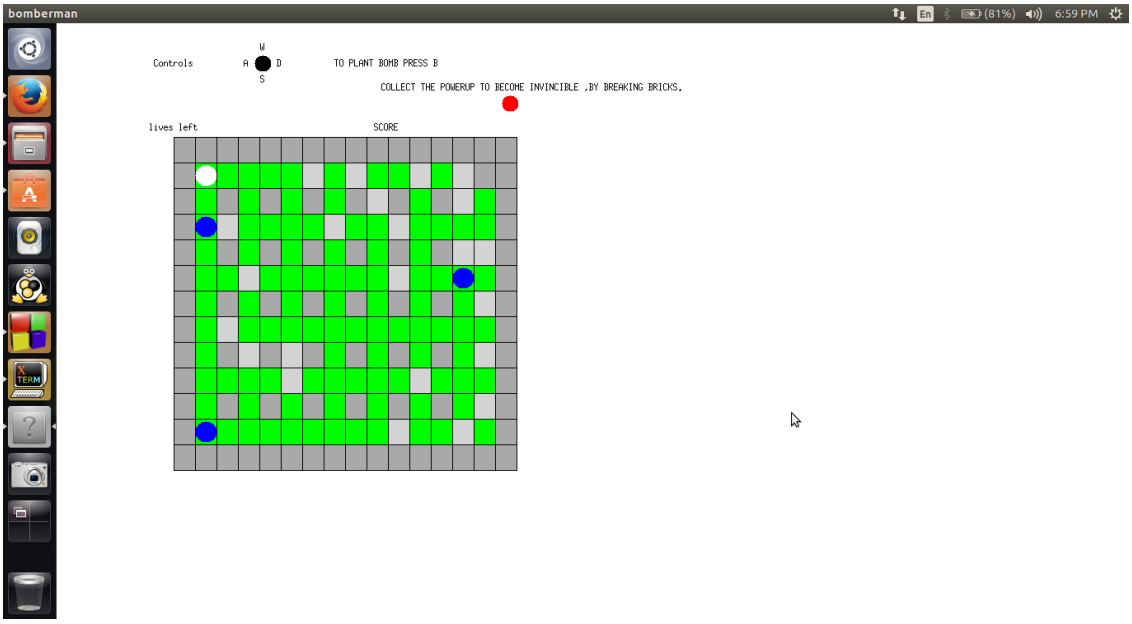
9. References:

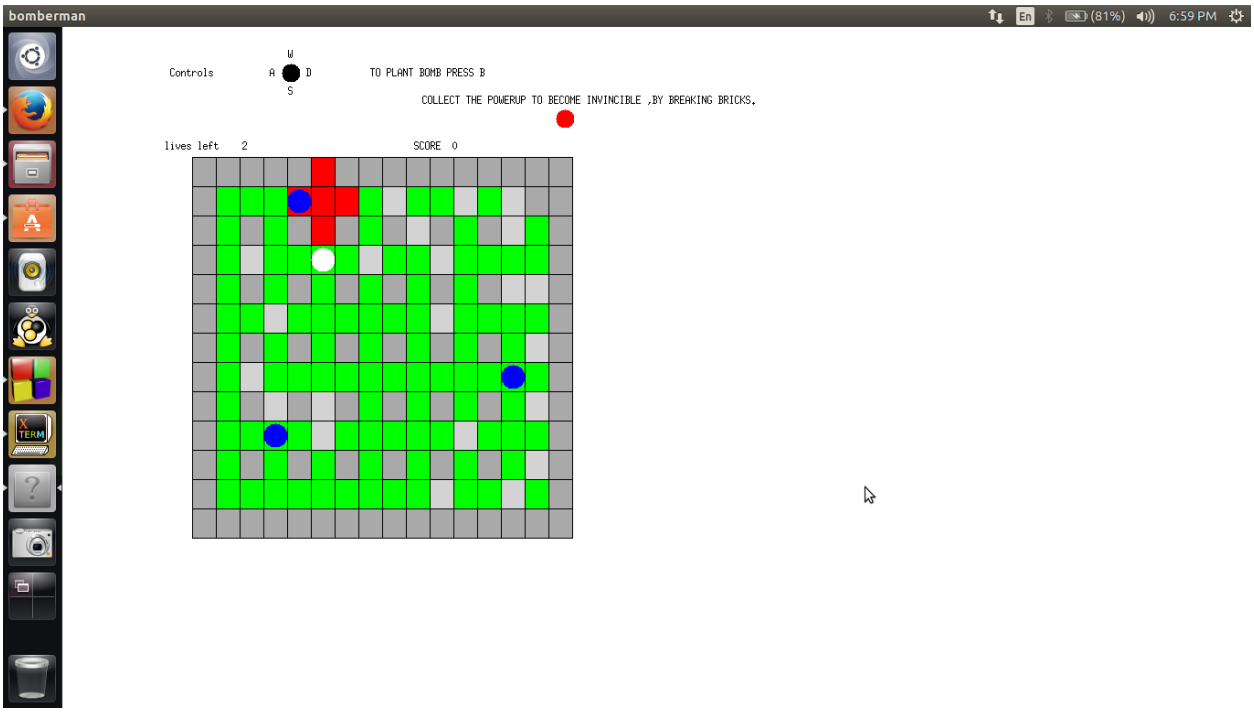
1. Prof. Abhiram Ranade- Learning Programming in C++ .

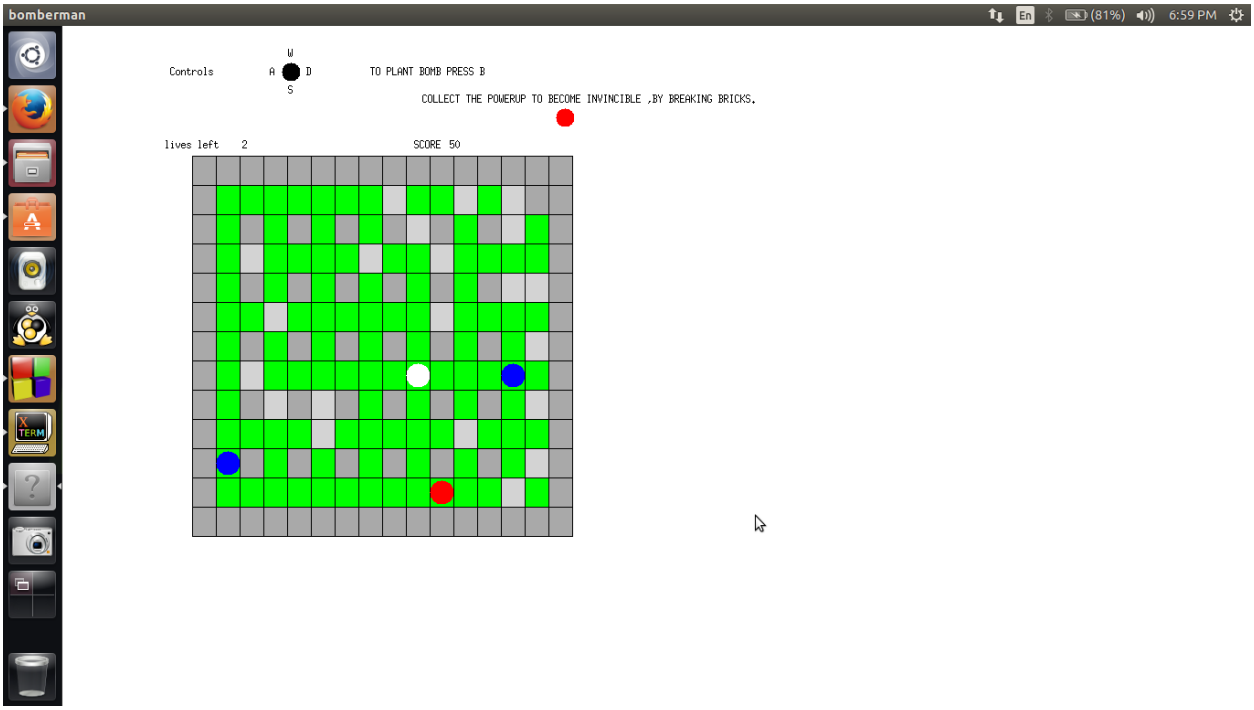
FLOWCHART

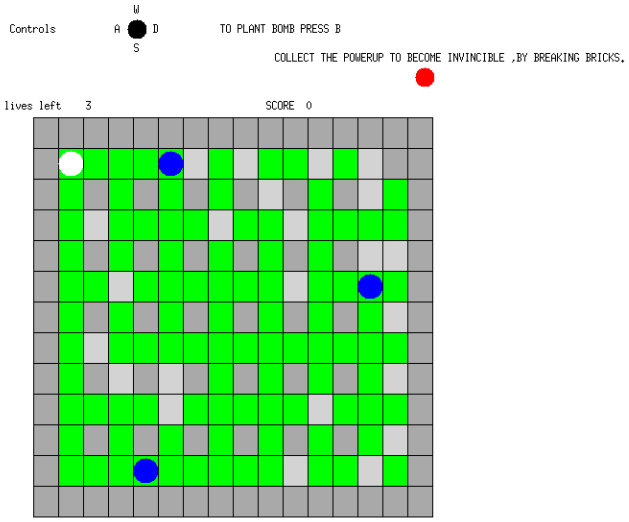

File is compiled
Instructions are shown
If Instructions is clicked
Canvas opens GUI is shown
if Play game is clicked
Level is Shown
Again asks for click
Infinite while loop
If life=0
If character reaches door
Game over Screen Blank Canvas closed

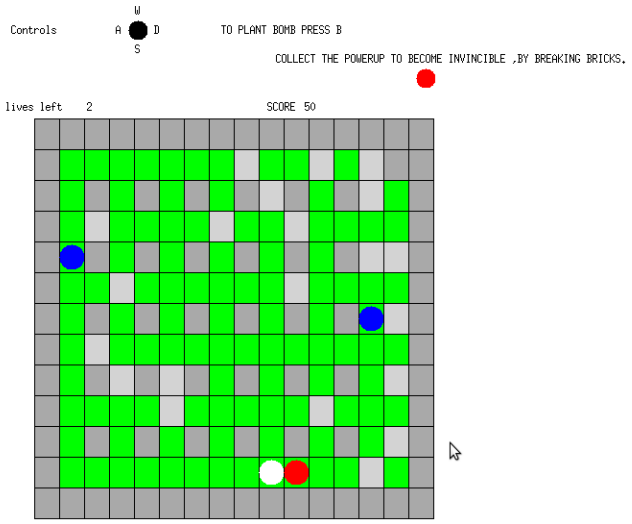
10.SCREENSHOTS

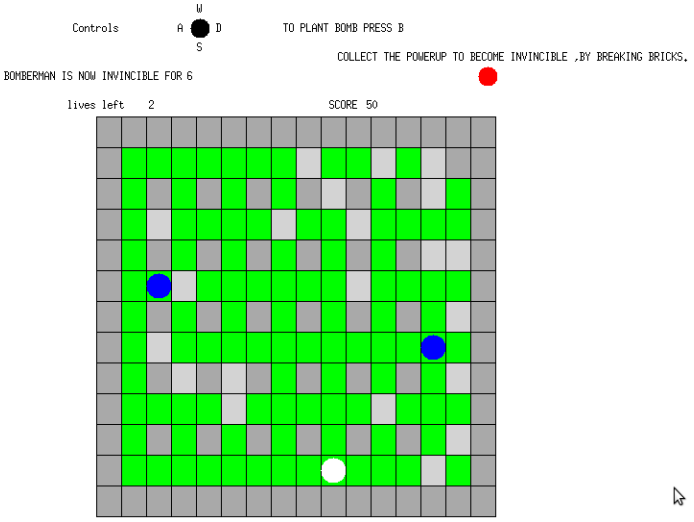





bomberman
(81%)
6:59 PM
Controls
W
A
D
S
TO PLANT BOMB PRESS B
COLLECT THE POWERUP TO BECOME INVINCIBLE ,BY BREAKING BRICKS.
lives left 2
SCORE 50


Controls
W
A
D
S
TO PLANT BOMB PRESS B
COLLECT THE POWERUP TO BECOME INVINCIBLE ,BY BREAKING BRICKS.
lives left 3
SCORE 0


W
Controls A D
S
TO PLANT BOMB PRESS B
COLLECT THE POWERUP TO BECOME INVINCIBLE ,BY BREAKING BRICKS.
lives left 2
SCORE 50


W
Controls A D
S
TO PLANT BOMB PRESS B
COLLECT THE POWERUP TO BECOME INVINCIBLE ,BY BREAKING BRICKS.
BOMBERMAN IS NOW INVINCIBLE FOR 6
lives left 2
SCORE 50