



# BATTLE ZONE

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# **1. Introduction**

## **1.1 Purpose and Background**

This game is intended purely for fun and it is based on a popular game pocket tanks.

## **1.2 Overview**

A game which can be played in two modes (1 Player and 2 Player), where the player fires weapons at the opponent from his/her tank. Based on how accurate the shot is, and the choice of weapon, player will be awarded points for each shot. After a fixed no. of rounds (user defined, between 1 and 10), the player with more points will be declared as the winner. The game is designed using C++ as the programming language.

## **2. General Description**

### **2.1 Functioning of the game**

**(a) 2 Player game-** Both players are humans competing with each other. The number of rounds are specified by the user. The game starts with Player 1 taking the first shot. Both players will fire at each other turn by turn. To fire, the angle (in degrees) and power (on a scale of 0 to 100) with which the shot has to be fired has to be selected. Finally, space key must be pressed to fire the bomb.

In the next version of this game we aim to include single player mode as well as various terrains along with a whole new bunch of weapons.

## **2.2 Operating Environment**

Operating environment for the game is listed below

- Operating System : Any OS which supports code::blocks
- Code::Blocks
- C++ Compiler

Header files used for making this project are:

- iostream.h
- math.h
- simplecpp.h
- stdlib.h
- time.h

Several graphics libraries have also been used in making of this project.

## **2.3 DESIGN AND IMPLEMENTATION CONSTRAINTS**

- i. Adjusting the tank's alignment according to the topography of the battlefield.
- ii. Showing the trajectories of the projectiles when fired.
- iii. Depiction of the explosion and its effect on scoring.
- iv. Design and implementation of special weapons and their effects.

## **2.4 SOFTWARE QUALITY ATTRIBUTES**

- Angle adjustment is easy.
- Different powers make the game interesting.
- Wind and terrain as variables keep the game from getting repetitive.
- Graphics make the game visually appealing.
- Different difficulty levels make the game interesting.

## **2.5 ASSUMPTION DEPENDENCIES**

- All the header files mentioned are present and compatible with the C++ compiler.
- Both the players wait for their own turns and don't make any move when it's the other player's turn.