POCKET TANKS SIM

Report submitted in partial fulfillment of the requirement for the degree of

Bachelor of Technology
In
Computer Science & Engineering

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INTRODUCTION

Pocket Tank Sim is an interactive single player game based on survival of a pocket sized tank in a war zone. It is easy to learn and fun to play but the twist in the game is that rather than the tank attacking the enemies, it actually tries to defend itself by deflecting the bomb away using the deflector on the top of the pocket sized tank. In this version of the game there is a depiction of a single bomb which keeps on deflecting in the war zone. It is necessary to deflect the bomb and not leave the bomb to drop on the ground. The moment the bomb drops on the floor the game is over. The game is built in c programming language. It uses the graphic library files to design, color, and animate different geometrical curves and shapes. It also uses the standard I/O library files to perform standard input and output commands. The time control of the animation, wherever required, is handled using dos library files.

CODE

```
    #include<graphics.h>
#include<process.h>
#include<dos.h>
#include<conio.h>


void main()
{

int SCORE[1];
int x=300,y=415,f=0,l=0,i=250,ch;

//graphics initialization
int gd=DETECT,gm;
initgraph(&gd,&gm,"C:\\TURBOC3\\BGI");
setbkcolor(13);

starting:
outtextxy(220,240,"PRESS Y TO START GAME");
ch=getch();
if(ch==89||ch==121)
goto proceed;
if(ch==27)
return(0);
if(ch==110||ch==78)
return(0);
else
goto starting;
proceed:
i=250;
x=300;
```

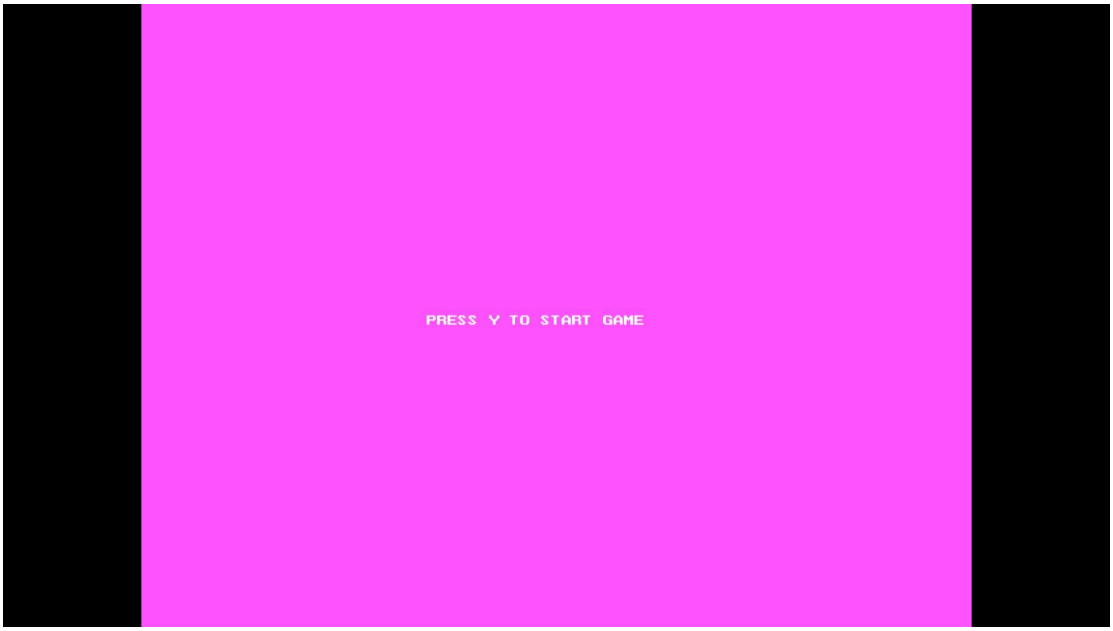
```
y=415;
f=0;
l=0;
while(1)
{

//bomb
circle(x,y,15);



//tank making starts

// bigger wheels
circle(250-20+i,400+50,5);
circle(250-10+i,400+50,5);
circle(250+i,400+50,5);
circle(250+10+i,400+50,5);
circle(250+20+i,400+50,5);

//smaller wheels
circle(250-25+i,395+50,2);
circle(250-15+i,395+50,2);
circle(250-5+i,395+50,2);
circle(250+5+i,395+50,2);
circle(250+15+i,395+50,2);
circle(250+25+i,395+50,2);

//wheel chain
line(250-25+i,405+50,250+25+i,405+50);
line(250-25+i,393+50,250+25+i,393+50);
arc(250-25+i,399+50,90,270,6);
arc(250+25+i,399+50,-90,90,6);

//tank structure
```

```
rectangle(250-26+i,383+50,250+26+i,393+50);
rectangle(250-13+i,378+50,250+13+i,383+50);

//deflector
ellipse(250+i,378+50-10,220,320,50,10);



//war zone boundary
line(10,20,getmaxx()-10,20);
line(10,20,10,getmaxy()-20);
line(getmaxx()-10,20,getmaxx()-10,getmaxy()-20);
line(10,getmaxy()-20,getmaxx()-10,getmaxy()-20);

//gameplay display instruction
outtextxy(10,10,"Press Esc to quit");
outtextxy(320,467,"\t\tDEFLECT BOMB TO SURVIVE");

//deflection mechanism
if(x>=614||x<=25)
f=!f;
if(f)
x=x-1;
else
x=x+1;
if((y>=418&&x<=i+26&&x>=i)||y<=35)
l=!l;
if(l)
y=y+1;
else
y=y-1;
if(y==418&&x<=i+26&&x>=i)
SCORE[0]=SCORE[0]+1; //score increment
moveto(600,10);
outtext(SCORE);
```

```
if(y>=418)
goto finishing;

//tank movement mechanism
if(kbhit())
{
ch=getch();
if(ch==75) //move 1 step left
{
i=i-5;
}
if(ch==77) //move 1 step right
{
i=i+5;
}
if(ch==27) //quit
exit(0);
}
delay(2); //bomb movement speed
cleardevice();
ch=0;
}
finishing:
outtextxy(280,240,"GAME OVER!!!");
outtextxy(220,260,"PRESS Y TO PLAY AGAIN");
ch=getch();
if(ch==89||ch==121)
goto proceed;
if(ch==27)
return(0);
if(ch==110||ch==78)
return(0);
else
{
```

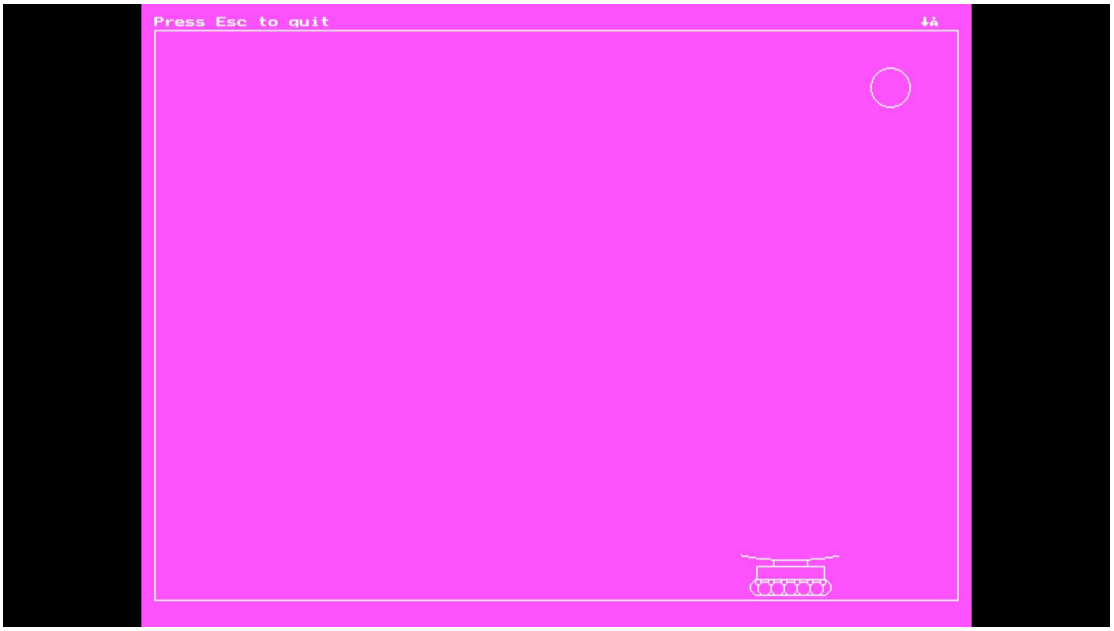
```
cleardevice();
goto starting;
}
}
```

RESULT AND DISSCUSSION



This the start screen of the Pocket Tank Sim game.

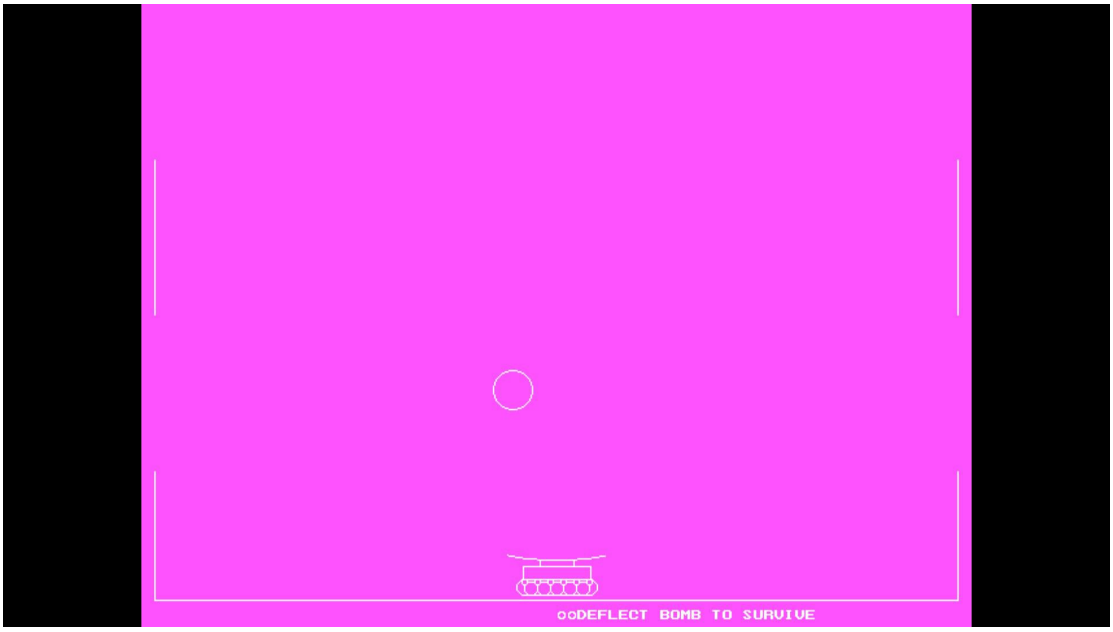
The user is asked to press Y to start the game. If the user does not wants to play they may press N or Esc button.



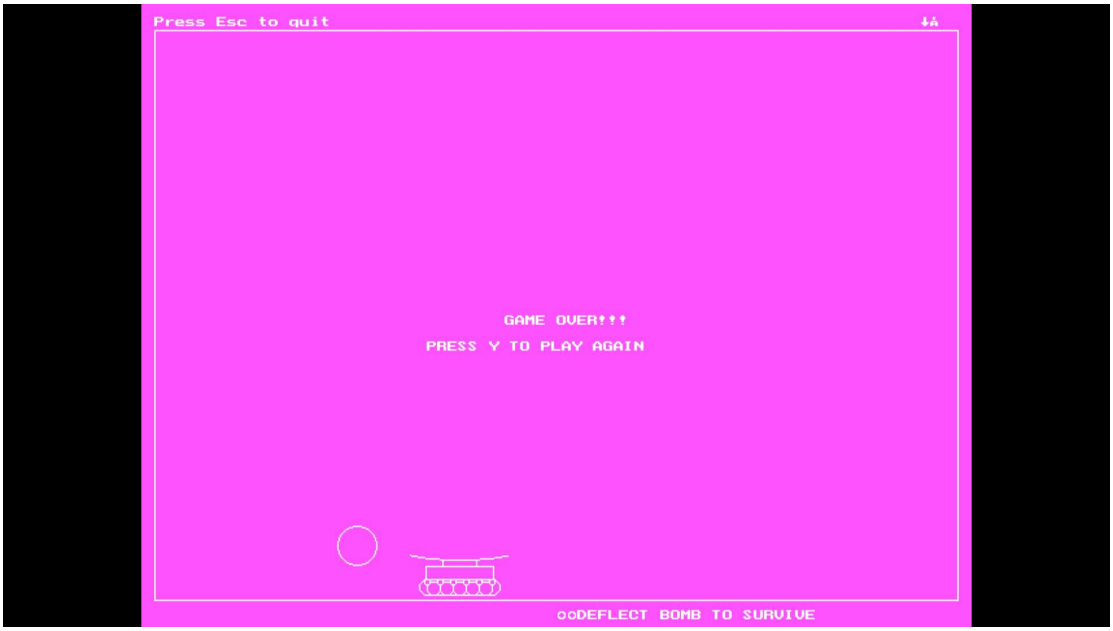
This is screen capture during the start of the game.

That is the Pocket Tank at the bottom of the screen and that is the bomb there at the top right corner of the screen.

The white boundary depicts the war zone.



This is another screen capture of the gameplay. Here the tank has moved to left from previous position on press the left arrow key on the keyboard.



As the bomb is missed by the Pocket Tank to deflect the game is over.

Now the user is asked to press Y, if they want to play again otherwise press N or Esc key quits the game.

FUTURE SCOPE

Since the game is in its initial stages hence it has a very basic gameplay.

In further versions to be updated we are trying to implement the following;

- Multiple bombs.
- Increased gameplay speed as survival time increases.
- Adding a time counter.
- Increasing the deflecting capability of the Pocket Tank.
- We may also try to add the destroy mode wherein the Pocket Tank attacks the bombs and destroys it.
- We are also trying to add another tank as the enemy tank.
- Movement across the whole war zone.

There can be many numerous changes and addition in further versions as we learn more.

CONCLUSION

Playing this game and going through its source code we can learn a lot about the implementation and working of graphic functions in c programming. Further we also learn about interactive programming. We learn the minutes of the response control based animated programming. It can help in critical thinking of the user and help in exploring other possibilities.

REFERENCES

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