

Project Report

(Stage 2 Submission)

of

the game

FRUIT CATCHER

(LAB BATCH 121)

The Changes made after the stage 1 submission

We have made a slight modification in the function name and description.

The class and the functions used in the game are as:-

In the file “game.h”

```
class fgame
{
public:
    float new_xcoord;
    float new_ycoord;
    float getx_coord(); [Written by Avneesh]
    char user_input;
    int correct_fruit;
    int getnext_fruit(); [Written by Arun]
    int window_show;
    int check_box();
    int get_hurdle(); {written by Ashish Kale}
    void getinput(char*input);
    void pause_execution(double);
    void delay();
    void instructions(); {written by Arpit Khunteta}
    void load_fruit(); {{written by Bhupendra}
    void load_basket();{written by Bhupendra}
    void check_basket(); [Written by Avneesh]
    void load_samefruit(); {written by Arpit Khunteta}
    void fcwindow_show2(); {written by Bhupendra}
    void fcwindow_show1(); {written by Arpit Khunteta}
}Ball;
/*****
```

In the file “score.h”:-

```
class score
{
public:
    float final_ycoord;
    float final_xcoord;
    int level;
```

```

int life;
long int point;
void get_score(); {written by Sachin}
void get_level();
void get_life(); {written by Avinash}
void change_level(); {Written by Arun/debugged by Avneesh}
}Score;
/*****

```

We have also made a separate .h file to define the images named as images.h which is also writtn by Ashish Kale.

```

/*****

```

These are the goble variables and functions that is defined throughout the programme.

Besides other local functions are as:-

```

void MouseEvent(char a);{Written by Avinash and Sachin}
void delay();
void moveleft();
void moveright();
void movedown();
void moveball();[Written by Sachin and Avinash]
int play();[Written by Avneesh and Arun]
int getch( );[Copied from friend]
int kbhit();[Downloaded from net]
void load_button(){written by Ashish Kale}

```

```

/*****

```

(Earlier we had used the following classes and functions that we had decided to change later:-

```

class coordinates
{
public:
float new_xcoord;
float new_ycoord;
float getx_coord();
float gety_coord();
char change_coord(char);

```

```

};
class fgame:public coordinates
{
public:
    char user_input;
    int correct_fruit;
    void getinput(char*input);
    void pause_execution(double);
    int fgameplay();
    int getnext_fruit();
    void load_fruit();
    void load_basket();
    void check_basket();
    int check_box();
        void load_samefruit();
}object1;

```

```

class score:public fgame
{
public:
    float final_xcoord;
    float final_ycoord;
    int level;
    int life;
    long int score;
    void get_score();
    void get_level();
    void get_life();
}object2;

```

/***/

Besides earlier we had made the game using the simple shapes because the image was not getting loaded but now we have used the image instead of the simple shapes. However instead of the image of the fruits we have used the simple circle shapes of the circle class of the EzWindows because after loading the image the programme was getting slow.

/***/

However earlier we were not defined about how many levels we will keep in the programme but now we are keeping six levels altogether.

```
/******  
I/O Specifications
```

I/O Specifications

Earlier we were using the cin command to take the input hence we had to press the enter key after every command but now we are using the getch() function under the disco.h library to take the input. In this we are using the terminal to take the input but we got rid off pressing the enter key after every input. Also we have changed the controls. Now the controls are governed as:-

a/A-Move the ball right

d/D-Move the ball left.

z/Z-Move the ball down.

```
/******
```

Rest of the things remain the same.

Brief Description of the various modules

In the class FC game we have made the following functions:-

1.float getx_coord()-This function gets the x-coordinate of the center of the moving ball after each and every step while playing the game.

2.float gety_coord()-This function gets the y-coordinate of the center of the moving ball after each and every step while playing the game.

3.getnext_fruit()-This function uses the rand() function of the c++ to generate the random number that is being used to generate the random fruits after execution of each and every loop.

4.int check_box()-This function is used to check the final placement of the ball. Whether the ball is in the right basket or not.

5.void check_basket()-This function actually increases the scores (and levels) as well as decreases the life if the ball falls in the wrong basket or it hits the hurdles.

6.int get_hurdle()-This function helps to get appropriate hurdles in the

appropriate level.

7.void pause_execution(double)-This function controls the delay time of opening of the two consecutive windows.

8.void delay()-this function basically delays the movement between the two step of the ball.

9.void instructions()-This function loads the instructions for palying the game when required by the user.

10.void load_fruit()-This function basically loads the different fruits after execution of loops.

11.void load_basket()-This function loads the image of the baskets in different levels.

12.void load_samefruit()-This function actually works in a loop and it helps to load the image in the next step and delete the last drawn image.

13.void fcwindow_show()-This function loads the home window of the game.

14.void fcwindow_show2()-This function loads the menu window of the game which includes many bitmaps.As well as it also executes the further opening of the game window/intruccion window/exit.

In the class score we have the following functions that is being described below:-

1.void get_score()-This function basically helps to print the score dynamically after every loop.

2.void get_level()-This function basically renders the text named as current level in the game window.

3.void get_life()-This function helps to draw the image of the heart for the

corresponding life.

4.void change_level()- This function increases the level as well as checks the level.

The locally defined function are described below:-

1.void MouseClickEvent()-This function basically is a replacement of the mouse click event.This basically loads the play window/instruction window or exit the programme.

2.void delay()-This function uses the loop to delay the happening between the two events.

3.void moveleft()-This function helps to move the ball to the left.

4.void moveright()-This function helps to move the ball rightwards.

5.void movedown()-This functions move the ball down.

6.void moveball()-This function draws the circle,delete the previous circle and again draws the new one.

7.int play()-Play function is the function that governs the game.It calls all the above defined functions in itself and accordingly synchronise them for the correctmovement of the ball,checking the hurdles,increasing level,decreasing life etc.Mean it synchronise all the above defined functions.

8.int getch()-This function helps to take the input from the keyboard without the use of the enter key after every input.

9.int kbhit()-This functions basically return 0 when there is no hit on the keyboard otherwise it returns 1 and hence this function is a very crucial function of our programme that helps the ball to comedown even when there is no hit on the keyboard.If we have used any other functions as cin/getchar/gets the ball would not have came down of its own.It would have to wait for the input from the user.

10.void load_button()-This function is used in the programme to load the images of the buttons that we have used in the programme to display the score on the game window.

Status of completion

This project is complete.

Ideas of the future work

1. We can increase the levels by adding vertical moving hurdle.
2. We can improve the graphics part of the game.
3. Better user interface.
4. Two player game.

Bibliography

1. Programming in C++ by Cohoon and Davidson.

2. www.cplusplus.com

3. www.google.com

4. www.wikipedia.com

5. www.cse.iitb.ac.in/~cs101

