



University of Dhaka
Department of Computer Science and Engineering

Project Report:
Fundamentals of Programming Lab(CSE-1211)

Project Name:
MIG-29

Team Members:

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Roll No : 55

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Roll No : 57

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Roll No : 61

Introduction :

MIG-29 is an SDL-based action game written in C language. This game is based on the defence system of Bangladesh Air Force(BAF) Team .It also represents our Freedom Fighters on Bangladesh Air Force Sector .

Objectives :

- 1.Presenting the structured C language learning in Real-life project
- 2.Nice looking graphics and animation along with interactive sound
3. Well organised and documented code to easily understand and further Development
- 4.Making a simple yet interesting action game on tributing our Bangladesh Air Force(BAF)

Project Features :

1. Simple, clear and easily customizable code in a structured and modularized manner with proper commenting.
2. Easy installation in Debian-Based Computers and one-click installation process Direct Install and Play (bash script will download everything required)
3. Memory efficient design and Same performance in every device (if possible to play)
4. One Command Game update & upgrade to the latest release feature with “./update.command”

A Loading page with the game logo (Custom Created)



This is our main menu option for this game. We include five options for the menu .

START GAME, CONTROLS, HIGH SCORES, CREDIT, EXIT. If we press the High Score option the HIGH SCORE page will be opened .



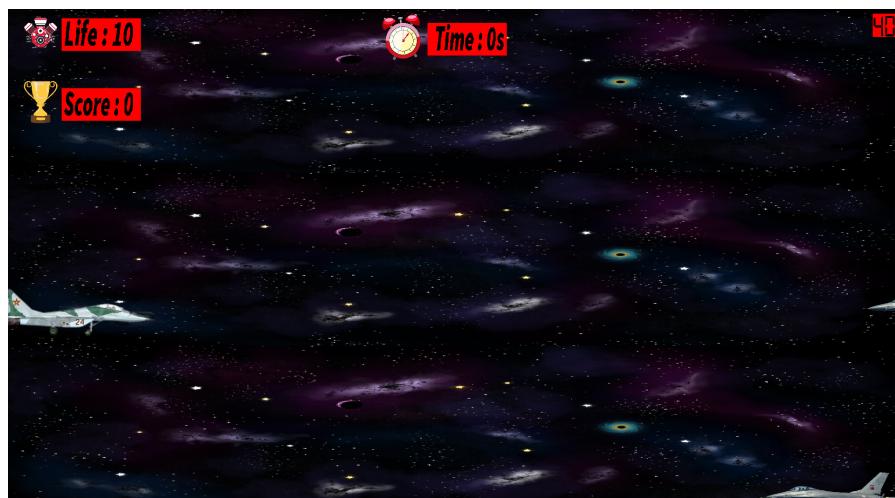
This is our HIGH SCORE page . In this page we include two options .

->Easy Level

->Hard Level

Press the easy button and hard button to go to the other page .

After pressing these two buttons the game will be started .



When the will be closed these scoreboard pages will be shown .In this scoreboard page we see two buttons ,one is BACK Button and Other is REFRESH button .If we press BACK Button the main menu will again open .The refresh button is to refresh the Scoreboard .



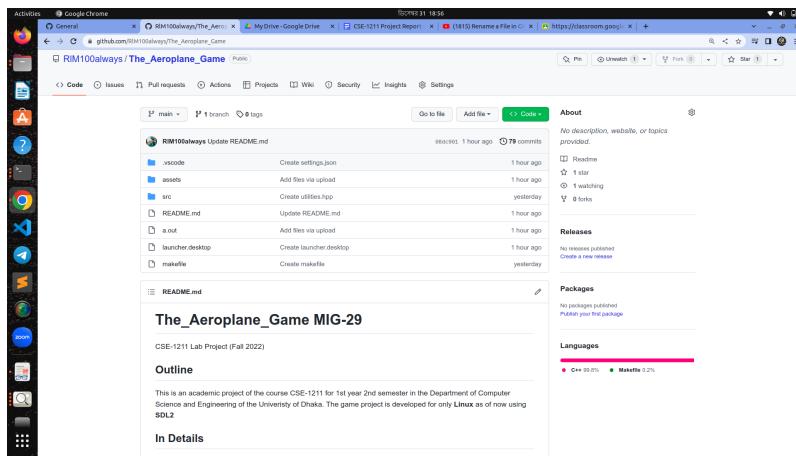
This is Game Over page .In this we see the score of a player .In this we see two menu .One is MAIN MENU and Other is PLAY AGAIN Button .if we want to play this button the game will be Play Again .



This is our Control Option .Here we describe all .How to play this game .How to move Upwards ,move Downwards ,move Right ,move left .



.Online presence of code with a powerful GitHub Repository with information. Clean GitHub Workflow with best practices of git.





Project Modules:

1. main.cpp

Calling a struct Game variable and using its functions init(), running(), handleEvents(), update(), and render() in the main() function for initialising, running loop, handling the events, updating the game and game objects and rendering the objects respectively. Moreover, we are quitting the game by calling the destroy_window() function from the ‘Game’ structure.

2.global.hpp

This header contains necessary global variables

3.init.hpp

This file contains all the definition of necessary functions to initiate the game and create a window and a renderer

4.header.cpp

This header file contains all necessary header files needed to compile the program

5.media.hpp

This file contains all textures and related functions used in the program

6.preprocessor.hpp

This file includes SDL2,SDL2_image,SDL2_ttf,SDL2_mixer and standard C++ library functions that will be necessary to call standard C++ and SDL2 functions

7.stages.hpp

This file contains all game stage structures and functions

8.text.hpp

This file contains functions and variable related to text rendering

9.utilities.hpp

This file contains functions and variable related to time show ,frame rate calculation,score show ,music & button structures

10.close.cpp

This header contains function to close and free the sdl2 functionalities

Team Member Responsibilities

Md Shamsur Rahman Sami

- Graphics Designing (Photoshop)
- Structured Game Source Code Writing in C++
- Load Media Control
- Youtube version Control

- Bug Fixing
- Logic design and implementation

Sabrina Hossain

- Game Logic Design
- Structured Game Source Code Writing in C
- Font, File Handling, Sound.
- Logic design and implementation
- Page Showing Code, Dynamic Menu, Game Deployment

Md Rakib Hossain

- Version Control (Git/GitHub)
- Bug Fixing
- Report Writing
- Instruction Coding
- Code Testing
- Logic design and implementation
- Structured Game Source Code Writing in C++

Platform, Library & Tools

- C/C++ - Basic coding of the game done in c!
- VS Code - Free. Built on open-source yet powerful IDE!
- SDL2 - cross-platform development library designed to provide low-level access!
- Git/GitHub - software development and version control using Git!

Repositories & YouTube Video :

GitHub Repository:

https://github.com/RIM100always/The_Aeroplane_Game.git

Youtube Video:

https://i.facebook.com/l.php?u=https%3A%2F%2Fyoutu.be%2Fd59HBw8ePq%3Ffbclid%3DIwAR3U-z6S-mPdJHZRKsNFaMfGtYfemugh8Pa6RI7zqzv9oNLYh5QFa58s9k4&h=AT2TWG-nahER9D9TvV7E-c3eHl6dWyIQi5pxIOZeGBOVexYSveMLXd7PsHadES_IdY3KLfwOhyI90PbK0gddshGMQosySbxBYMQ8177BX6U39sA61O--tjBQwysCKqJXx2Ru4HsC7IS_uLg

References:

1. SDL Learning Sources:

<https://lazyfoo.net/tutorials/SDL/>

2. Free Image Source:

<https://www.freepik.com/>

