

# Graphics : Assignment 2

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## Assphalt : Plane version

### About

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This game has been developed to emulate a fighter plane. The plane flies across the vast sea, as it shoots down enemies with bombs and missiles.

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### Run the game

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Execute following commands inside of the `build` folder.

```
cmake ..  
make all  
./assphalt
```

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### Controls

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#### *Views*

Keys	Functions
F	Follow Cam View. Default. Camera sits on top of the plane and follows the movement of the plane.
H	Switches to Helicopter View. Movement of mouse causes camera to rotate around the camera.
P	Gives the first person view of the plane, of how the plane sees the world.
T	Tower view. View of the plane as viewed by a person at the same height as the plane.

Keys	Functions
U	Top view. The plane as viewed from above.

### *Gameplay*

Keys	Functions
A	Rotates plane to the left, about Y - Axis
D	Rotates plane to the right, about Y - Axis
Q	Rotates counter-clockwise, as looked from Z - Axis
E	Rotates clockwise, as looked from Z - Axis
S	Go back
L	Pitches plane
B	Pitches plane
Left Click	Shoots missile
Right Click	Drops bombs. Limited number of bombs are available.
Space	Rise in altitude
Down Key	Decrease in altitude

## Files

List of files changed to make the game, and their functions.

Filename	Code contained
ball.cpp	All primitive objects constructed by ball.cpp
ball.h	Header file for ball.cpp
ball.cpp	All primitive objects constructed by ball.cpp
bomb.h	Header file for most primitive objects
bomb.cpp	Code for primitive objects construction

Filename	Code contained
camview.cpp	Changes view on keypress
config.h	Contains variables to be accessed by all files.
functions.h	Header file for all functions used throughout the files
ground.cpp	Contains code to create the sea
ground.h	Header file for ground.cpp
handleinput.cpp	Handles all input given through the keyboard, and calls appropriate functions
main.cpp	Main file containing code that starts the game
obstacles.cpp	Class for obstacles
obstacles.h	Header file for obstacles.cpp
obstacleFunctions.cpp	Helper functions that aid in construction of the obstacles.
plane.cpp	Plane constructor code
plane.h	Header file for plane.cpp
planeFunctions.cpp	Helper file, which aids in constructing the plane piece by piece, using primitives like cylinder, cone, triangles etc.