**Chapter 3**

**ABOUT THE PROJECT**

**3.1 Introduction to the project**

This mini project on **SOLUTION REPRESENTATION OF DINING PHILOSOPHER PROBLEM**. The dining philosophers problem states that there are 5 philosophers sharing a circular table and they eat and think alternatively. There is a bowl of rice for each of the philosophers and 5 chopsticks. A philosopher needs both their right and left chopstick to eat. A hungry philosopher may only eat if there are both chopsticks available. Otherwise a philosopher puts down their chopstick and begin thinking again.

**3.2 User Defined Functions**

There are eleven user defined functions in the source code as mentioned below,

1. **void Write(double x, double y, double z, double scale, char \* s)**

Used to display user feedback messages on the display window.

1. **void keyboard( unsigned char key, int x , int y )**

Displays and updates the solutions of the problem as per the input given by user by using keyboard .

1. **void chop1( )**

Updates the position of the chopstick 1 as per the solution. Similarly we use void chop2(), void chop3(), void chop4(), void chop5() for updating positions of chopsticks 2,3,4 and 5 respectively.

1. **void Draw\_clock( GLfloat cx, GLfloat cy, GLfloat cz )**

Used to draw the analog wall clock on the screen.

1. **void page1( )**

Displays a certificate page.

1. **void page2( )**

Displays menu for the user to enter his choice.

1. **void page5( )**

Displays a small description about the project when the user enters the respective key.

1. **void phil1( )**

Displays the philosopher on the output window.

1. **void phil1\_righthand( )**

Displays the philosopher’s right hand on the output window. Similarly for all other philosophers.

1. **void phil1\_lefthand( )**

Displays the philosopher’s left hand on the output window. Similarly for all other philosophers.

1. **void topview( )**

Displays the topview on the output window.