Assembly Language Game

MAJOR PROJECT SYNOPSIS

of

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in

ELECTRICAL & ELECTRONICS ENGINEERING

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1.1 INTRODUCTION

An Assembly language is the basic language that make each resistor work most efficiently and here we use 8086 microprocessor in which we make a interative game wheir we do balloon shooting, pacman like game library.

Components

- **8086 Microprocessor**

8086 Microprocessor is an enhanced version of 8085Microprocessor that was designed by Intel in 1976. It is a 16-bit Microprocessor having 20 address lines and16 data lines that provides up to 1MB storage. It consists of powerful instruction set, which provides operations like multiplication and division easily.

- **Assembly Language**

A processor understands only machine language instructions, which are strings of 1's and 0's. However, machine language is too obscure and complex for using in software development. So, the low-level assembly language is designed for a specific family of processors that represents various instructions in symbolic code and a more understandable form.

- **8086 Emulator**

8086 Microprocessor Emulator, also known as EMU8086, is an emulator of the program 8086 microprocessor. It is developed with a built-in 8086 assembler. This application is able to run programs on both PC desktops and laptops. This tool is primarily designed to copy or emulate hardware. These include the memory of a program, CPU, RAM, input and output devices, and even the display screen.

- **Aim Lab**

The results of the study concluded that doing the 6 recommended training on Aim Lab, for a total of 6 minutes every day, before playing Valorant for 1 week led to a significant improvement in the average damage output generated per round.

- **Baloon Shooter**

It’s a balloon shooting game where player shoots an arrow to hit the balloon and when the balloon gets hit it beeps and a new balloon pops up and you get to shoot another arrow towards it.

1.2 OBJECTIVE

- The main objective is to make the assembly language based game for the user so that their reflex is increase by far the great and also it help to maintain hand eye coordination and decrease reaction time.

1.3 FEASIBILITY STUDY

1.3.1 Technical feasibility

The project is technically feasible as it can be built using the existing available technologies. It is a 8086 microprocessor based gui game that was coded in assembly language. The technology required by Assembly Language game is available and hence it is technically feasible.

1.3.2 Economic feasibility

The project is economically feasible as the cost of the project is involved in the hardware that involve microprocessor, led screen and software requirement for the simulation of microprocessor. As the assembly language is fast and versatile and help to develop the full functionality of the microprocessor. In that case better processor might be needed but we do test on 8086 only at present stage.

1.3.3 Operational feasibility

The project is operationally feasible as the user having basic knowledge about computer and Internet. Also we are giving the instructions to use the assembly language game.

1.4 METHODOLOGY

We use the 8086emu simulator for the basic assembly language code for 8086 microprocessor and creating a series of game that make the hand eye coordination better and improve problem solving ability. Every registor get the code in assembly language when they need to work.

1.4.1 SOFTWARE/HARDWARE REQUIREMENTS

- 8086 microprocessor
- CPU (Pentium or higher with 1.8 GHz speed or higher)
- Stable internet connection (>2Mbps)
- LED Screen

1.4.2 BENEFITS TO THE SOCIETY

This type of game give mind different approach to think and help to develop problem solving skills. We need techniques that can be easily implemented and provide better results to this process.