x86 ASCII Dinosaur Game

A Preprint

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March 27, 2020

Abstract

Here comes x86 ASCII Dinosaur Game. Get ready to jump, duck and do all the Dinosaur things.

1 Introduction

Using primarily x86, with a sprinkle of C's ncurses library, in order to make a 2D ASCII Dinosaur plat former. Who knows if it is possible, but it is the thought that counts.

2 History

Intel was founded by two American engineers in 1968 with 2.5 million dollars in funding. Before they developed the x86 architecture, they focused on developing DRAM memory chips. After a series of unsuccessful and successful chips and becoming a public company, Intel pivoted towards microprocessors, beginning with the 4004 in 1971, which was primarily used within Japanese calculators. Following up in 1972, Intel released the 8 bit CPU called the 8008, and eventually the 8080 2 years later. These both used a simplistic instruction set architecture (ISA), with 8 registers and 8-bit instructions. In 1978, Intel altered its ISA with the 8086 microprocessor, using 80x86, known commonly as x86. With 16-bit instructions and 1 megabyte of main memory, this is faster than any of the previous microprocessors. Development began in it in 1976, and it was originally meant as a side project as they were planning to jump to 32-bit with the 8800 they were working on. The technology at the time inhibited the 8800 from continueing, so they hired Stephen Morse, a software and electrical engineer who identified key design flaws with the 8800, to be the sole designer of the 8086. This was the first time they have hired a software engineer to design their microprocessors. With a new software oriented approach of what features to add to make the software more efficient instead of what features can be added in, Intel ended up revolutionizing the industry.

At launch, the 8086 gained only minor traction due to the Z80, their competitors chip, being in most business machines as the standard. Eventually it entered the market of embedded applications as NASA used it for controlling their diagnostic tests. After Morse left Intel in 1979, Intel released the 8088, which drew the attention of IBM, who chose the use the 8088 for their first mass produced personal computer (PC). The 8088 was backwards compatible, where it would send 16 bits out in 8 bit cycles, allowing the x86 ISA to be continued. IBM's PC used off the shelf parts, and as Intel's 8088 was 16-bit and could reduce chip count, IBM went with them. Over time, other companies started cloning IBMs PC, meaning the 8088 got more usage and grew more popular. Due to this popularity, Intel innovated upon the 8088, creating new and improved CPUs that ran based on 32-bit (and eventually 64-bit) instructions, maintaining the 86 suffix on the naming.

With a modern strategy of maintaining backwards compatibility and a need to make instructions faster, Intel ditched the numerical naming for more standard branding such as Pentium and Centrino. With the 8086 being the start of a trend of rapid developments and add ons to the x86 architecture, Intel's CPUs holds a presence today like never before. x86 is the basis of most computer architectures today, all due to IBM deciding to run with it for their PC.

3 Control Structures

More

4 Data Types

You know, all the data types that x86 has. Ha!

5 Subprograms

Everything.

6 Summary

We are currently attempting to make an x86 ASCII Dinosaur Game, did you not read the paper?

7 Other

Only if you want.

References

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