Current Status of UNIX

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On Time/Format	1	
Correct	5	
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Concise	2	
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ABSTRACT

This paper is a review of the scholarly journal article *A Generic Library for GUI Reasoning and Testing* by João Carlos Silva, João Saraiva, and José Cressac Campos[1].

Keywords

Status, UNIX

1. INTRODUCTION

Originally, Unix was a computer operating system originally developed by a group of engineers at Bell Labs in 1969. Unix is still an operating system, but today it is more generally known as a family of operating systems based on a similar kernel and structure. Since Unix is now a family of operating systems, the owner of the trademark is now The Open Group. Unix is the parent project of Linux, BSD, and thus ultimately many well known operating systems, including Solaris and Mac OS.

2. THE UNIX WAY

Unix is well known for its openness. The trademark for Unix is currently owned by The Open Group, which a technology-neutral and open standard vendor.

Being open, the source-code is widely distributed for many Unix systems. For this reason, improvement is frequent and development has a large amount of innovative brains going into it. Its openness has led to accusations that both Unix and Linux are "bloated" in recent years.

However, the Unix system is not the only open product. Much of the software developed for Unix operating systems is becoming more open in recent years as well. Openness provides a very useful learning environment for those interested in learning about software and specifically operating system development.

3. THE KERNEL

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The components of the Unix kernel have also been carried into its children and Linux, to some extent, especially in the environment structure. The Unix Kernel is structured around the fact that the main purpose of computing is data transformation. For this reason, everything used to be represented as a file, even hardware. In the modern Unix kernel, this doesn't seem as practical with the advancement of network interfacing and the more developed user interface. Even in the modern kernel, the terminal can be used to essentially treat everything as a file or stream. Communication is then done via things called pipes.

4. THE 2038 PROBLEM

In recent nerdy discussions, the 2038 problem for Unix systems has been a common topic. Unix stores the system time as the number of seconds from midnight, January 1st, 1970. The number is stored as a signed 32-bit integer. The issue is that on January 19th, 2038 at 14:08 (UTC), the binary representation of the time will roll over from 01111111 11111111 11111111 11111111 to 10000000 00000000 00000000 00000000, thereby resetting the system time to 00:00, January 1st, 1970. There is really no simple solution to this problem as the current CPUs out there cannot store an integer larger than 32-bits.

5. CURRENT VERSION

The most commonly used distribution of Unix which operating systems are built upon today is Unix System V, commonly shortened to SysV. First released in 1983, it has been the most updated edition of Unix to date since it is the most stable, currently in its sixth revision.

The last version of Unix released by Bell Labs was Version 10 Unix in 1989. After this release, Unix development was discontinued at Bell Labs in favor of the Plan 9 operating system.

6. CONCLUSIONS

Unix has been the base for much of the modern interface of computers. While this may be characterized as a negative trait, the power that we have gained in both under-the-hood computing through the terminal and interface tweaks that have been innovated through third-party engineers have been vast and can frequently be credited to the Unix movement. Unix is a lively kernel that is continually expanding, becoming more secure, and proving to be more powerful.

7. REFERENCES

[1] J. C. Silva, J. Saraiva, and J. C. Campos. A generic library for GUI reasoning and testing. *ACM*, 2009.