ALLEGATO n. 1

Padova, 19/10/2021

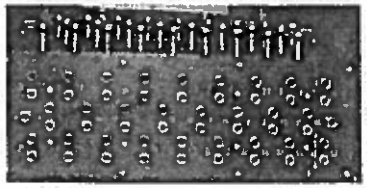
Concorso 22995/2021

Si discutano l'architettura e le caratteristiche salienti di un convertitore DC-DC isolato

PROVA (5)

History of Operating Systems

The First Generation (1940's to early 1950's)
When electronic computers where first introduced in the 1940's they were created without any operating systems. All programming was done in absolute machine language, often by wiring up plugboards to control the machine's basic functions. During this generation computers were generally used to solve simple math calculations, operating systems were not necessarily needed.



The Second Generation (1955-1965)
The first operating system was introduced in the early 1950's, it was called GMOS and was created by General Motors for IBM's machine the 701. Operating systems in the 1950's were called single-stream batch processing systems because the data was submitted in groups. These new machines were called mainframes, and they were used by professional operators in large computer rooms. Since there was such as high price tag on these machines, only government agencies or large corporations were able to afford them.

ALLEGATO N°3

Padova, 19/10/2021

Concorso 22995/2021

Si illustrino le caratteristiche circuitali, le metodologie di progettazione fault-tolerant e la validazione funzionale dei dispositivi logici programmabili tolleranti alla radiazione

PROVA (3)

ALLEGATO N° 4

WebOS, others)

Introduction to Operating Systems
History of Operating Systems
Specific information on Operating Systems
Social and Business Implications of Operating Systems
Current Events in Operating Systems
Stephen Morton
References
Sitemap

History of Operating Systems

The First Generation (1940's to early 1950's)
When electronic computers where first introduced in the 1940's they were created without any operating systems. All programming was done in absolute machine language, often by wiring up plugboards to control the most functions. During this generation computers were generally used to solve simple math calculations, operating systems were not necessarily needed.

The Third Generation (1965-1980)
By the late 1960's operating systems designers were able to develop the system of multiprogramming in which a computer program will be able to perform multiple jobs at the same time. The introduction of multiprogrammir major part in the development of operating systems because it allowed a CPU to be busy nearly 100 percent of the time that it was in operation. Another major development during the third generation was the phenomenal minicomputers, starting with the DEC PDP-1 in 1961. The PDP-1 had only 4K of 18-bit words, but at $120,000 per machine (less than 5 percent of the price of a 7094), it sold like hotcakes. These microcomputers help crea new industry and the development of more PDP's. These PDP's helped lead to the creation of personal computers which are created in the fourth generation.

ALLEGATO N°5

Padova, 19/10/2021

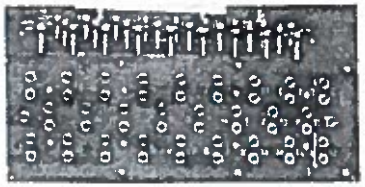
Concorso 22995/2021

La verifica funzionale di un circuito digitale è una delle fasi più importanti del flusso di progetto VLSI. Si illustrino le problematiche della verifica funzionale nelle sue diverse declinazioni all'interno del progetto, sia durante la fase di design che in quella di qualifica. Si discutano i benefici e i limiti delle diverse strategie di simulazione volte a massimizzare la probabilità di trovare errori di progetto in tempi e con risorse ragionevoli.

PROVA (4) tutto,

History of Operating Systems

The First Generation (1940's to early 1950's)
When electronic computers where first introduced in the 1940's they were created without any operating systems. All programming was done in absolute machine language, often by wiring up plugboards to control the mach functions. During this generation computers were generally used to solve simple math calculations, operating systems were not necessarily needed.



ALLEGATION

3

The Fourth Generation (1980-Present Day)
The fourth generation of operating systems saw the creation of personal computing. Although these computers were very similar to the minicomputers developed in the third generation, personal computers cost a very sm what minicomputers cost. A personal computer was so affordable that it made it possible for a single individual could be able to own one for personal use while minicomputers where still at such a high price that only corpo could afford to have them. One of the major factors in the creation of personal computing was the birth of Microsoft and the Windows operating system. The windows Operating System was created in 1975 when Paul All Gates had a vision to take personal computing to the next level. They introduced the MS-DOS in 1981 although it was effective it created much difficulty for people who tried to understand its cryptic commands. Windows become the largest operating system used in techonology today with releases of Windows 95, Windows 98, Windows XP (Which is currently the most used operating system to this day), and their newest operating systen Along with Microsoft, Apple is the other major operating system created in the 1980's. Steve Jobs, co founder of Apple, created the Apple Macintosh which was a huge success due to the fact that it was so user friendly. V development throughout the later years were influenced by the Macintosh and it created a strong competition between the two companies. Today all of our electronic devices run off of operating systems, from our comput smartphones, to ATM machines and motor vehicles. And as technology advances, so do operating systems.

ALLEGATO N°7

Padova, 19/10/2021

Concorso 22995/2021

Si illustri l'architettura, la tecnologia e il dimensionamento di un sistema di timing distribuito per un ipotetico sistema di fisica delle alte energie con 8000 canali di acquisizione sincrona, dove la frequenza di riferimento sia pari a 100MHz (master clock) e i requisiti di allineamento in fase tra i toni di riferimento dei campionatori (uno per canale, distribuiti) sia di 30 ps r.m.s.
Requisiti del sistema di timing:

- Distribuzione del Master clock
- Distribuzione di un tempo globale a 48 bit
- Distribuzione di comandi di acquisizione e validazione a latenza fissa
- Dislocazione dei punti di misura fino a 300m di distanza
- Possibilita' di verificare la correttezza del tempo globale presso le unita' di readout senza interferenza nel normale funzionamento dell'esperimento

PROVA 1

ALLEGATO N°8

Padova, 19/10/2021

Concorso 22995/2021

Un ipotetico esperimento di fisica fondamentale e' composto di circa 10000 rivelatori al silicio il cui segnale caratteristico e' un impulso di durata pari a 10ns e tempo di salita all'incirca pari a 1ns. Il sistema di lettura di tale ipotetico esperimento e' posto a piu' di 100m di distanza dal rivelatore per motivi logistici. Si illustri un possibile sistema di frontend, readout e timing che possa gestire un tale apparato, tenendo in particolare conto il budget di potenza richiesta che, a causa della dislocazione dell'esperimento non puo' essere maggiore di 20KW.

PROVA (2)

ALLEGATO N° 9

Padova, 19/10/2021

Concorso 22995/2021

In un circuito stampato che ospita segnali a radiofrequenza e segnali digitali molto veloci sorge il problema di garantire che il sistema di alimentazione della scheda non introduca eccessivo rumore nei componenti veloci, tale da compromettere la funzionalità desiderata. Si illustri il concetto di integrità di potenza in un circuito stampato e si indichino le metodologie di analisi e di progetto per garantire la funzionalità del circuito in esame.

PROVA 6