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ISHARE

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Enlight IT with Global Vision

K.S.Rangasamy College of Arts & Science (Autonomous). Tiruchengode

Technical Forum created by students for students

Inside this issue

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- Ambient Intelligence
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- Web 3.0
- Docking Framework for JAVA
- Semantic Web and Reality Mining

Lots more. Explore……

Department of Computer Science & Applications

UG(BCA & B.Sc)

PG(MCA & M.Sc)

M.Phil(CS)

EDITORIAL …

Today one of most attention seeking area is artificial intelligence and robotics. Since we were in the digital era , soon we may expect robots roaming around us and acting as our neighbors. With this issue we explored some knowledge about them. And in addition we have given the method to hack and protect our passwords. Some short cut run commands were given in order to consume our time. Memory device undergoes a rapid change and since we offered a profile of variations of memory devices. Many More useful and interesting informations are in this edition of I SHARE....

Editorial Board

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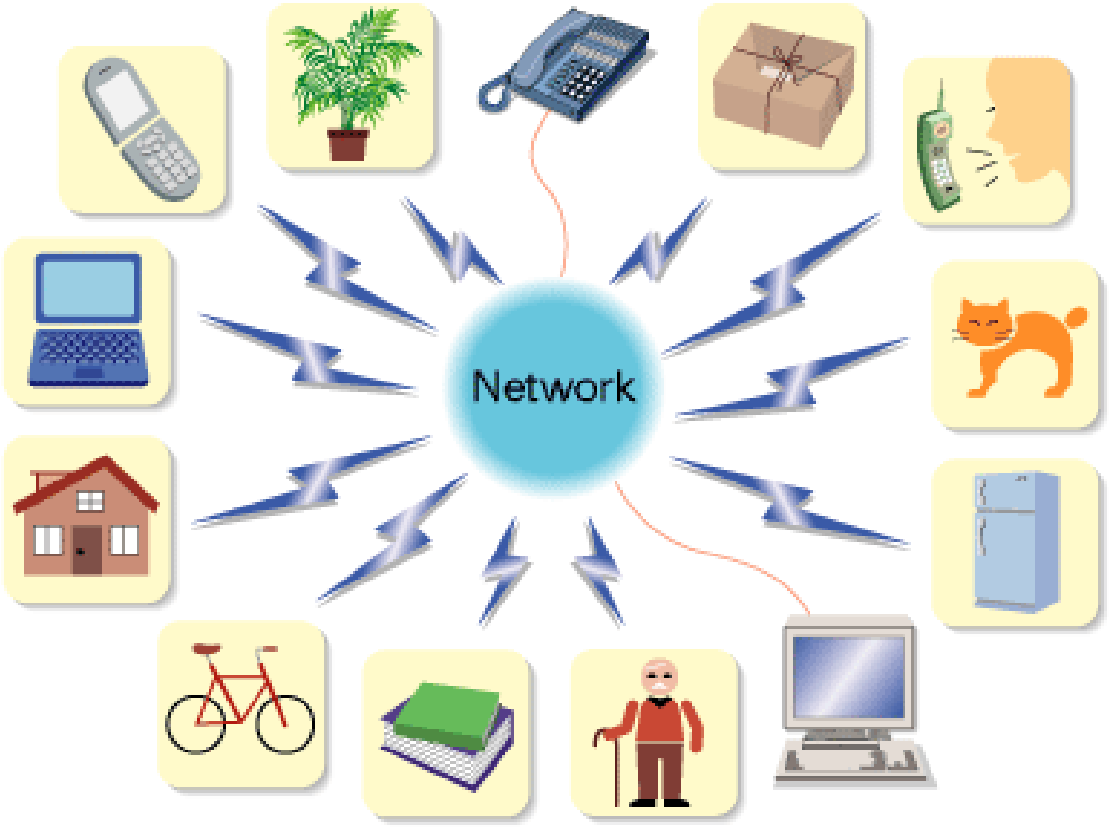
Ubiquitous Computing

Author

G.Manigandaprabhu,
III B.Sc(CS)B

This article helps to know about the ubiquitous computing.



Ubiquitous computing will enable diverse wireless applications, including monitoring of pets and houseplants, operation of appliances, keeping track of books and bicycles, and much more.

Overview

Ubiquitous computing is a human-computer interaction model that integrates the information processing into everyday objects and activities. It is a paradigm shift that makes the technology virtually invisible in our lives. In the first wave of computing, mainframes were shared by lots of people. In the second wave of computing, personal computers were engaged by individual users.

In the third wave of ubiquitous computing, many computational devices and systems are engaged by a single user simultaneously. In a Ubiquitous computing environment, you can expect hundreds of wireless computing devices of different sizes integrated in a single room. Ubiquitous computing is normally wireless, mobile, and networked, allowing its users to get connected to the world around them. It is the opposite of virtual reality. It integrates human factors, computer science, engineering, and social sciences and uses different user interfaces, operating systems, networks, and wireless communications.

History

Mark Weiser in 1988 articulated the idea of ubiquitous computing for the first time at the Computer Science Lab at Xerox Palo Alto

Research Center (PARC). He coined the phrase "ubiquitous computing" and wrote several papers on it. The initial forms of ubiquitous computing include tabs, pads, and boards. The first ever known ubiquitous system was the artist Natalie Jeremijenko's Live Wire or Dangling String situated at Xerox PARC, under the technical leadership of Mark Weiser.

Mark Weiser suggested the idea of enormous number of ubiquitous computers embedding into everything in our everyday life so that we use them anytime, anywhere without the knowledge of them. Today, ubiquitous computing is still at an early phase as it requires revolutionary software and hardware technologies.

Concepts

All ubiquitous computing models have robust devices distributed at all scales. Some of the core concepts of these models are given below.

- Contemporary command-line/menu-driven or GUI based Human Computer Interactions
- Hi-tech, silicon based new computing gadgets
- Distributed connection
- Small form electronic devices with better ambient displays, public screens, and new input techniques
- Readily available, high bandwidth, wireless data communication
- Personalized machine learning with better logic and inference
- Automatic identification through RFID or numbering schemes
- Mechanical, chemical, electrical, and bio-sensing mechanisms
- Physical, informational, and social context awareness

- Smart control embedded systems
- State and behavior encapsulated virtual counterparts

Applications

There are very diverse ubiquitous computing applications that are based on human computer interaction (HCI) models. These applications use traditional graphical or text-based user interfaces that allow speech, gesture, and physical interactions. They are context-sensitive and add additional capabilities and functionalities to every day objects. They are embedded in real world environment to help in multi-tasking with access to large volumes of diverse information and enable user collaborations.

The major functional units of ubiquitous applications are

- Interfacing
- Processing
- Communicating

Some of ubiquitous applications include the following.

- Home network
- Entertainment and gaming
- Intelligence service
- Ubiquitous learning
- Tourism
- Transportation
- Ubiquitous business and shopping
- Research laboratories
- Health monitoring

The major problem with ubiquitous computing applications is privacy. As ubiquitous environment gets complete information of the user in that environment, the potential of leaking the information cannot be ruled out. Another problem is about maintaining personalization of ubiquitous computing environment. Whenever a new person joins, his profile must be added to all devices and updated when moved to a new site. Wearable Computer

A wearable computer is a personal computer that is worn on the body like a piece of clothing to implement behavioral modeling or health monitoring systems or information technologies. It is used by military and government professionals in many of their daily operations. The US Army's Land Warrior system is the most extensive wearable computer that forms an inevitable part of the warrior system. A wearable computer provides computational support for the user based on the context while his body is actively engaged in the physical environment. Some of the issues that are prevalent in wearable computer are power management, heat dissipation, personal area networks, wireless connections, software architectures, and sensor networks. But it can be augmented into all actions and acts as an extension of user's mind or body.

Some of the few milestones in the history of wearable computer are given below.

1961 - First wearable computer was designed by the mathematician Edward O. Thorp and Claude E. Shannon. The system had a small packet sized analog computer that predicted roulette wheels

1966 - Thorp's book "Beat the Dealer" first mentioned the invention of the wearable computer

1967 - Hubert Upton created an analogue wearable computer with an eyeglass-mounted display to aid lip reading

1970 - Eudaemonic Enterprises created similar roulette-prediction wearable computers using next-generation technology with CMOS 6502 microprocessors.

1980 - Many general-purpose wearable computers came into existence

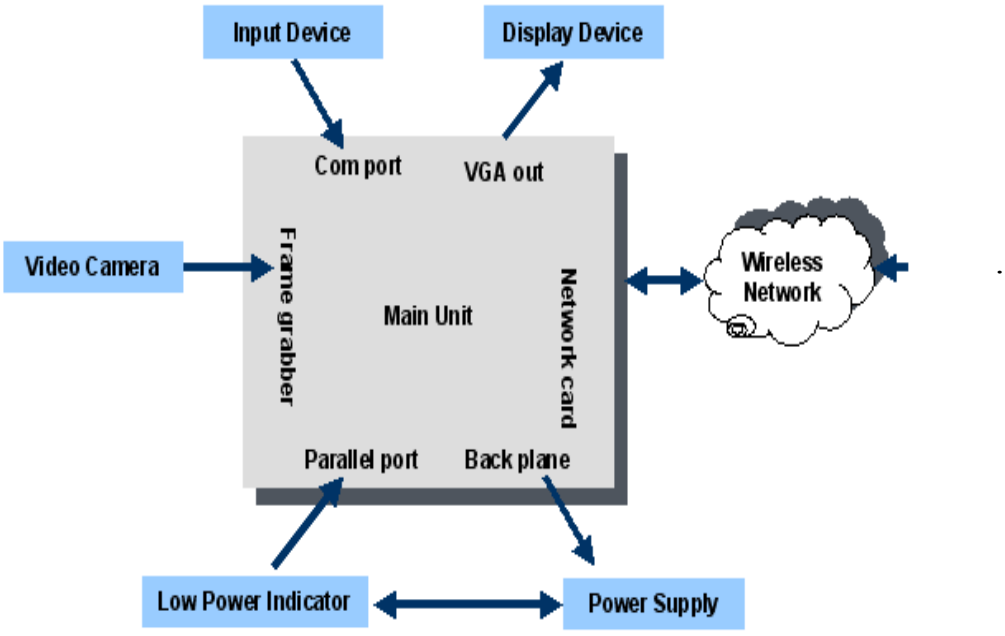
1981 - Steve Mann built a new backpack-mounted 6502-based computer with flash-bulbs, cameras and other photographic systems

1994 - Steve Mann created the Wearable Wireless Webcam

1989 - Private Eye head-mounted display was built by Reflection Technology

1993 - Columbia University built Knowledge-based Augmented Reality for Maintenance Assistance (KARMA)

Wearable Computer Implementation Diagram



Feature	Ubicomp	Wearables
Privacy	**No**	**Yes**
Personalization	**No**	**Yes**
Localized information	**Yes**	**No**
Localized control	**Yes**	**No**
Resource Management	**Yes**	**No**

Wearable computers provide privacy and personalization to every user, but fail in maintaining localized information. It cannot sense information beyond the local area of the user. Even wearable computers cannot manage resources among several people. Ubiquitous Vs. Wearable Sensors in Ubiquitous Computing.

Features	**Sensor Network**
Nodes	100 to 1000
Failure	Prone to failure
Deployment	Densely
Resource	Limited
Power	Limited
Changes in Topology	Frequent
Communication	Broadcast

Do U Know

- The speed of light is 186,000 miles per second.
- It takes 8 minutes 17 seconds for light to travel from the Sun's surface to the Earth.

Ambient intelligence

Author

S.Sasikala,
Lecturer, CS

This article helps to know about the Ambient Intellegence.

In computing, **ambient intelligence** (**AmI**) refers to electronic environments that are sensitive and responsive to the presence of people. Ambient intelligence is a vision on the future of consumer electronics, telecommunications and computing that was originally developed in the late 1990s for the time frame 2010–2020. In an ambient intelligence world, devices work in concert to support people in carrying out their everyday life activities, tasks and rituals in easy, natural way using information and intelligence that is hidden in the network connecting these devices (*see Internet of Things*). As these devices grow smaller, more connected and more integrated into our environment, the technology disappears into our surroundings until only the user interface remains perceivable by users.

The ambient intelligence paradigm builds upon pervasive computing, ubiquitous computing, profiling practices, and human-centric computer interaction design and is characterized by systems and technologies that are (Zelkha & Epstein 1998; Aarts, Harwig & Schuurmans 2001):

- embedded: many networked devices are integrated into the environment
- context aware: these devices can recognize you and your situational context
- personalized: they can be tailored to your needs

- adaptive: they can change in response to you
- anticipatory: they can anticipate your desires without conscious mediation.

Ambient intelligence is closely related to the long term vision of an intelligent service system in which technologies are able to automate a platform embedding the required devices for powering context aware, personalized, adaptive and anticipatory services.

Overview

An (expected) evolution of computing from 1960-2010.

More and more people make decisions based on the effect their actions will have on their own inner, mental world. This experience-driven way of acting is a change from the past when people were primarily concerned about the use value of products and services, and is the basis for the experience economy. Ambient intelligence addresses this shift in existential view by emphasizing people and user experience.

The interest in user experience also grew in importance in the late 1990s because of the overload of products and services in the information society that were difficult to understand and hard to use. A strong call emerged to design things from a user's point of view. Ambient intelligence is influenced by user-centered design where the user is placed in the center of the design activity and asked to give feedback through specific user evaluations and tests to improve the design or even co-create the design together with the designer (participatory design) or with other users (end-user development).

In order for AmI to become a reality a number of key technologies are required:

- Unobtrusive hardware (Miniaturisation, Nanotechnology, smart devices, sensors etc.)
- Seamless mobile/fixed communication and computing infrastructure (interoperability, wired and wireless networks, service-oriented architecture, semantic web etc.)
- Dynamic and massively distributed device networks, which are easy to control and program (e.g. service discovery, auto-configuration, end-user programmable devices and systems etc.).
- Human-centric computer interfaces (intelligent agents, multimodal interaction, context awareness etc.)
- Dependable and secure systems and devices (self-testing and self repairing software, privacy ensuring technology etc.)

Technologies

A variety of technologies can be used to enable Ambient intelligence environments such as:

- RFID
- Ict implant
- Sensors
- Software agents
- Affective computing
- Nanotechnology
- Biometrics

Ambient intelligence in the literature and in cinema

- Minority Report (film) (2002). On scene describe adaptive advertising in the future: consumers are identified via retinal scans, and received targeted ads (Parker 2002).
- The Hitchhiker's Guide to the Galaxy by Douglas Adams. The doors have emotion, and express this when people used them.
- The Diamond Age by Neal Stephenson. The Diamond Age depicts a world completely changed by the full development of nanotechnology that are present everywhere.

Do U Know

Intel Core is a brand name used for various mid-range to high-end consumer and business microprocessors. In general, processors sold as Core are more powerful variants of the same processors marketed as entry-level Celeron and Pentium. Similarly, identical or more capable versions of Core processors are also sold as Xeon processors for the server market. The current lineup of Core processors includes the latest Intel Core i7, Intel Core i5 and Intel Core i3, and the older Intel Core 2 Solo, Intel Core 2 Duo, Intel Core 2 Quad and Intel Core 2 Extreme lines

Versions of Flash

FutureSplash Animator
Macromedia Flash 1
Macromedia Flash 2
Macromedia Flash 3
Macromedia Flash 4
Macromedia Flash 5
Macromedia Flash MX
Macromedia Flash MX 2004
Macromedia Flash 8
Adobe Flash CS3 Professional
Adobe Flash CS4 Professional
Adobe Flash CS5 Professional

ACADEMIC FORUM

TSR Programs in C

Questions Asked By :

A.R.Abdul Jabbar Sheriff, III B.Sc(CS) 'B'

Answers Given by :

S.Prema, Lecturer, CS Department,

KSR College of Arts and Science

What does TSR stands for?

TSR stands for Terminate- and Stay-Resident programs

What's Special about TSR?

As the name says Terminate-and-Stay-Resident TSR are programs which get loaded in memory and remain or stay there (resident) in memory permanently. They will be removed only when the computer is rebooted or if the TSR is explicitly removed from memory. Until then they will stay (resident) in memory active

Can You Explain the Working Technology of TSR?

Nothing happens because of TSR occupying place in memory. In other words when TSR is not running it does not affect the running of other DOS programs. It stays in memory in idle state. Only thing it does is it occupies memory space and the occupied TSR memory space cannot be

occupied by other programs. So users have to take care of this aspect when writing TSR's. Since when number of TSR's is written then each occupies memory space and these spaces cannot be occupied by other programs. So design the TSR's taking this aspect into consideration. Now let us see the working technology of TSR. We know that TSR gets loaded into memory and stays there. When number of TSR's is loaded the TSR gets loaded in the structure of STACK. This is nothing but the TSR gets piled up one above the other with the latest TSR loaded on the top. So one may get amazed how to activate a particular TSR if there are number of TSR available in stack.

This is done by activating keys which gets associated with TSR. When the particular key associated with TSR gets activated then the corresponding TSR is called which means the program that is associated with that TSR from memory (which is already present in memory) gets activated. Now the next question that pops into one's mind is how the keys and TSR gets associated. In other words when a key is presses how is the TSR corresponding to it gets activated.

This is done if we understand the simple technology of IVT named as Interrupt Vector Table. Let us see in detail how it works.

Normally Interrupt Vector Table has the address of Interrupt Service Routine which is nothing but the routine that should be handled in case of an interrupt. So in a normal process when an interrupt occurs the interrupt number is multiplied by four and this result is searched in Interrupt Vector Table and the contents of this result in Interrupt Vector Table gives the address of interrupt service routine. After getting the routine's address the control passes to the routine and the action as specified in routine gets executed. This is normal process that takes place.

But now interesting fact to know is how TSR gets activated here on event of pressing a key that is in case of an interrupt. This is done by TSR as follows. When a normal interrupt occur the address of Interrupt Service Routine is replaced with address from TSR routines. So after this the process continues as before. That is the routine checks to find if the interrupt has any association with TSR keys if it is then the corresponding routine gets executed. Otherwise the control returns to Interrupt service Routine which is the original process.

Suppose if we have number of TSR loaded as stack the process is same except that check is made to find if the interrupt has association with TSR key sequence that is in top of stack in other words with the TSR that was loaded the latest. If it is it executes the process associated with that TSR otherwise control passes to the next TSR in stack to perform the check whether it has association with the interrupt and this process goes on. After all TSR is checked and processed the control gets back to the original Interrupt Service Routine and the process continues as usual.

What is the Relationship between Virus and TSR?

One more interesting fact to know about is about the similarities between virus and TSR. All viruses are TSR's but none of the TSR's is virus. This fact is because TSR are Terminate-Stay-Resident programs which will get loaded in memory and stay there permanently until explicitly removed. Similarly viruses also get loaded and stay in memory. But the main difference is virus gets into memory without users knowledge but TSR gets into memory in the control of user since it is written by users only.

So having known about TSR and its working terminology one may get an idea that we can remove virus by changing the contents of Interrupt vector table into original state. We can do that but the greatest risk associated here is while changing the contents of Interrupt vector table there is a possibility that some Terminate Stay Resident Programs which are already written and which exists in memory previously may have associated interrupts placed in Interrupt Vector Table

While changing the Interrupt Vector Table for virus cleaning if we write on any of these TSR associated interrupt by mistake then the interrupts associated with existing TSR gets damaged . As a result of this activity the TSR will exist but without any use that is in other words the associated interrupt will not be called. These effects cause the TSR to stay in memory without having any effect. So users have to take care while doing this process and it is better to avoid this activity.

Example Program for TSR

```
#include <dos.h>
void interrupt (*old)();
void interrupt newfunc();
char far *keybord=(char far* ) 0x00400017; //keyboard status
char far *scr=(char far* ) 0x0xB000000; //address of text area
void main(){
    old=getvect(0x09);\
    setvect(0x09,newfunc);
    keep(0,1000);
}
void interrupt newfunc ()
{ (*old)(); }
```

Animations in Flash

Questions Asked By :

S.Anburaj, III B.Sc(CS) 'D'

Answers Given by :

S.Sasikala, Lecturer, CS Department,

KSR College of Arts and Science

Q: Can you tell steps to perform some simple animations using Macromedia Flash MX, Since we were studying Flash as an theory paper. This could help us to perform some_animations.

A: Here I offered steps for some simple text animation effects. You can make use it.

Effect 1: Hollow Text Effect

Steps to create this flash text effect:

- Select text tool and write whatever you want, make sure that text should be static text.
- Convert in to movie clip symbol, then go to symbol editing mode.
- Select that text and press Ctrl+B twice.
- Press **F6** (right click >> insert key Frame) then Select eraser tool, to write over the middle of that text.
- Do the same process for every frame till your text is ended.

- Save your work and press **Ctrl+Enter** to view your flash movie.

Effect 2: Fade-in Fade-out Text Effect

We can do this effect in both static and dynamic text.

- Select text tool and write whatever you want
- Convert into movie clip symbol “mc”.
- Go to **Insert >> new symbol** then create new graphic symbol “rec”.
- Make sure u r in “rec” editing mode, then draw rectangle 10x10px.
- Go to “mc” editing mode.
- Add new layer above the text layer, and then drag “rec” from the library.
- Press **F6** at **5th** frame then go to property panel, reduce that alpha value to 0 , then select any frame between 1 to 5, right click >> createmotiontween..
- Add next layer do that process 6 and 7, where that first tweening ended.
- Repeat the process till letter ended.
- Select all layers and apply the masking effect over that text.
- Save your work and press **Ctrl+Enter** to view your flash movie.

Effect 3: Masking Text Effect

This tutorial helps to learn how text masks over the movie clip.

- Select text tool, and write some text.

- Then go to insert create graphic symbol "**gr**".
- Make sure still you are in "**gr**".
- Draw rectangle, then go to scene1.
- Insert movie clip symbol "**mc**", and then drag "**gr**" from library.
- Press F6 (**right click >> insert key Frame**) at 15th frame, then select free transform tool, to enlarge "**gr**" horizontally. Select any frame between 1 to 15, **right click >> createmotiontween.**
- Do that same process, free transformation of "**gr**" may what effect you want that is, it may left to right or right to left.
- Go to scene 1, drag "**mc**" from library, and make sure "**mc**" is underneath of text layer.
- Select the text layer and then apply the masking effect.
- Save your work and press **Ctrl+Enter** to view your flash movie.

Effect 4: Bouncing Text with Shadow Effect

This tutorial teaches you to create shadow for text and how to make the text into an up and down animation.

Insert new movie clip symbol "mc".

Select text tool then write any text what you want.

Copy that text, and insert new layer name as "shadow" then paste it, go to **modify >> transform >> flip vertical**, then drag that text under the original text, change the color in to gray.

Select the text and press Ctrl+B, similarly do the same process in shadow text also.

Select frame between 1-10 then press **F6** or (**right click >> insert key Frame**) on both layers.

Then change the position of each text at each frame.

Go to scene 1 drag “mc” from library.

Save your work and press (Ctrl+Enter).

Do U Know

BERNERS-LEE,TIM

Tim Berners-Lee (1955) invented the World Wide Web. His first version of the Web was a program named "Enquire," short for "Enquire Within Upon Everything". At the time, Berners-Lee was working at CERN, the European Particle Physics Laboratory located in Geneva, Switzerland. He invented the system as a way of sharing scientific data (and other information) around the world, using the Internet, a world-wide network of computers, and hypertext documents. He wrote the language HTML (HyperText Mark-up Language), the basic language for the Web, and devised URL's (universal resource locators) to designate the location of each web page. HTTP (HyperText Transfer Protocol) was his set of rules for linking to pages on the Web. After he wrote the first browser in 1990, the World Wide Web was up and going. Its growth was (and still is) phenomenal, and has changed the world, making information more accessible than ever before in history. Berners-Lee is now a Principal Research Scientist at the Laboratory for Computer Science at MIT (Massachusetts Institute of Technology) and the Director of the W3 Consortium.

Web 3.0

Author

Ms.V.Kavitha
Lecturer,CS

This article helps to know about Web 3.0 and its uses.

Not much time passed before "Web 3.0" was coined. Definitions of Web 3.0 vary greatly. Amit Agarwal states that Web 3.0 is, among other things, about the Semantic Web and personalization. Andrew Keen, author of The Cult of the Amateur, considers the Semantic Web an "unrealisable abstraction" and sees Web 3.0 as the return of experts and authorities to the Web. For example, he points to Bertelsman's deal with the German Wikipedia to produce an edited print version of that encyclopedia. CNN Money's Jessi Hempel expects Web 3.0 to emerge from new and innovative Web 2.0 services with a profitable business model. Conrad Wolfram has argued that Web 3.0 is where "the computer is generating new information", rather than humans. Others still such as Manoj Sharma, an organization strategist, in the keynote "A Brave New World Of Web 3.0" proposes that Web 3.0 will be a "Totally Integrated World" - cradle-to-grave experience of being always plugged onto the net.

Rajnish Sharma (Systems Officer, UPTEC Computer Consultancy) believes that, "The next generation of the Web is Web 3.0, will make tasks like your search faster and easier. Instead of multiple searches, you might type a complex sentence or two in your Web 3.0 browser, and the Web will do the rest. The browser will analyze your response, search the Internet for all possible answers, and then organize the results for you. The Web 3.0

browser will act like a personal assistant. As you search the Web, the browser learns what you are interested in. The more you use the Web, the more your browser learns about you and the less specific you'll need to be with your questions. Eventually you might be able to ask your browser open questions like 'where should I go for lunch?' Your browser would consult its records of what you like and dislike, take into account your current location and then suggest a list of restaurants."

Futurist John Smart, lead author of the Metaverse Roadmap echoes Sharma's perspective, defining Web 3.0 as the first-generation Metaverse (convergence of the virtual and physical world), a web development layer that includes TV-quality open video, 3D simulations, augmented reality, human-constructed semantic standards, and pervasive broadband, wireless, and sensors. Web 3.0's early geosocial (Foursquare, etc.) and augmented reality (Layar, etc.) webs are an extension of Web 2.0's participatory technologies and social networks (Facebook, etc.) into 3D space. Of all its metaverse-like developments, Smart suggests Web 3.0's most defining characteristic will be the mass diffusion of NTSC-or-better quality open video to TVs, laptops, tablets, and mobile devices, a time when "the internet swallows the television." Smart considers Web 4.0 to be the Semantic Web and in particular, the rise of statistical, machine-constructed semantic tags and algorithms, driven by broad collective use of conversational interfaces, perhaps circa 2020.] David Siegel's perspective in *Pull: The Power of the Semantic Web*, 2009, is consonant with this, proposing that the growth of human-constructed semantic standards and data will be a slow, industry-specific incremental process for years to come, perhaps unlikely to tip into broad social utility until after 2020.

Web Browser

Author

M. Mohammad arif ,
III B.Sc(CS) B

This article gives information about the Web browser and its types and uses.

A **web browser** is a software application for retrieving, presenting, and traversing information resources on the World Wide Web. An *information resource* is identified by a Uniform Resource Identifier (URI) and may be a web page, image, video, or other piece of content.[1] Hyperlinks present in resources enable users to easily navigate their browsers to related resources.

Although browsers are primarily intended to access the World Wide Web, they can also be used to access information provided by Web servers in private networks or files in file systems. Some browsers can be also used to save information resources to file systems

Available web browsers range in features from minimal, text-based user interfaces with bare-bones support for HTML to rich user interfaces supporting a wide variety of file formats and protocols. Browsers which include additional components to support e-mail, Usenet news, and Internet Relay Chat (IRC), are sometimes referred to as "Internet suites" rather than merely "web browsers".

All major web browsers allow the user to open multiple information resources at the same time, either in different browser windows or in

different tabs of the same window. Major browsers also include pop-up blockers to prevent unwanted windows from "popping up" without the user's consent.

Most web browsers can display a list of web pages that the user has *bookmarked* so that the user can quickly return to them. Bookmarks are also called "Favorites" in Internet Explorer. In addition, all major web browsers have some form of built-in web feed aggregator. In Mozilla Firefox, web feeds are formatted as "live bookmarks" and behave like a folder of bookmarks corresponding to recent entries in the feed.[12] In Opera, a more traditional feed reader is included which stores and displays the contents of the feed.

Furthermore, most browsers can be extended via plug-ins, downloadable components that provide additional features.

User interface

Most major web browsers have these user interface elements in common:

- *Back* and *forward* buttons to go back to the previous resource and forward again.
- A *refresh* or *reload* button to reload the current resource.
- A *stop* button to cancel loading the resource. In some browsers, the stop button is merged with the reload button.
- A *home* button to return to the user's home page
- An address bar to input the Uniform Resource Identifier (URI) of the desired resource and display it.
- A search bar to input terms into a search engine

- A status bar to display progress in loading the resource and also the URI of links when the cursor hovers over them, and page zooming capability. Major browsers also possess incremental find features to search within a web page.

What Next?

Technology #1: Semantic Web

Author

A.R.Abdul jabbar sheriff,
III Bsc(cs) B

This article gives information about the Semantic web, its structure and projects where implemented.

Semantic Web is a term coined by World Wide Web Consortium (W3C) director Sir Tim Berners-Lee. It describes methods and technologies to allow machines to understand the meaning - or "semantics" - of information on the World Wide Web.

According to the original vision, the availability of machine-readable metadata would enable automated agents and other software to access the Web more intelligently. The agents would be able to perform tasks automatically and locate related information on behalf of the user.

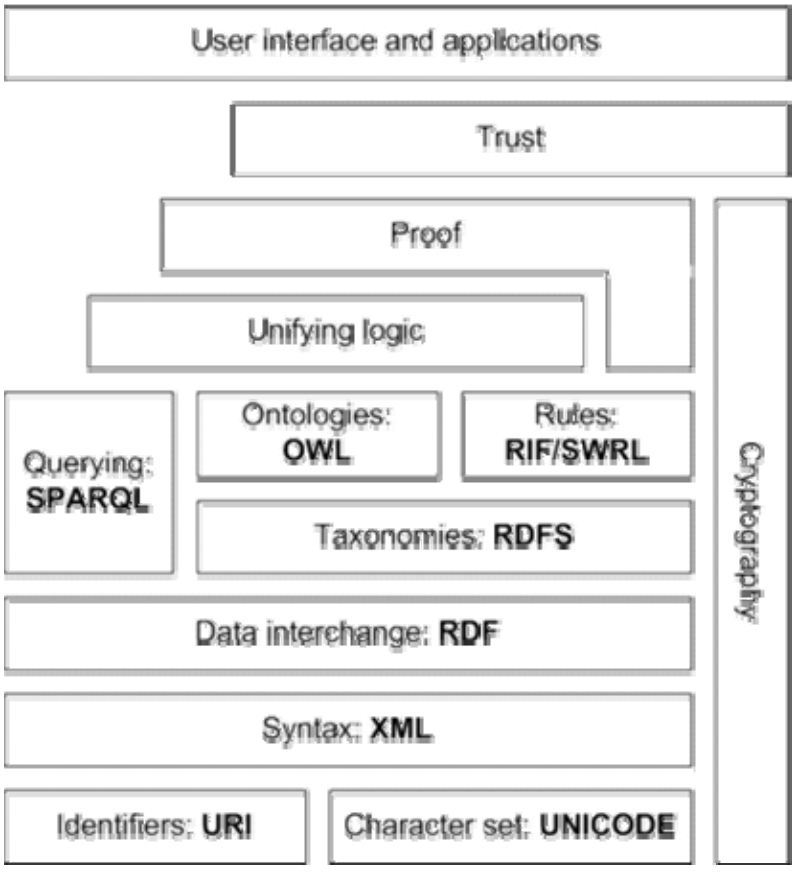
While the term "Semantic Web" is not formally defined it is mainly used to describe the model and technologies proposed by the W3C. These technologies include the Resource Description Framework (RDF), a variety of data interchange formats (e.g. RDF/XML, N3, Turtle, N-Triples), and notations such as RDF Schema (RDFS) and the Web Ontology Language

(OWL), all of which are intended to provide a formal description of concepts, terms, and relationships within a given knowledge domain.

Many of the technologies proposed by the W3C already exist and are used in various projects. The Semantic Web as a global vision, however, has remained largely unrealized and its critics have questioned the feasibility of the approach.

In addition other technologies with similar goals, such as micro formats, have evolved, which are not always described as "Semantic Web".

THE SEMANTIC WEB STACK



The semantic web comprises the standards and tools of XML, XML

The semantic web comprises the standards and tools of XML, XML Schema, RDF, RDF Schema and OWL that are organized in the Semantic Web Stack. The OWL Web Ontology Language Overview describes the function and relationship of each of these components of the semantic web:

- XML provides an elemental syntax for content structure within documents, yet associates no semantics with the meaning of the content contained within.
- XML Schema is a language for providing and restricting the structure and content of elements contained within XML documents.
- RDF is a simple language for expressing data models, which refer to objects ("resources") and their relationships. An RDF-based model can be represented in XML syntax.
- RDF Schema extends RDF and is a vocabulary for describing properties and classes of RDF-based resources, with semantics for generalized-hierarchies of such properties and classes.
- OWL adds more vocabulary for describing properties and classes: among others, relations between classes (e.g. disjointness), cardinality (e.g. "exactly one"), equality, richer typing of properties, characteristics of properties (e.g. symmetry), and enumerated classes.
- SPARQL is a protocol and query language for semantic web data sources.

PROJECTS

DBpedia

DBpedia is an effort to publish structured data extracted from Wikipedia: the data is published in RDF and made available on the Web for use under the GNU Free Documentation License, thus allowing Semantic Web agents to provide inferencing and advanced querying over the Wikipedia-derived dataset and facilitating interlinking, re-use and extension in other data-sources.

FOAF

A popular application of the semantic web is Friend of a Friend (or FoaF), which uses RDF to describe the relationships people have to other people and the "things" around them. FOAF permits intelligent agents to make sense of the thousands of connections people have with each other, their jobs and the items important to their lives; connections that may or may not be enumerated in searches using traditional web search engines. Because the connections are so vast in number, human interpretation of the information may not be the best way of analyzing them.

FOAF is an example of how the Semantic Web attempts to make use of the relationships within a social context.

GoodRelations for e-commerce

A huge potential for Semantic Web technologies lies in adding data structure and typed links to the vast amount of offer data, product model features, and tendering / request for quotation data.

The GoodRelations ontology is a popular vocabulary for expressing product information, prices, payment options, etc. It also allows expressing demand in a straightforward fashion.

GoodRelations has been adopted by BestBuy, Yahoo, OpenLink Software, O'Reilly Media, the Book Mashup, and many others.

SIOC

The SIOC Project - Semantically-Interlinked Online Communities provides a vocabulary of terms and relationships that model web data spaces.

Examples of such data spaces include, among others: discussion forums, weblogs, blogrolls / feed subscriptions, mailing lists, shared bookmarks, image galleries.

SIMILE

Semantic **I**nteroperability of **M**etadata and **I**nformation in un**L**ike **E**nvironments

SIMILE is a joint project, conducted by the MIT Libraries and MIT CSAIL, which seeks to enhance interoperability among digital assets, schemata/vocabularies/ontologies, meta data, and services.

NextBio

A database consolidating high-throughput life sciences experimental data tagged and connected via biomedical ontologies. Nextbio is accessible via a search engine interface. Researchers can contribute their findings for incorporation to the database. The database currently supports gene or protein expression data and is steadily expanding to support other biological data types.

OpenPSI

OpenPSI the (OpenPSI project) is a community effort to create UK government linked data service that supports research. It is a collaboration between the University of Southampton and the UK government, lead by OPSI at the National Archive and is supported by JISC funding.

Technology #2: Reality mining

Author

K.Dhanapal
II-BCA-C

This article helps to know about reality mining.

Reality Mining is the collection and analysis of machine-sensed environmental data pertaining to human social behavior, with the goal of identifying predictable patterns of behavior. It studies human interactions based on the usage of wireless devices such as mobile phones and GPS systems providing a more accurate picture of what people do, where they go, and with whom they communicate with rather than from more subjective sources such as a people's own account. Reality mining is one aspect of digital footprint analysis.

Informed business intelligence using "reality mining" supports better business decision-making based on employee behaviors. Gathering intelligence to help improve the business efficiency by monitoring, analyzing and fine tuning the employee's footprint based on what is efficient and what will yield more productive employees. It is important to observe people in the workplace and understand how they interact with their equipment, devices and applications. This observation allows us the means to obtain an “electronic footprint” or eFootPrint of these activities. We focus on what the employee does in their job, where they spend their time, how efficient are they performing it and how it can be improved.

PC GLOSSARY

When it says:	It means:
"Press Any Key"	"Press any key you like but I'm not moving."
"Cannot read from drive D: ...."	"...however, if you put the CD in right side up..."
"Please Wait...."	"...indefinitely."
"Directory does not exist...."	"....any more. Woops."
"The application caused an error. Choose Ignore or Close."	"....Makes no difference to me, you're still not getting your work back."

Types of Micro Processors & Socket

Author

Gowrishankar
Programmer

This article gives information about different types of Microprocessor and socket.

Micro processor, also called CPU (Central Processing Unit), is a major component of a micro computer. We discuss various CPUs starting from Pentium IV, and onwards.

- Socket 478
- Socket 423
- Socket 370
- Socket 8
- Socket 7
- Socket A
- Slot A
- Slot 2
- Slot 1

Socket 478:

Socket 478 is a PGA socket used by Intel Pentium 4 microprocessor family (not all P IV family processors support Socket 478)..

Socket type: Socket 478 (mPGA478B)


Front Bus Frequencies: 400 MHz - 800 MHz (100 MHz - 200 MHz QDR)

Socket size: 1.38" x 1.38" (3.5 x 3.5 cm)

Number of contacts: 478

Compatible package types:

478-pin micro FC-PGA

478-pin micro FC-PGA2

Compatible processors:

Processors Intel Pentium 4 (1.4 - 3.4 GHz)

Intel Celeron (1.7 - 3.2 GHz)

Celeron D (to 3.2 GHz)

Intel Pentium 4 Extreme Edition (3.2, 3.4 GHz)

This socket has currently been replaced with socket 775.

Socket 423:

The socket was used for low-end Pentium IV processors below 2000MHz frequencies. It became obsolete with the advent of Socket 478.

Number of Contacts: 423

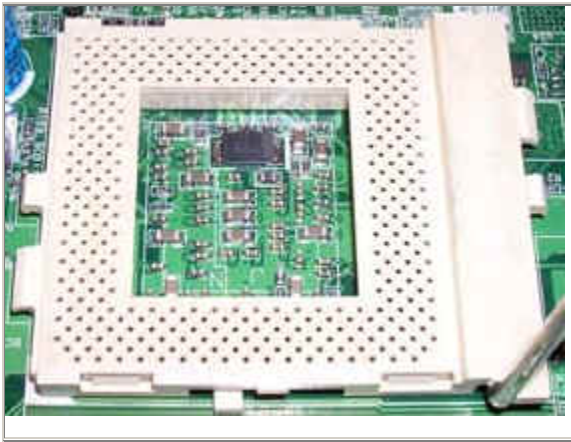
Compatible package type: Organic Land Grid Array (OLGA)

Front Bus Speed: 100 MHz FSB

Compatible Processors: Intel Pentium 4 (1300 MHz - 2000 MHz)

Socket 370:

Socket 370 (PGA370) is a PGA socket compatible with Intel Celeron and Pentium III processors in Pin Grid Array (PGA) package.

	
Socket 370	Processor package

Salient Features:

Compatible package types:

370-pin Plastic Pin Grid Array (PPGA); 370-pin Flip-Chip Pin Grid Array (FC-PGA)
370-pin Flip-Chip Pin Grid Array (FC-PGA2)

Number of contacts: 370

Front Bus Frequencies: 66, 100 and 133 MHz

Supported Processors include the following:

Intel Celeron (PPGA, 300–533 MHz)

Intel Celeron (FC-PGA, 533–1100 MHz)

Intel Celeron (FC-PGA2, 900–1400 MHz)

Intel Pentium III (FC-PGA, 500–1133 MHz)

Intel Pentium III Tualatin (FC-PGA2)

Celeron Tualatin (FC-PGA2)

VIA C3 (FC-PGA)

Socket 8:

Socket 8 was used for a very limited number of processor types. The socket is being no more used by newer processors.

Number of Contacts: 387

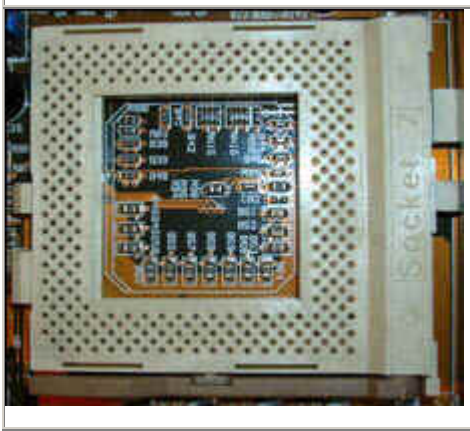
Front Bus Speed : 66-75 MHz

Supported Processors include the following:

Pentium Pro 150~200, Pentium II OverDrive 300~333

Socket 7:

Socket 7 was introduced by Intel for Pentium 133 - 200 MHz processors. It is also used in Pentium MMX processor family.

Socket 7	**Compatible Processor**
	

Salient Features:

Compatible package types:

296-pin staggered Plastic Pin Grid Array (PPGA)

296-pin staggered Ceramic Pin Grid Array (CPGA or SPGA)

296-pin Flip-Chip staggered Ceramic Pin Grid Array

321-pin ceramic Ping Grid Array (CPGA)

Number of contacts: 321

Front Bus Frequencies: 66 - 83 Mhz System Clock

Supported Processors include the following:

AMD K5 (75 MHz - 200 MHz); AMD K6 (166 MHz - 300 MHz)

AMD K6-2 (200 MHz - 570 MHz)

AMD K6-III (333 MHz - 550 MHz)

Cyrix 6x86, 6x86L and 6x86MX (90 MHz - 266 MHz)

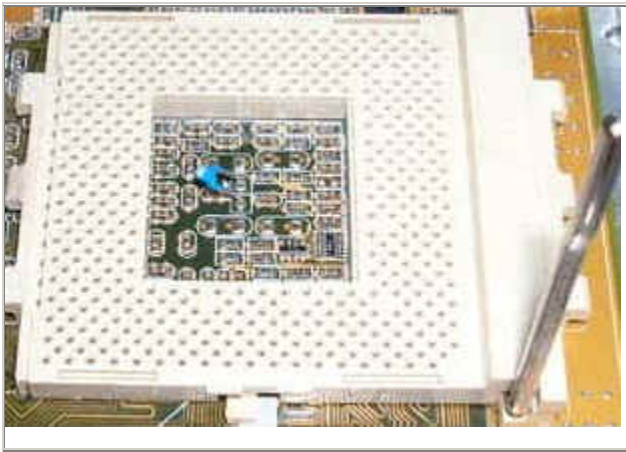
Cyrix MII (233 MHz - 433 MHz)

Intel Pentium (non-MMX) (75 MHz - 200 MHz)

Intel Pentium MMX (166 MHz - 233 MHz)

Socket A (Socket 462):

Socket A (also called Socket 462) is a PGA socket compatible with AMD K7 family of processors.

	
Socket A	**Processor for Socket A**

Bus Frequencies: 100 MHz, 133 MHz, 166 MHz and 200 MHz

Number of contact pins: 462 pin holes

Compatible Processors include the following:

AMD Athlon (650 MHz - 1400 MHz)

AMD Athlon XP (1500+ - 3300+)

AMD Duron (600 MHz - 1800 MHz)

AMD Sempron (2000+ - 3300+)

AMD Athlon MP (1000 MHz - 3000+)

Compatible package types:

462-pin ceramic Pin Grid Array (PGA) package, 462-pin organic PGA.

Slot A:

Slot A is used by AMD's Athlon family of processors. It has 242 contacts, physically similar to that of Intel's Slot 1. But Slot A is electrically different from that of Slot 1.

Slot 2:

Slot 2 is a 330 contact version of Slot 1. Intel's Xeon processor uses Slot 2. The Slot 2 cartridge may house as many as four processors and an L2 cache.

Slot 1:

Slot 1 is a Slot-type connector. This connector is compatible with Pentium II family of processors, and some of low-end Celeron processors. Pentium III was the last microprocessor family that used the Slot 1.

Pentium IV family of processors do not use Slot 1.

Number of Contacts: 242

Processors types supported include the following:

Intel Celeron (SECC, 233-466 MHz)

Processors Intel Pentium II (SECC, 233-450 MHz)

Intel Pentium III (SECC2, 450-1133 MHz)

Compatible package types:

Single Edge Processor Package (SEPP)

Single Edge Connector Cartridge (SECC)

Single Edge Connector Cartridge 2 (SECC 2)

Docking Frameworks for Java

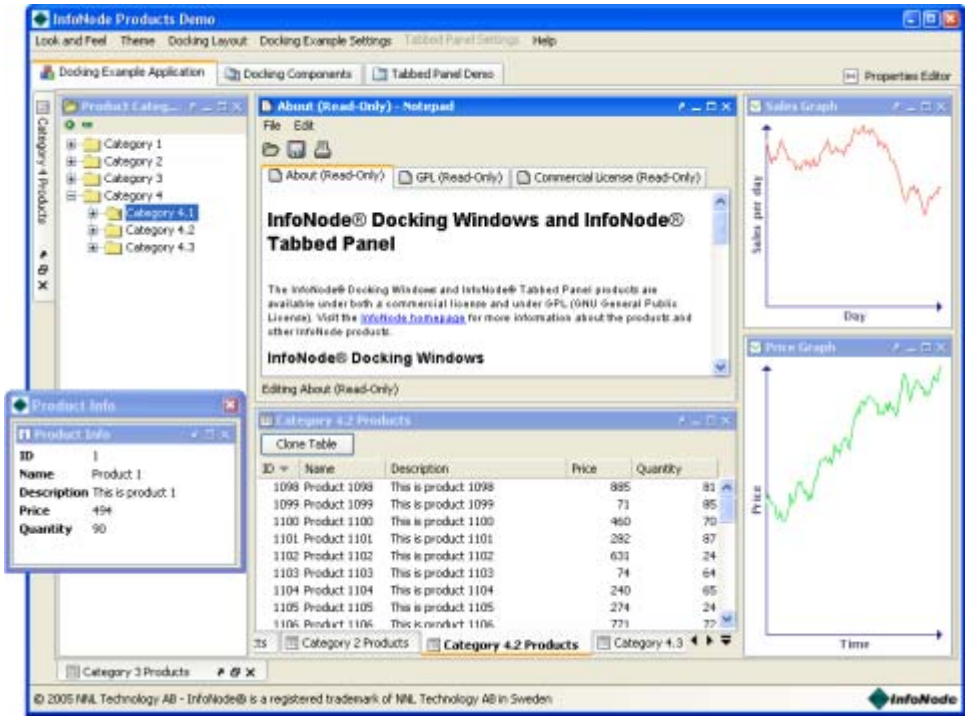
Author

Ms. F.Regina Mary,
Lecturer

This article gives information about Docking frameworks for Java.

1.License: GPL |Development: In Active |Size: 2.2 MB

Looks Similar to Netbeans Docking Framework but also supports undocking panels to make them float as separate windows. One striking feature with Info dock is its look and feel that closely resembles native look.

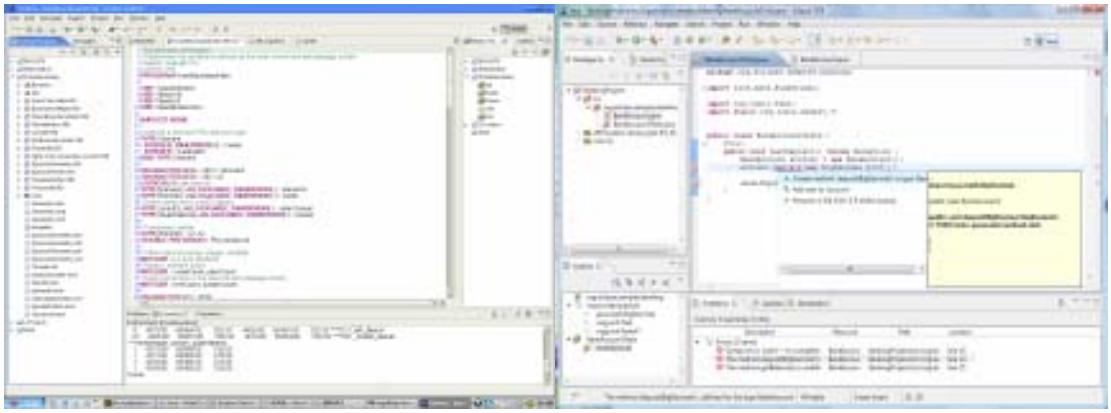


Features:

MultiSplitLayout, Main Editor Area with Multiple panels, Panels inside panels, Drag and drop panels, Each area can have more than one panel arranged in tabs, Minimize to sidebars, Double click to maximize/zoom in, Sliding Windows on mouse over sidebars, Maximize one area, so that this window occupy the whole space, Save and restore the layout, Support Undocking a Panel to separate Windows, Native Like Look and Feel, persistence Support.

2.Eclipse

License: CPL/EPLDevelopment: Active |Size: ?



Features: Eclipse like Netbeans is a powerful client application framework. But it supports only SWT.

3. MyDoggy

License: LGPL |Development: Active |Size: 0.5Mb (Core jars)
MyDoggy is a Java docking framework to be used in cross-platform Swing applications. Unlike Netbeans which is a generic spring framework, MyDoggy is specifically a docking framework. MyDoggy is an IntelliJ Idea like docking framework for managing secondary windows within the main window. MyDoggy allows to move,resize or extract those secondary windows. Also, MyDoggy provides support for content management of the main window. Like Eclipse, MyDoggy supports the concept of "perspective" using mydoggy groups. You can go for MyDoggy if you want to use docking in your existing application.

Features:

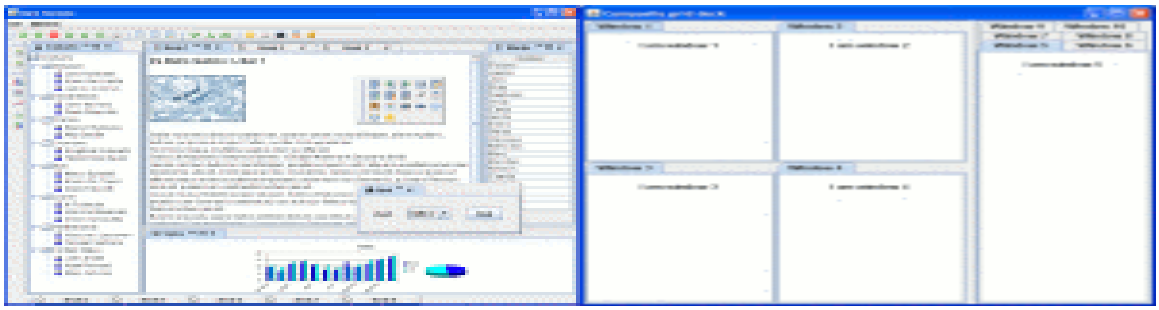
MultiSplitLayout, Main Editor Area with Multiple panels, Drag and drop panels, Each area can have more than one panel arranged in tabs, Minimize to sidebars, Double click to maximize/zoom in, Maximize one area, so that this window occupy the whole space, Save and restore the layout,Hide/Show

close button etc... However, It does not support sliding panels on mouse over, instead it supports translucent preview tooltips.

4. Sanaware

License: GPL/Commercial |Development: Active |Size: 0.3 Mb

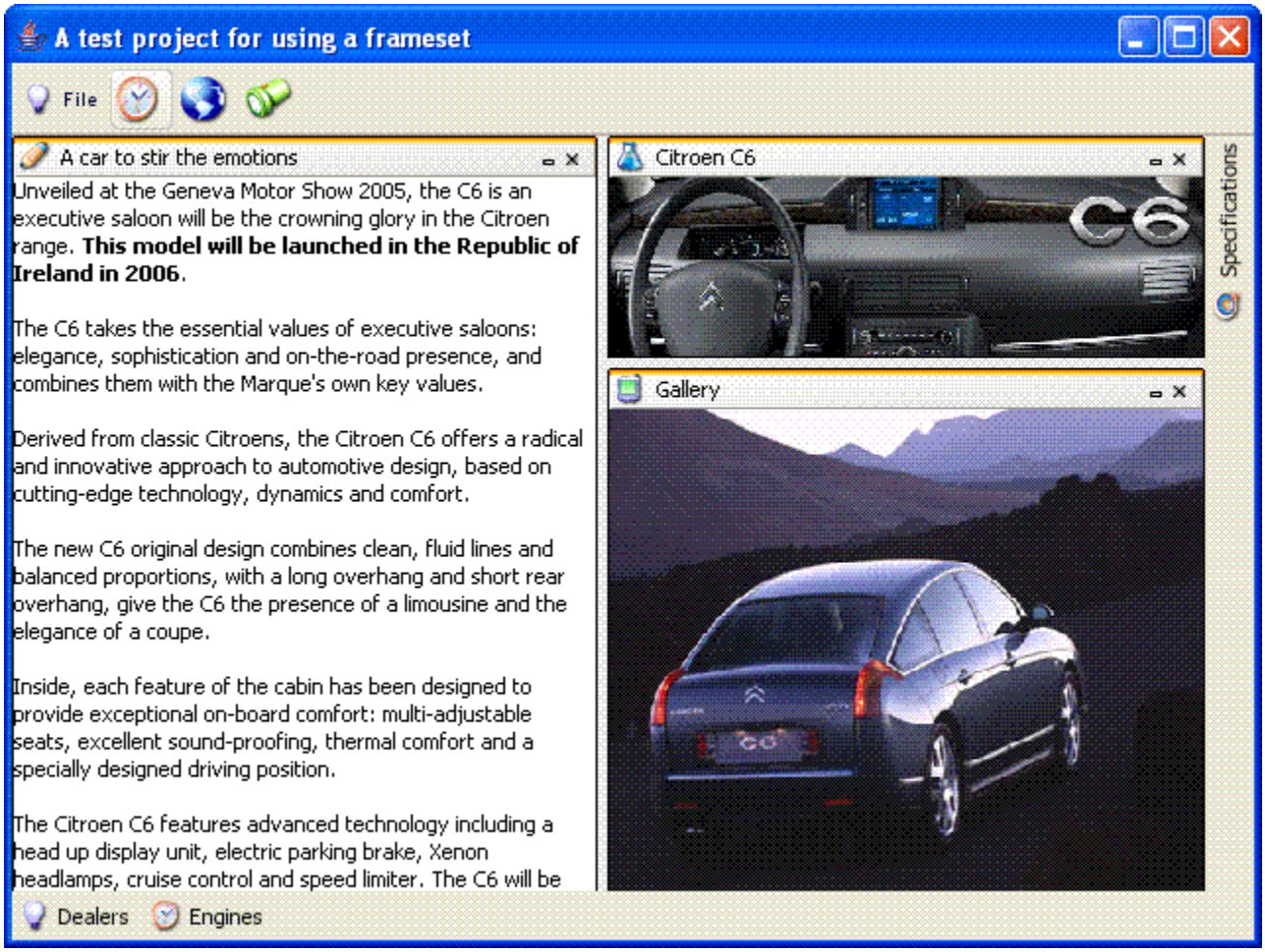
Is also one simple docking Framework. Organize the windows of your application in panels, split panes, tabs, lines, grids and floating windows. Reorganize the windows of your application by drag and drop. Minimize and maximize your windows. Save your workspace. Organize the toolbars, buttons, and actions of your application.



5.XUI

XUI (pronounced Zoo'ey) is an Open Source, Rich Internet Application (RIA) framework for building applications in Java and XML. XUI supports Swing, AWT, SWT and HTML widget sets, letting you code in XML or Java or a mix of both. XUI used the well Model-View-Controller pattern to help separate the setup of user interfaces from business logic and

data handling. Like Netbeans XUI is a generic framework that comes with docking support.



Features:

MultiSplitLayout, Minimize to sidebars, Double click to maximize/zoom in, Sliding Windows: popup preview windows, Drag and drop panels, The Docking Framework can be used independent of XUI framework.

6.JDocking

License: CDDL |Development: In Active |Size: 1.3Mb

JDocking is nothing but the docking framework of Netbeans which can be used independent of the Netbeans platform. Features

Same as Netbeans platform.

7.Rich Dock

***License: GPL |Development: Active |Size: ? ***

It is a simple docking framework with limited features. When dragging panels, it does not give any outline or feedback(rubberband painting) on where the panel is going to get docked. It is little difficult to use.

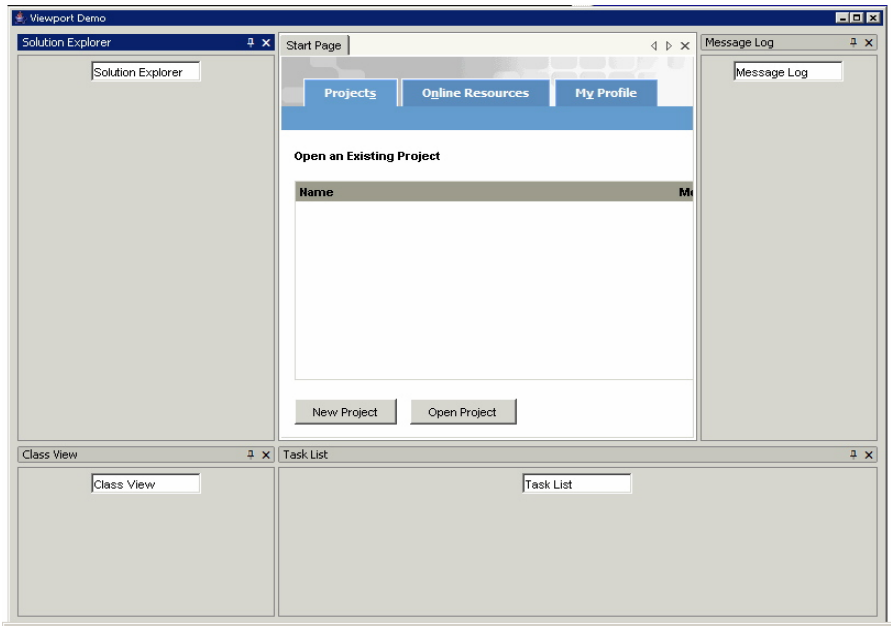
8.Flex Dock

License: CDDL/GPL |Development: Active |Size: 4.6Mb

It is also like Rich Dock. It has a very Basic Set Of features.

Features

MultiSplitLayout and Drag and drop panels



3G Technology

Author

Ms. G.AnwarBasha
Lecturer

This article gives some useful information about 3G.

3G technology is used for sharing information, faster data access and multimedia services through their mobile phones.

What is spectrum?

Radio spectrum refers to a range of radio frequencies. The bandwidth of a radio signal is the difference between the upper and lower frequencies of the signal.

For example, in the case of a voice signal having a minimum frequency of 200 hertz (Hz) and a maximum frequency of 3,000 Hz, the bandwidth is 2,800 Hz (3 KHz). The amount of bandwidth needed for 3G services could be as much as 15-20 Mhz, whereas for 2G services a bandwidth of 30-200 KHz is used. Hence, for 3G huge bandwidth is required.

How is 3G different from 2G and 4G?

While 2G stands for second-generation wireless telephone technology, 1G networks used are analog, 2G networks are digital and 3G (third-generation) technology is used to enhance mobile phone standards.

3G helps to simultaneously transfer both voice data (a telephone call) and non-voice data (such as downloading information, exchanging e-mail, and

instant messaging. The highlight of 3G is video telephony. 4G technology stands to be the future standard of wireless devices.

Currently, Japanese company NTT DoCoMo and Samsung are testing 4G communication.

How will 3G services help you?

3G services will enable video broadcast and data-intensive services such as stock transactions, e-learning and telemedicine through wireless communications

All telecom operators are waiting to launch 3G in India to cash in on revenues by providing high-end services to customers, which are voice data and video enabled. India lags behind many Asian countries in introducing 3G services.

What is Trai's recommendation on 3G pricing?

The Telecom Regulatory Authority of India has recommended auctioning radio frequencies for 3G telecom services at a reserve price of Rs 1,050 crore (Rs 10.50 billion) to companies seeking to offer nationwide high-speed Internet and streaming video.

The base price for spectrum in cities like Mumbai and Delhi and Category A telecom circles is Rs 80 crore (Rs 800 million); in cities like Chennai and Kolkata and Category B circles Rs 40 crore (Rs 400 million); and in all other cities Rs 15 crore (Rs 150 million).

Which companies have applied for 3G license?

3G spectrum has been provided to GSM players like BSNL, MTNL, Bharti, and Hutch to carry out an interface check on a non-commercial basis ahead of the start of 3G mobile services.

Where was 3G spectrum first introduced?

Japan was the first country to introduce 3G on a large commercial scale. In 2005, about 40 per cent of subscribers used only 3G networks. It is expected that during 2006 the subscribers would move from 2G to 3G and upgrade to the next 3.5 G level.

The success of 3G in Japan also shows that video telephony was the killer application for 3G networks. Downloading music was the biggest draw in 3G services.

In how many countries does 3G exist?

There are about 60 3G networks across 25 countries . In Asia, Europe and the USA, telecom firms use WCDMA technology. The WCDMA standard provides seamless global evolution from today's GSM with support of the worlds' largest mobile operators.

WCDMA technology is built on open standards, wide ranging mobile multimedia possibility, and vast potential economies of scale with the support of around 100 terminal designs to operate 3G mobile networks.

3G services were introduced in Europe in 2003.

India

In 2008, India entered into 3G Mobile arena with the launch of 3G enabled Mobile and Data services by Bharat Sanchar Nigam Ltd (BSNL) in Bihar(Patna). BSNL is the first Mobile operator in India to launch 3G services. After that (MTNL) launched 3G in Mumbai & Delhi. Government owned Bharat Sanchar Nigam Ltd (BSNL) has already been provided with a 3G license and has been operating its services in 380 cities by the end of March 2010. Nation wide auction of 3G wireless spectrum in April 2010 was announced. The Auction was a great success for Government Of India, as it collected triple the amount it was expecting. The estimation for both 3G and BWA was around Rs 35,000/- Crore. Total revenue the Government collected was nearly Rs 1,06,000 Crore. Private providers are expected to provide its 3G service from September 2010.

Features

Data rates

ITU has not provided a clear definition of the data rate users can expect from 3G equipment or providers. Thus users sold 3G service may not be able to point to a standard and say that the rates it specifies are not being met. While stating in commentary that "it is expected that IMT-2000 will provide higher transmission rates: a minimum data rate of 2 Mbit/s for stationary or walking users, and 384 kbit/s in a moving vehicle,"[15] the ITU does not actually clearly specify minimum or average rates or what modes of the interfaces qualify as 3G, so various rates are sold as 3G intended to meet customers expectations of broadband data.

Security

3G networks offer greater security than their 2G predecessors. By allowing the UE (User Equipment) to authenticate the network it is attaching to, the user can be sure the network is the intended one and not an impersonator. 3G networks use the KASUMI block crypto instead of the older A5/1 stream cipher. However, a number of serious weaknesses in the KASUMI cipher have been identified. In addition to the 3G network infrastructure security, end-to-end security is offered when application frameworks such as IMS are accessed, although this is not strictly a 3G property.

Applications

The bandwidth and location information available to 3G devices gives rise to applications not previously available to mobile phone users. Some of the applications are:

- Mobile TV – a provider redirects a TV channel directly to the subscriber's phone where it can be watched.
- Video on demand – a provider sends a movie to the subscriber's phone.
- Video conferencing – subscribers can see as well as talk to each other.
- Tele-medicine – a medical provider monitors or provides advice to the potentially isolated subscriber.
- Location-based services – a provider sends localized weather or traffic conditions to the phone, or the phone allows the subscriber to find nearby businesses or friends.

Compiler Vs Interpreter

1. Compiler checks syntax of program where as Interpreter checks the keywords of a program.

2. Compiler checks at a time all the program, But interpreter checks simultaneously in the editor.

3.Interpretor provides colour coding to the prog and helps in self debugging while writing a program.

IT Company Logos

Happenings

"Knowledge Is Power"

K.S.RANGASAMY COLLEGE OF ARTS AND SCIENCE

DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS

Periyar University Rank Holders List 2008 - 2009

1		KAVITHA.K	B.Sc. (CS)	Gold Medal
2		MADHURANJANI.S	B.Sc. (CS)	7th Rank
3		JAFAR SADIK PATHAN	MCA	Gold Medal
4		REVATHI.S	MCA	Gold Medal
5		MONUBOLU HARITHA	MCA	4th Rank
6		RAJESH KUMAR.R	M.Phil. (CS)	4th Rank

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Ishare, Department of Computer Science & Applications (UG)
K.S.R College of Arts and Science, Tiruchengode-637215
Phone: 04288 -274741(4), Mail : ksrcas.ishare@gmail.com