UNIT 17 WEB 2.0

Structure

17.0 INTRODUCTION

In Block 2 you have learned about Satellite-based education, E-Learning and Mobile learning. Block 3 gave you detailed information on how to create materials for the web and what are various content creation tools with the help of which you can effectively deal with audio, video and interactive multimedia.

You will agree that the Internet and web technologies have changed the way the teachers used to teach and the students learn. Modern learner needs to be provided more educational opportunities for learning which are offered by modern technological revolution. The electronic delivery of instruction and ease of collaboration has enabled the teachers to use innovative ways to interact with students and other teachers. The modern Internet technology has not only influenced the teaching learning settings greatly, it has also influenced the personal and professional life of teachers. There are lot of new tools available now-a-days which the teachers and students can use: Blogs, Wiki, RSS feeds, video sharing, photo sharing, Chat, Electronic Portfolios (ePortfolios), Personal digital assistants (PDAs), Podcasts, 3D immersive environments, computer games, animation, and collaborative software. These software, systems and facilities on the Internet make teaching and learning interactive. The web, which was often used for static pages of information, now provides opportunity for the users to interact through dialog box, registration, etc. The new form of the web that has read-write abilities has been named Web 2.0. In this Unit we will discuss some of the Web 2.0 tools and their educational implications.

17.1 LEARNING OUTCOMES

After working through this unit, you are expected to be able to:

- *Identify* the Web 2.0 tools like blogs, wikis, and social networking;
- *List* the strengths and limitations of the various Web 2.0 tools; and
- *Use* Web 2.0 tools for teaching and learning.

17.2 WEB 2.0

The field of Computer Assisted Learning (CAL) has been transformed to a great extent, since the development of PLATO system in 1960. The traditional audio and video materials have been augmented by multimedia applications. The developments in the field of Web and digital multimedia have provided new opportunities to teachers to engage the learners as active learners. Emergence of Web 2.0 is the most phenomenal of them. Traditionally the World Wide Web (WWW) has been considered as a place to retrieve information. The information provided through HTML codes and sharing of resources through FTP (File Transfer Protocol) was the main utility. But the drawback was that such flow of information was largely unidirectional. This necessitated the need for some interactivity on the web and tools were developed which would allow the users to add content to the web. Such content could be in the form of text, audio, video, slideshows etc. The communication became bidirectional. The term web 2.0 was first used in 1999 by Darcy DiNucci; but it came into prominence in 2004 when O'Reilly Media hosted the first Web 2.0 conference. Web 2.0 is the place where the users (teachers, students and anyone) could read and write. It has taken the educational delivery to the next level of advancement where content can be generated online through collaboration. It is an innovative platform where the creative minds meet and discuss or share ideas.

Before proceeding further, let's understand the difference between Web 1.0 and Web 2.0.

17.2.1 Comparison between Web 1.0 and Web 2.0

Web 2.0 is the second generation of World Wide Web which provides the facility of online collaboration and information sharing among people in a much active manner. While the web was intended to be two-way, most of the early websites were one way in the sense that you can read information from that. That made the early web as passive. The users were not able to contribute or interact or comment through its services.

Some of the differences between Web 1.0 and Web 2.0 are depicted in Table 17.1.

Table 17.1: Web 1.0 Vs Web 2.0

Feature	Web 1.0	Web 2.0
Type of Interaction for user	One-way	Two-way
User Participation	Authoritarian	Democratic
Reading and writing capability	Passive	Active
Change of Content	Static	Dynamic
Nature of Web Content	Closed	Collaborative
Reaching audience	Pull Technology	Push Technology

The key point between Web 1.0 Vs Web 2.0 is like Read Vs Read & Write. In Web 2.0 the 'Top-Down' approach has been replaced with 'Bottom-Up' approach where the user decides the kind of content. The user can now use web as a platform to perform different tasks like image sharing, email, editing information online etc which previously were done with the help of different software packages or utilities. Now, the user can interact and contribute to the web pages of other people or organisations instead of simply reading them.

The user has become the king of the web as he/she can generate the content on the web as per convenience or choice. The users can rate or tag the web content. Web 2.0 has brought a convergence of different systems at one place, like you may find different systems of editing, collaboration, image sharing etc at one place only.

The social context of the content has changed the way we used to use the web. People and communities are now creating content and services as per their needs and goals. People with similar interests have come closer now.

17.2.2 Technology and Standards

Data is the backbone of Web. All the major Internet applications are based on some specialised database (O'Reilly, 2009) like: Google's web crawl, Yahoo!'s directory (and web crawl), Amazon's database of products, eBay's database of products and sellers, MapQuest's map databases, Napster's distributed song database, etc. Web 2.0 technologies allow users to store all kind of data. With ever increasing volume of data on the Internet, there is a constant need for its access, search, synchronisation, movement and managing data from one repository to another and from one network to another network. This need has given rise to a new kind of Internet based services like:

- Internet - connectivity and regional Internet caching
- Internet - Filtering
- Application training
- Learning management system (LMS) hosted service delivery
- LMS - development
- Third-party LMS procurement and management
- Online community development and hosting
- Firewall intrusion protection
- Personal workspace, shared folders/library/ search
- Portal controlled filtering
- Unified communications (UC): email, Web mail and filtering
- UC: videoconferencing - desktop and meeting room; white boarding; application sharing
- UC: collaboration - instant messaging
- Web site hosting
- Content : hosting - external and internal
- Content: delivery - Webcasting and broadcasting
- Supporting content development

Some of the standards and technologies that are used in the Web 2.0 are as follows:

- **OpenID:** If you have ever tried to write a comment on a blog, you may have noticed that before allowing your comment to appear on the blog,

it asks you to log in. There you are provided some choices on how you wish to log in to that site. You may be asked to use your email account of some service provider like Google or Yahoo, or it asks you to use your OpenID. OpenID is a form of single digital identity ocross the web and is already used by providers like Google, Microsoft, Yahoo, AOL, and MySpace etc. With the help of this digital identity you can easily log on to a site and interact or contribute.

- **RSS:** Let's go back to Unit 16, where you studied about RSS in details. Yes, you remembered it correctly; RSS is an acronym for "Really Simple Syndication". Maybe while surfing websites you have already noticed the orange RSS icon. It was developed by Netscape in 1999 and is used on websites to allow the publication of recurrently updated items from an external source. Feeds allow you to have new content delivered to a computer or mobile device as soon as it is published. Once you set the preference for an item for RSS feed, the information will come to you, instead of you searching the internet for that information. We discussed about RSS in detail in the previous unit.
- **OAuth:** With the help of OAuth you can publish and interact with protected data on the Internet. This may happen when an Internet based application you are using needs more information from you like your date of birth or from a person who has logged on to a site via his OpenID asking for email address. In that case if the required information is stored in a different location, retrieving that information may be difficult and time consuming by the user. In that case, OAuth asks the user about the location of that information and the related password and then retrieves that information. You must have experienced this while using social networking applications. OAuth enables the application to access data for one service to be accessed located within a subset of another service over a secure data protocol.
- **Microformat:** These are a set of simple, open data formats used to represent data in XHTML.Microformats embed these XHTML data directly into the web pages which is then accessed or viewed by the user with the help of an internet based application or service (for example through some search engine or browser plug-in). Microformats enable adding context to information so that other services can use that on automated basis.
- **Ajax** (shorthand for **A**synchronous **Ja**vaScript and **X**ML) is a group of interrelated web development techniques used on the client-side to create interactive web applications. With Ajax, web applications can retrieve data from the server asynchronously in the background without interfering with the display and behavior of the existing page. The use of Ajax techniques has led to an increase in interactive or dynamic interfaces on web pages as in Web 2.0. Some other technologies that make Ajax are HTML, XML, XHTML. CCS, XSLT, XMLHttpRequest, Document Object Model and Javascript.
- **Javascript** is an object oriented scripting language that enables enhanced interactivity be providing a dynamic website. The JavaScript is used to write functions that are embedded in or included from HTML pages to interact with the Document Object Model (DOM) of the page. Some simple examples of this usage are:
  - Pop up windows in a page.
  - Validation of input values in web forms to make sure that they will be accepted before they are submitted to the server.
  - Changing images as the mouse cursor moves over them.

JavaScript code can run locally in a user's browser (rather than on a remote server), and it can respond to user actions quickly, making an application feel more responsive. Furthermore, JavaScript code can detect user actions which HTML alone cannot, such as individual keystrokes. Applications such as Gmail take advantage of this: much of the user-interface logic is written in JavaScript, and JavaScript dispatches requests for information (such as the content of an e-mail message) to the server.

- **XML** (Extensible Markup Language) is an application profile of Standard Generalized Markup Language that believes in the use of markup should describe a document's structure and other attributes, rather than specify the processing to be performed on it. It also postulates that markup should be rigorous so that programs and data bases can be used for processing documents as well.

We do not intend to discuss much on technologies here, and therefore, expect you to have some idea about the background of web 2.0 rather than having detailed view on the specific technologies. Before moving on to understand big ideas of Web 2.0, let us have a break and attempt the Check Your Progress given below.

Check Your Progress 17.1

Notes: a) *Write your answer in the space given below.*

b) *Compare your answer with the one given at the end of this unit.*

Explain three technology and standards for Web 2.0

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17.2.3 Big Ideas of Web 2.0

JISC Technology and Standards Watch (TechWatch) report highlights Web 2.0 services and applications like blogs, wikis, social bookmarking and networking, RSS and video sharing. It also analyses some of the recent developments related to the field of web technologies, like social networking, aggregation, filtering and tracking content. This report indicates that there are at least six big ideas of Web 2.0 which shall change the way the people interact. These big ideas are:

Individual production and user-generated content

The User Generated Content is also known by the name of Self-publishing or Personal Publishing (Downes, 2004) and 'self expression'. The web has enabled users to contribute materials for programmes, news, documentaries or all other kind of programming wherein the users can input their content generated through their cameras, mobile phones or other devices. You must have noticed that now-a-days the news channels in India have started 'citizen journalism' asking citizen to send their news or photos or stories to be broadcast.

Harnessing the power of the crowd

This is also known as 'Wisdom of Crowds (WoC)'(which incidentally is the title of a book written by James Surowiecki) wherein he identified three types of problems (cognition, coordination and cooperation) and how they can be solved though group efforts. O'Reilly (2005) explained the concept of WoC as "harnessing the collective intelligence". One such example is Cloudmark (a collaborative spam filtering system) which reflects 'the individual decisions of email users about what is and is not spam, outperforming systems that rely on analysis of the messages themselves' (p. 2). The Cloudmark system is a representative of distributed human intelligence where in simple terms it can be said that here media content generation is outsourced to crowd logged into the Internet. Like multimedia sharing sites (Flickr and YouTube) have created a second generation of websites where user generated content can be re-used. *ShutterStock* and *Fotolia* are such other web-based stock photo or video databases where the amateur content producers and anyone who wants to use the content can collaborate.

Data on an epic scale

Since Web 2.0 allows users to generate content, therefore the volume of data on the Internet is ever-increasing. Database management and networking have developed as the core competency for the people involved to deal in with this data on an epic scale. Google, Amazon, Yahoo or Ebay like companies have volumenous data which is increasing day by day as new content is being generated and added to the pool.

Architecture of participation

The architecture of participation indicates the service where user content generation and collaborations are equally important and put into effect. Take the case of Bit Torrent where users download the data but make that data available for others to download too. Therefore both the data and bandwidth are made available as more and more people are involved in the network. This model is based on the premise of ethics of cooperation, you downloaded the data so let others also download it from your source.

Network effects

Klemperer (2006) and Liebowitz and Margolis (1994) described network effect as an increase in value to the existing users of a service when more and more people start using it, there is more interaction among themselves. Understand it with an example of Microsoft Office products. It is one of the most successful software products because more and more people started using it (because someone else was using it) and thus it became easy for people to share documents with each other. Therefore not only the user was benefited but also the software company too. There are other services too, take for example the case of Facebook. Once you add someone to your friends list, others are added from their friends list and thus network grows.

Openness

Openness deals with access, control and rights of digital content in terms of legal, political, and cultural settings. Web 2.0 services are based on open standards, using open source software, allowing use of free data, re-using data etc. Take the case of Open source browser FireFox and its extensible plug-ins where users are allowed to experiment to bring improvement to the software.

Check Your Progress 17.2

Notes: a) *Write your answer in the space given below.*

b) *Compare your answer with the one given at the end of this unit.*

Explain the meaning of "Wisdom of Crowd".

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17.2.4 Key Web 2.0 Services

Web 2.0 offers many services pertaining to different areas like social networking, collaboration, content sharing in terms of photo sharing or document sharing or video sharing etc. Some of the key Web 2.0 services are:

- Blogs
- Wikis
- RSS and syndication
- Tagging and social bookmarking
- Multimedia sharing
- Audio blogging and podcasting
- Newer Web 2.0 services and applications

You will be reading about blogs and wiki in the next sections, whereas about RSS we have studied in Unit 16. Tagging is adding a keyword to a digital object (any picture or video clip or a website) to describe it. Social Bookmarking allows sharing common features and allows users to create a list of bookmarks or favourites at a central server so that these can be shared with other users. See for example, http://delicious.com/

Multimedia sharing allows users to store and share multimedia content like you must have seen or used YouTube (video), Flickr (photographs) and Odeo (podcasts). Social Networking, Aggregation services, Data 'mash-ups', and Tracking and filtering content are some of the examples of newer Web 2.0 services and applications.

17.3 BLOGS

A blog is a personal website that contains content organized like a journal or a diary. Each entry is dated, and the entries are displayed on the web page in reverse chronological order, so that the most recent entry is posted at the top. Readers catch up with blogs by starting at the top and reading down until they encounter material they're already read.

Though blogs are typically thought of as personal journals, there is no limit to what may be covered in a blog. It is common for people to write blogs to describe their work, their hobbies, their pets, social and political issues, or news and current events. And while blogs are typically the work of one individual, blogs combining contributions of several people, 'group blogs', are also popular.

While the earliest blogs were created by hand, blogging became widely popular with the advent of blog authoring tools. Among the earliest of these were Userland and LiveJournal (www.livejournal.com). Today, most bloggers use either Google's popular Blogger service (www.blogger.com) or WordPress (www.wordpress.com). These services allow users to create new blogs and blog posts by means of simple online forms; the writer does not need to know any programming or formatting. As a result, blog aggregation services such as Technorati (www.technorati.com) have reported that tens of millions of blogs have been created (Technorati, 2008).

Blogs are connected to each other to form what is commonly known as the 'blogosphere'. The most common form of connection is form blogs to link to each other. Blog authors may also post a list of blogs they frequently read; this list is known as a 'blogroll'. Blogs may also be read through special readers, known as 'RSS readers', which aggregate blog summaries produced by blog software. Readers use RSS readers to 'subscribe' to a blog. Popular web-based RSS readers include Google Reader and Bloglines. You have studied about RSS in the previous unit.

While blogs once dominated the personal publishing landscape, they now form one part in a much more diverse landscape. Many people who formerly write blogs are using social networking sites such as MySpace (www.myspace.com) or Facebook (www.facebook.com). Others use 'microblogging' services such as Twitter (www.twitter.com). And blogs, which began as text-based services, have branched into audio blogs (also known as 'podcasts') and video blogs ('vlogs'). Authors typically upload a wide range of multimedia content such as art to sites like deviantart (www.deviantart.com/), videos to hosting services such as YouTube (www.youtube.com), slide shows and PDFs to SlideShare (www.slideshare.net) and photos to sites like Flickr (www.flickr.com).

17.3.1 Using Blogs in Education

Blogs are widely popular in education, as evidenced by the 400 thousand educational blogs hosted by edublogs (www.edublogs.org). Teachers have been using them to support teaching and learning since 2005 (Downes, 2004). Through years of practice, a common understanding has formed around the benefits of the use of blogs in education (see http://anne.teachesme.com/2007/01/17/rationale-for-educational-blogging/).

Because blogs are connected, they can foster the development of a *learning community*. Authors can share opinions with each other and support each other with commentary and answers to questions. For example, the University of Calgary uses blogs to create learning communities.

Additionally, blogs give students ownership over their own learning and an *authentic voice*, allowing them to articulate their needs and inform their own learning. (Uniservity, 2007) Blogs have been shown to contribute to identity-formation in students (Bortree, 2005).

Further, blogging gives students a genuine and potentially *worldwide audience* for their work (Aguilar, 2009). Having such an audience can result in feedback and greatly increase student motivation to do their best work (See http://www.big6.com/2006/06/12/motivating-middle-schoolers-grades-5-8/). Students also have each other as their potential audience, enabling each of them to take on a leadership role at different times through the course of their learning.

Moreover, blogging helps students see their work in different subjects as *interconnected* and helps them organize their own learning. Working with the teacher and informed by blogs authored by experts in the field, students can conduct a collective enquiry into a particular topic or subject matter creating their own interpretation of the material.

Blogs teach a variety of skills in addition to the particular subject under discussion. Regular blogging fosters the development of writing and research skills. Blogging also supports digital literacy as the student learns to critically assess and evaluate various online resources.

17.3.2 How to Use Blogging in Learning?

- *Begin simply*. Most uses of blogs in the classroom began with the instructor using blogs to post class information such as lists of readings and assignment deadlines (Downes, 2004). This fosters in the teacher a familiarity with the technology and with students a habit of regularly checking the online resource.
- *Lead by example*. Before requiring students to blog, instructors should lead by example, creating their own blogs and adding links to interesting resources and commentary on class topics. This not only produces a useful source of supplemental information for students, it creates a pattern and sets expectations for when students begin their own blogging.
- *Read*. Students should begin their entry into blogging by reading other blogs. Tecahers should use this practice not only to demonstrate how other people use blogs to support learning but also to foster critical thinking and reading skills. Teaching how to *respond* to blog posts is as important as creating blog posts.
- *Create a context*. Like the author facing a blank sheet of paper, a blogger will be perplexed unless given something specific to write about. Have students blog about a current issue, about a specific peice of writing, or some question that comes up in the course.
- *Encourage interaction*. Blogging should not be a solo activity. Encourage bloggers to read each other's works and to comment on them. Encouraging students to set up an RSS reader with each other's blogs will make reading and commenting a lot easier. Teachers, also, should subscribe to student blogs and offer comments, again setting an example of the expected practice.
- *Respect ownership*. A student blog becomes important because it is a manifestation of his or her own work. However, to have this value, a student's ownership of a blog must be genuine. While reasonable limits or codes of practice (See http://www.digitalquery.com/2005/08/hill_knowlton_o.html) need to be respected, student bloggers should have the widest latitude possible for personal expression and opinion.
- *Address issues immediately*. The most significant danger to students online is posed by other students. In particular, bullying (or ragging) is a significant problem (See http://en.wordpress.com/tag/school-bullying/). It is important to spot instances of bullying as soon as they occur and to take steps to prevent further incidents. Teachers should educate themselves as online bullying can be invisible and hard to address.

Check Your Progress 17.3

Notes: a) *Write your answers in the space given below.*
b) *Compare your answers with those given at the end of this unit.*

1) List three blogging services on the web.

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2) List four benefits of blogging for learning.

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17.4 WIKIS

A wiki is a website which can be edited by oneone having an account on the wiki platform. Wiki is a great tool for collaboration over the Internet and a store house of information. Allowing anyone to add, delete or edit the content on the wiki pages has made it an effective tool for collaborative writing.

The term wiki has been taken from Hawaii Language, where they call it *wiki wiki* (means quick or fast). In simple terms, wiki can be taken as simplified webpages where all the previous versions of a page are also stored. This enables one to retrieve any past page. There are different tools inbuilt in a wiki system to keep track of changing information on wiki pages or uploading images, audio or video or providing links (URL) to internal pages or external websites (external links).

History of Wiki

WikiWikiWeb was the first Wiki software which was developed by Ward Cunningham in 1994. He described it as "the simplest online database that could possibly work." [http://en.wikipedia.org/wiki/Wiki#cite_note-2#cite_note-2]. The WikiWikiWeb was installed on the Internet domain C2.com on 25 March 1995. Cunningham is said to be inspired by Apple's HyperCard system (this system allowed users to create 'card stacks' by creating links among various cards). The Wikis gained popularity as collaborative software and were being used for project communication, intranets and documentation where one user can comment on and edit the text of other user. Wikis are dynamic databases for creating, sharing, updating, using and searching information on the web. It is an open space or platform to engage in sharing and learning.

17.4.1 Strengths and Limitations

In the *STRIDE Handbook 8: E-Learning*, Zhang and DeLoose (2009) describe the benefits of wiki as follows: "As powerful cognitive tools (Jonassen, 2000; Jonassen & Howland, 2003), wikis allow learners to contribute actively to knowledge construction, networking and collaboration. A wiki is an ever-growing web of knowledge that any user may append. A wiki may be reused by many class sessions and different groups of learners, with content being added to and modified on a continual basis. Wiki-related learning activities enable collaborations among different learners, instructors, classes, schools, universities, and experts from anywhere across the globe (Bonk & Zhang, 2008). Wiki applications facilitate teaching and learning by providing shared knowledge repositories that are constantly updated and corrected. Learners may not only use existing wikis for information and resources, but also create new wikis or add to existing ones, which further empowers them with a strong sense of ownership in the learning process. Engaged in a wiki project, such as writing a wikibook, learners have opportunities to share knowledge through active, meaningful, and collaborative learning and research. Changing from passive knowledge receivers to knowledge creators, learners are highly motivated to work and collaborate continuously in wiki-related learning tasks (Watson, Boudreau, York, Greiner, & Wynn, 2008). Wiki-related learning activities may also address the demanding needs of generational learners (Zhang & Bonk, in press) and different types of learning preferences and learner needs (Bonk & Zhang, 2008; Zhang &Bonk, 2008). The easy function of incorporating multimedia also enables learners to add various forms of expressions in wikis, addressing multiple intelligences (Zhang & Bonk) without complex technical operations (Choy & Ng, 2007)".

Strengths

- Free, openly available to anyone (you need an internet connection to access pages).
- You can write on the topic of your interest where others can contribute to your content.
- Since others can contribute to your content, it encourages peer review of content and quality of content may improve.
- The wiki pages can be edited by any user (who is authorised to do so, in other words, who is a registered user).
- The history of all the pages created is saved and any time you can revert back to a page.
- The 'Watch' feature enables to be informed of any change of content on that page.
- It provides a collaborative platform for developing and sharing content, different people can work from different parts on same document.
- You can include online quizzes and assessment activities in your course modules.
- Other software utilities and applications can be easily integrated into wiki pages, like YouTube videos, Slideshare presentations, Google Calendar, MindMap etc.
- The wiki editing skills are easy to learn and use.
- As soon as you edit and save a page, it is published on the web, so it is instantaneous in nature.
- Licensing costs can be taken care of because there is a wide range of open source software that you can install for institutional wiki.

Limitations

- There can be incomplete information or page on a wiki platform.
- Since anyone can edit the pages, there are chances that incorrect information can be uploaded on to the pages. (But since others can read that and correct it, so this aspect can be taken care of). Also at systems level editing can be blocked if required.
- The educational institutions are yet to recognise it as a full scale mode of instruction delivery as there are questions about the validity and reliability of content.
- Since there is no formal structure of wiki, therefore the information can be disorganised if page designing is not done carefully.

17.4.2 Software for Wiki

There are many software available for creating your own wiki. The Wikimedia Foundation's MediaWiki is one of the most widely used open source wiki technology that is robust enough to also host an encyclopaedia (e.g. Wikipedia and its different versions such as wikibooks, wikiversity, etc.). you may like to host a media wiki server for which you need the following:

Figure 17.1: Webapage of Media Wiki

In order to use wiki for your teaching and learning as a teacher, you may just create an account on a free wiki server. There are a plenty available on the net. However, we would recommend you to consider creating your account on WikiEducator (www.wikieducator.org). They provide you a host of online training materials to learn and also conduct online/offline workshops to provide basic training on use of wiki.

Check Your Progress 17.4

Notes: a) *Write your answers in the space given below.*
b) *Compare your answers with those given at the end of this unit.*

1) Give three reasons for use of Wiki in teaching and learning.

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2) Fill in the blanks.

a) Wiki is derived from *wiki wiki* in ..... language, meaning quick, quick.

b) ..... developed wiki in 1994.

c) Wikipedia uses ..... software.

17.5 SOCIAL NETWORKING

Social networking is a term in common use only since 2003. The term has been defined by many and generally viewed as referring to networked tools that allow people to meet, interact and share ideas, artifacts and interests with each other. Social networking applications have been phenomenally popular with sites such as Facebook, MySpace, SecondLife and LinkedIn counting their user numbers in the tens of millions. Social networking to date has found applications primarily in the contexts of informal learning and entertainment however there is growing interest in its use in formal education in face-to-face, distance and blended modes. Social networking in the context of distance education can be defined as "networked tools that support and encourage learning through face-to-face and online interactions while retaining individual control over time, space, presence, activity and identity" (Anderson, 2006). Key to understanding both the power and the disruptive affordances of social networking is what Dalsgaard (2008) refers to as transparency – making visible and retrievable the activities, ideas, communications, artifacts and interests of others.

There are many different network learning applications. Some are generalized and multi-faceted application systems that combine social networking applications including blogs, wikis, profiles, resource tagging, documents sharing and other services. Conversely, there are specialized social networking applications focusing on particular applications such as language learning, meeting people who live near by or those who share common interest, hobbies or goals, scheduling and many other applications. The web 2.0 aggregation site htpp://gotoweb20.net currently lists over 2800 applications - most of which could be classified as social networking applications.

For e-learning applications social networking serves three broad functions (Anderson, 2009):

- ***Socializing:*** Many forms of distance education and their e-learning derivatives have focused on the provision of content to students and provided only limited contact between student and teacher and often no opportunity for student-student interaction. This lack of social interaction, help seeking and provision, and lack of general interpersonal communication and support opportunities has been associated with lack of social integration and resulting higher levels of attrition in both distance education and e-learning (Kember, 1995; Rovai, 2003; Tinto, 1987; Woodley, 2004). Of particular concern in modern e-learning is the inability of institutions to provide contact information to fellow students owing to restrictions on release of private student information to other students. Thus, it can easily happen that students enrolled in the same course, living in the same apartment building, have no opportunity to connect with each other for mutual support, engaging in 'study buddy' or study group type interaction, engage in cooperative

or collaborative work or to build social networks and social capital with other students. Social networking first allows learners to find each other by browsing the profiles of other learners. Profile systems encourage learners to share their interests, aspirations, locations, hobbies, past course completions, photographs and other personal information. Typically systems provide hot links that provide easy electronic access to other students who share these interests or characteristics. However, it is critical that students have control over the release of this personal information (Anderson, 2009). Some social networking applications require wide distribution across the entire Internet to be effective, whereas some information can be effectively shared in restricted subsets such as registered students at an institute, those in a particular class, programme or club or even particular 'friends' of that student. There is no single best permission setting, rather students need to be able to set, and change as necessary, the extent of the distribution of personal information and content they create.

- ***Sharing:*** One of the most common informal and formal learning applications of network software is the capacity to store, organize and annotate network resources. These include favorite web sites, photographs, music, travel recommendations, references, books and many other electronic resources that people want to be able to quickly retrieve, annotate and share with others. If these resources are stored in accessible networked locations and tagged or identified by the user, they can be combined with other people's resources to create aggregated collections. These collections allow users to discover what others have found, to rate and comment on these resources and generally add value to the individual collection by collective aggregation (Dron & Anderson, 2007). These shareable resources need not be restricted to those created by others. Rather resources created by students and teachers such as learning diaries (blogs), student created learning resources (portals, wiki contributions, original music, multi-media art, reports and essays) can also be shared. These collections need not be bound to particular courses, cohorts or even institutions. Rather they can be used to create permanent, yet continuously growing and evergreen resources as they are used and augmented by multiple groups of learners and educators.
- ***Sojourning:*** To sojourn means to travel or work with others. There is ample evidence from both class room delivery and distance education at all levels of formal education that collaborative and cooperative learning increases learning effectiveness, motivation, persistence and develops interpersonal and communications skill collaborative (Fisher, Phelps & Ellis, 2000; Gokhale, 1995; Johnson & Johnson, 1994; Kaplan-Leiserson, 2003; Kaye, 1991; Kreijns, Kirschner & Jochems, 2002; Shindler, 2004; Springer, Stanne & Donovan, 1999; Stacey, 1999). However, providing collaborative learning opportunities for distance education students has, until the development of networking software, always been inconvenient, restrictive and often expensive (Paulsen, 2008). Social software allows groups of students to efficiently schedule their activities, meet online via text chat, audio, video or immersion technologies and to engage collaboratively in a variety of brainstorming, mind mapping, group games, simulations, project management, and other types of organizational, administrative and learning activities.

17.5.1 Challenges of Utilizing Social Networking in e-Learning

Like all technologies, the use of social networking presents both opportunities and challenges to educators and learners. Of course, social

networking requires easy access to the Internet and some applications (notably immersion technologies such as SecondLife) require high speed connections and relatively advanced computer hardware. In addition, some educational institutions and workplaces actively discourage or block access to social networking sites in mistaken attempts to constrain learner exploration and use of these potentially distracting tools. *Second*, social networking is new and novel and can challenge students' and teachers' network and computer efficacy and their capacity to easy adapt to new learning tools and contexts. *Third*, social networking is a very disruptive technology (Christensen, 1997; Christensen, Horn & Johnson, 2008) that challenges many of our notions of privacy, individual and institutional control – generally moving control from the institution and the teacher to the learner. *Fourth*, social networking provides tools that can be used for plagiarism, cheating, harassment and other types of academic and social misconduct. None of these challenges are insurmountable, but they highlight the challenges of rapid and wholesale implementation and point to the need for pilot projects that guide adaptive policies, training and support development.

17.5.2 Using Social Networking Effectively

The use of social networking evolves a process of exploration and learning for all participants. Many of the technologies and their applications are emergent, meaning that it is impossible to predict in detail what will be the outcomes of their use. However, the potential advantages described above give promise that social networking learning designs will prove more effective, efficient and motivating ways to support learning than any previous forms – including both traditional campus based and distance education. Thus, educators should be piloting educational applications in their courses to provide opportunities for themselves and their students to explore and evaluate the effect of social networking tools use on their formal and informal learning. Many social networking tools are open source, can be used in trial applications or with advertising support at very low or no cost. Educators should however note the pervasive interest in busy and often instrumental learners in being rewarded course credits for their use and learning with these tools – thus suggesting development of compelling but optional and graded activities that enhance e-learning and face-to-face courses. Finally, educators would create ways in which learners can help each other to learn and overcome logistical, technical, institutional and learning challenges. It is unrealistic to expect the high degree of institutional support for theses emerging technologies as we have attempted to provide for earlier administrative and educational technologies. However, by guiding and facilitating the use of social networking to encourage learners to support each other, we can create largely self-supporting and cost effective learning communities.

Check Your Progress 17.5

Notes: a) *Write your answers in the space given below.*
b) *Compare your answers with those given at the end of this unit.*

1) Give three examples of social networking websites.

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2) Describe three function of social networking in the context of education.

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17.6 LET US SUM UP

In this unit, we discussed how the web has emerged from its simple static form to its dynamic form called as Web 2.0. This is also called as Read/Write web. You were introduced to the technology and standards of web 2.0 technologies. In addition we examined six big ideas of web 2.0 and some of the key services. At the end of this unit by now you must have gained an insight into how the blogs are important tools to teachers and students. We discussed the use of wikis, and strengths and limitations for teaching and learning. There are different kinds of software available to create wiki and we highlighted the use of MediaWiki and WikiEducator. Social networks have also revolutionised the way we are interacting with others. Towards the end of the unit on web 2.0, we also emphasised the role of social networks in *socializing*, *sharing* and *sojourning*.

17.8 KEYWORDS

Ajax: is short for Asynchronous JavaScript and XML that is used for web development for client side interactivity.

Blogs: is an abbreviation for 'web log'. It is a type of website that people use to update regularly, where entries are shown on date wise as in a diary.

Javascript: is a programming language for web development.

Social networking: is a set of software system that provides people to join, share, interact and build a communication network on the web.

Social bookmarking: is a method for Internet users to share, organize, search, and manage bookmarks of web resources.

Tagging: is a process of giving keyword (tag) by the user to an object on the Internet.

Wiki: is a website that allows the easy creation and editing of any number of interlinked web pages via a web browser using a simplified markup language or a WYSIWYG text editor.

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17.10 FEEDBACK TO CHECK YOUR PROGRESS QUESTIONS

Check Your Progress 17.1

The three important technology standards of Web 2.0 are Ajax, JavaScript, and XML.

Check Your Progress 17.2

With the read-write abilities of the web, it is now possible to have large user base of a website that interacts with the system and amongst each other. The huge number of web users in a website can contribute many solutions through their interaction and collective intelligence. For example, a rating system can help other users to decide a product or an expert online; or for that matter, the bookmarking in a delicious site can inform us the popularity of the link.

Check Your Progress 17.3

1) Three blogging services on the net are:
   a) Blogger.com
   b) Livejournal.com
   c) Edublogs.org

2) The benefits of blogging are:
   a) Fostering the development of a learning community
   b) Students can articulate their voice and take ownership
   c) World wide audience to ideas
   d) Students develop interconnection due to the network and because of the hypertext facilities

Check Your Progress 17.4

1) Three reason for use of wiki in teaching and learning are:
   a) Wiki is a collaborative platform
   b) Wiki is simple to use and open to anyone with web access
   c) Wiki keeps history of the development of a work online, and every time it is edited the older version is archived.

2) (a) Hawaii, (b) Ward Cunningham, (c) MediaWiki

Check Your Progress 17.5

1) Three examples of social networking sites are: Facebook, LinkedIn and MySpace.

2) Three functions of social networking in the context of education are:
   a) Socializing: Use of social networking can improve socialization amongst learners and develop institutional belongingness in distance education institutions.
   b) Sharing: Social networking can develop sharing of ideas and artefacts over the network.
   c) Sojourning: Social networking can improve collaboration and cooperative learning and provide distance learners opportunity to grown and travel together in a journey of learning.