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Real World Tour of Cloud Computing for Family

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Abstract

Cloud Computing offers computing as a service on demand. It doesn't provide services only to business, industries and organization. Apart from the commercial usage cloud can be utilized by individuals for domestic purposes. Such a cloud is known as family cloud. This paper speaks about the cloud services that are useful to collaborate members of a family with themselves and also with their relatives and friends. A brief discussion on various cloud services suitable for families is done. The service providers and website address of the family cloud services are tabulated. This paper also justify that cloud helps families to collaborate on budget, grocery shopping, to-do lists and other schedules.

1. Introduction

The cloud has long been thought of as that bit of magical server space that is normally reserved for businesses and tech-savvy early adopters. In reality, the cloud can also offer busy families a variety of helpful and time-saving resources that are easy to employ and quick to update. Synchronization is at the foundation of any good personal cloud [12]. Now a day's people are having a multitude of connected devices, which they use regularly, and they want them all to stay in sync. The power of this lies in software that contains what we call a "change and detect engine," meaning when a change is made on one device, it syncs across all devices. Take a photo, buy a song, or edit a document on one device and it instantly appears on other devices.

Cloud computing is a general term for the delivery of hosted services over the Internet. It is the practice of

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using a network of remote servers hosted on the Internet to store, manage, and process data, rather than a local server or a personal computer. Cloud Computing is a technology that uses the internet and central remote servers to maintain data and applications. It allows consumers and businesses to use applications without installation and access their personal files at any computer with internet access. This technology allows for much more efficient computing by centralizing data storage, processing and bandwidth. It is model for delivering information technology services in which resources are retrieved from the internet through web-based tools and applications, rather than a direct connection to a server [11]. Data and software packages are stored in servers. However, cloud computing structure allows access to information as long as an electronic device has access to the web. This type of system allows users to work remotely.

2. Literature Review

Bahman Rashidi, Mohsen Sharifi and Talieh Jafari says "According to implemented solutions and researches on interoperability, solving all interoperability challenges in one layer of clouds is not possible". It is better to solve the problem in different layers; otherwise, an additional workload occurs in a particular layer. Another important point is that the main part of interoperability challenges must be resolved in infrastructure since service portability in this layer is more than the other layers and overhead of interoperability in higher layers is more[1].

Sumit Goyal says "Hybrid cloud is a mixture of public and private cloud"; organizations keep their regular data in the public cloud and use private cloud to keep their sensitive data in hybrid model. Similarly a community cloud falls between public and private cloud, as some organizations get together and form a separate private cloud of their own, called a community cloud[2].

3. Discussion on Family Cloud

Cloud computing can help a family to communicate and collaborate which brings the members of the family closer together. There are several cloud based tools available to improve communication between family members. A better approach is to use web-based email service for exchanging messages [4]. These services place email inbox in the cloud; user can access mails from any device connected to the internet. User can check their web based email when he is in office or home or on the road. Cloud based tools can be used for,

- ➢ Web based Scheduler
- ➢ Collaborating on Grocery Lists
- ➢ Managing To-Do Lists Online
- ➢ Web-Based Household Budgets
- ➢ Managing Contact Lists
- ➢ Collaborating on School Projects
- ➢ Sharing family photos

3.1. Web based Scheduler

A lot of communication between the members of the family concerns schedules. The family members may be apart from each other, this way of collaborating them together through cloud helps them to feel, they are together. There are several situations, which require proper scheduler in the family,

- ➢ Are we free on this Saturday?
- ➢ When are we all free to go on a tour?
- ➢ When is the refrigerator repair guy coming?

> ➢ When is the dentist's appointment?
> ➢ When is son's next food ball game?
> ➢ When is daughter's dance program?

All these questions concern the members of the family to communicate continuously. But in today's work nature, it is not possible for everybody in the family to be physically present at home at least one hour per day. The school, college, company & industry work time, vacation & holidays differ from each other which lead to lack of communication between the family members [3]. Cloud can be boon for families which act as bonding agent to tie the family members logically. When the size of the family grows, it is more difficult to keep all of their activities straight. *"Bigger the family, Busier the members, Harder to keep track".*

Although if you try to keep a paper based schedule, it is not possible to keep it up-to-date. Because this can be effective only when you are at home. If we think of a better solution, web-based calendars will be suitable for this purpose. The most popular web-based calendars are tabulated in Table 1.

Table 1. Schedulers Online

S.No	Calendar	Provider	Website
1.	Google Calendar	Google	calendar.google.com
2.	Yahoo Calendar	Yahoo	calendar.yahoo.com
3.	Windows Live Calendar	Microsoft	mail.live.com/mail/calendar.aspx
4.	Mobile Me Calendar	Apple	www.me.com
5.	AOL Calendar	America Online	calendar.aol.com
6.	Calendar Hub	Independent	www.calendarhub.com

3.2. Collaborating on Grocery Lists

As a part of a busy family where both husband and wife work, they are not able to manually coordinate their monthly grocery list. The usual practice is, we prepare the grocery list on the first week of every month. It is not possible to make everybody sit for making this, that's why few of the items may be left as follows,

> ➢ Shoe polish for your husband
> ➢ Shampoo for your daughter
> ➢ Lemon tae for your father
> ➢ Doop stick for your mother
> ➢ Cookies for your son

The solution here is to use a web-based word processing programs to manage their joint grocery list of the family. Family members can create a document, can authorize access only to the family members. They can enter the items needed on to the list [2]. Whenever they remember an item, they can add new items. At the end of the week, when they are about to go to supermarket, they can take a printout of grocery list. The most popular web-based word processing programs are tabulated in Table 2.

Table 2. Data Processing Online

S.No	Word Processing Program	Provider	Website
1.	Google Docs	Google	docs.google.com
2.	Buzzword	Adobe	Buzzword.acrobat.com
3.	ajaxWrite	Independent	www.ajaxwrite.com
4.	GlideWrite	Glide Business Suite	www.glidedigital.com
5.	iNetWord	Independent	www.inetword.com
6.	kBdocs	Independent	www.kbdocs.com

3.3. Managing To-Do Lists Online

Domestic To-Do Lists include a lot of house hold chores and repairs. Every day To-Do Lists grows and it is not possible for us to remember them in right time. There are several tasks, smaller to bigger need to be done regularly as follows,

➤ When to pay the Electricity bill?
➤ Parent's meeting in the kid's school.
➤ When is the next appointment for general body check-up?
➤ When is the due for credit card?
➤ Date for paying monthly payment of recurring deposit in bank.
➤ Invertor Battery, distilled water refill date.

These types of To-Do Lists can use a dedicated web based planning program. By creating aTo-Do List on the wed, members of the family can add to the list from any computer at any time [5]. The web-based To-Do List applications are listed in the following Table 3.

Table 3. Task List Maintenance Online

S.No	To-Do List	Service Provided	Website
1.	Zoho Planner	Can include extensive notes	Planner.zoho.com
2.	Remember the milk	Remainders via e-mail	www.rememberthemilk.com
3.	Bla-Bla List	Publish list via RSS	www.blablalist.com
4.	Hiveminder	Enter items in Freedom fashion	www.hiveminder.com
5.	iPrioritize	View list in mobile	www.iprioritize.com
6.	Tudu List	Includes a web-based calendar	www.tudulist.com

Along with these lists, can even set email remainders to refresh the memory when a task is due. Once the task is completed, mark them off. Even you can add task via email and can access the list with mobile phone.

3.4. Web-Based Household Budgets

In order to keep a tight cash flow budget for a family, expenses need to be structured. What money is coming in and what money is going out have to be monitored on a weekly basis or monthly basis. Problems occur when one of the family member has a big expense which is not known about and didn't budget for. These type of unwelcome surprises can be minimized by collaborating the family members on house hold budget [6]. This can be easily done through a web-based spreadsheet program. By using this, a family budget can be created and the members of the family can enter budget items separately as and when required. If they remember an upcoming expenditure while at work, just going online they can add the expense to their web-based budget.

When they found a necessary repair while watching TV at home, just login to web-based spreadsheet and enter that expense. Household budgets were made very easy when it can be updated anytime and anywhere by all the members of the family. The web-based spreadsheet programs are listed in Table 4.

Table 4. Budgets Online

S.No	Spreadsheets	Provider	Website
1.	Google Spreadsheets	Google	docs.google.com
2.	EditGrid	Microsoft	www.editgrid.com
3.	eXpresso online Spreadsheet	Independent	www.expressocorp.com
4.	GlideCrunch	Glide Business Suite	www.glidedigital.com
5.	ZohoSheet	Zoho	sheet.zoho.com
6.	Sheetster	Independent	www.sheetster.com

These type of web-based spreadsheets contains sort-related options, formulas, common functions such as sum, count, average, min, max and product. It is also possible to add charts which give a figurative view for the house-hold budget that made financial analysis very easy.

3.5. Managing Contact Lists

In a family, all the family members will be having friends and a group of relatives, neighbors, colleagues and business contacts. It is necessary to keep track of all these contacts though some of them are reached once in a year [7]. Updating and maintaining the contact list regularly for the following reasons,

➢ To send Diwali, Christmas, Ramzan greeting cards.
➢ To send invitations for marriage, home warming ceremony, ear boring ceremony.
➢ To share photos taken during functions.
➢ To arrange for a holiday trip.

Usually your contacts will be in your PC, your spouse contacts in her PC, your colleague's contacts in your work computer. How will you merge all these contacts together to send an invitation? A good solution for managing contacts from multiple family members is to use a web-based contact management program. This can be listed in Table 5.

Table 5. Contacts Management Online

S.No	Contact Management	Provider	Website
1.	SalesForce CRM	SalesForce	www.salesforce.com
2.	bconnections	Independent	www.bconnections.com
3.	Highrise	Independent	www.highrisehq.com
4.	MobileMe contacts	Apple	www.me.com
5.	ZohoCRM	Zoho	www.zohoCRM.com
6.	plaxo	AOL	www.plaxo.com

All your contacts can be maintained by creating a contact list on any one of the above said web-based contact management program. Email can be send to all of selected contacts in bulk. It helps in communicating with the contacts also.

3.6. Collaborating on School Projects

Along with all the web-based applications mentioned so far, there are certain applications which will benefit the school-aged children for doing school projects [8]. Many of the school projects are a group project which requires kids to communicate for completing the projects. The easier way to collaborate on a group project is to use web-based applications. The web-based project management tools are listed in following Table 6.

Table 6. Project Management Online

S.No	Project Management	Provider	Website
1.	@task	Apple	www.attask.com
2.	Ace Project	Independent	www.aceproject.com
3.	Zoho Projects	Zoho	Projects.zoho.com
4.	Task Tracker	estudio	www.same-page.com
5.	Wrike	Independent	www.wrike.com
6.	OnProject	MyOnProject	www.onproject.com

Consider a situation in which six students of grade 7 are assigned a project to create power point presentation

on Dr.APJ.Abdulkalam. It can be organized into following slides,

➢ 5 slides for describing his Childhood.
➢ 5 slides for describing his Education.
➢ 5 slides for describing his Research.
➢ 5 slides for describing him as a Scientist.
➢ 5 slides for describing him as a President.
➢ 5 slides for describing him as a Teacher.

Each module is assigned to a student who have to prepare slides on the given topic as his contribution for the group project. After individual preparations are over, it need to be integrated into a single final presentation [9]. Instead of driving the kids around to each other's houses, they can collaborate over the web from their own homes saving time.

In order to facilitate communication during the span of the project, kids can use web-based email programs. With these applications the kids can co-ordinate their schedules for all the pieces and parts of the project.

3.7. Sharing Family Photos

In today's digital world, to share photos among the friends and relatives can be done through web. Users can create their online photo albums and can upload photos taken in the following functions,

➢ Marriage occasions
➢ Kid's Birthday celebration
➢ Home warming ceremony
➢ Ear boring ceremony
➢ Holidays trip and tours

Then the family can send the album's URL to their friends and family. They can view the photos online either one at a time or in an online photo slide show [10]. The best course of action is to use a web-based photo sharing services as listed in Table 7.

Table 7. Digital Photo Album Online

S.No	To-Do List	Service Provided	Website
1.	Flickr	For professional Photographers	www.flickr.com
2.	MobileMe Gallery	For Mobiles	www.me.com
3.	Shutterfly	Online photo slideshow	www.shutterfly.com
4.	DPHOTO	Store up to 100 photos for $3 per month	www.dphoto.com
5.	PicasaWebAlbums	Photo editing software	Picasaweb.google.com
6.	Fotki	Able to sell your photo	www.fotki.com

Many of these sites let the visitors order for prints of uploaded photos. If they click on "Order Prints" button, have to pay amount using credit card, then the printed photos are delivered to their doors.

4. Conclusion

In olden days, leading a family life is very easy. Adults have a work life and home life which will not overlap with each other. Kids have less homework and other commitments. Today family life is more complicated, Adults take "Work at Home" with them and in a position to manage home tasks at work. Kids are loaded with tons of homework which requires online resources and group collaboration. All these tasks create stress among the family members. Technology like cloud computing helps the family to keep track of various

tasks and activities by collaborating with others through iphones, BlackBerries and note book computers. As cloud computing enters into the scenario, it results in a new type of collaborative family environment. Even though it is not possible for the members of the family to have face-to-face conversations, they can keep in touch with each other via web-based applications. They can collaborate on budget, grocery shopping, to-do list and all other schedules with the help of the cloud.

Acknowledgements

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Dr. M. Janaki (born July 3, 1981) is Assistant Professor having more than twelve years of teaching experience and four years of research experience, who is very much fond of ICT based teaching methodologies.