

Facebook

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Recently reaching 1 billion active users per month ^[1], Facebook is no doubt one of the most powerful web services. Few of my friends don't use Facebook, and almost all connections in my life are established through Facebook. When discussion is needed in, for example, a class or a club, we always add teammates as friend, build a Facebook group, and then decide topics, arrange meetings, and check progress almost completely on Facebook. Other than friendship, each day I get information about newest technology, thoughtful news or blog articles or funny posts from pages I subscribe. It is fair to say that Facebook has penetrated our lives.

History and Technology

Facebook was launched in February 2004, founded by Mark Zuckerberg and his fellow during his school life in Harvard. Some of the history are taken and adapted into movie "The Social Network." Although whether the detail is as the movie showed is not sure, Facebook is probably an inspiration of Mark's classmates' project idea.

Facebook was initially written in PHP. It may sound boring and not cool nowadays, but the LAMP stack was the hottest technology then ^[2]. LAMP is the abbreviation of Linux, Apache, MySQL, and PHP, Perl, or Python, and is still good to use now (though using ruby on rails or node.js may sound cooler for showing off). However, as Facebook and the data user uploaded grow so large, it is not that simple now. The front-end programming language is still PHP, but is compiled into C++ and compiled with g++ using Facebook's HipHop Compiler ^[3]. PHP is not really good at efficiency, but C++ is. Doing so can enhance the speed and performance of web logic execution. Also, Facebook is working on HipHop Interpreter and HipHop Virtual Machine since compilation time makes updating and maintenance slow ^[4].

Facebook is estimated to own more than 60,000 servers, and the hardware is designed entirely by Facebook themselves ^[3]. These self-designed machines are to provide better

performance for there are 100 billion hits, 50 billion photos, 3 trillion objects cached per day, and just the logs use up 130 TB (in 2010, meaning it only gets more now).

More detailed improvements are made to push the limits are described in the link of reference 3, including lots of self-created systems or software.

Business Model

As mentioned before, Facebook has 1 billion active users per month, meaning that there are 1 billion people in the world log in to Facebook at least once in a month, more than one seventh of the population in the earth. This gigantic number is the core foundation of Facebook, since currently Facebook mainly profit from advertisements.

Moreover, there are 219 billion photos and 17 billion location check-ins on Facebook ^[1]. This data shows how much people like sharing photos and there daily life on Facebook, and is probably the reason why Facebook recently acquired Instagram and TagTile. The former is a company that made a popular app Instagram, allowing users to take a picture with their smart phones, add some special effects and upload to social networks. Instagram was acquired with 1 billion USD. The latter is a small company that provides check-in discount service. When a customer walks into a store and check in, he gets some discount, and the store gets advertising.

Another noticeable number is that, among the 1 billion users, there are 600 million people access Facebook through their mobile devices ^[1]. This shows the trend of mobile devices and explains why Facebook, although a little bit late for some users, largely rewrote their iOS app, using native Objective C instead of slow HTML5. It is predictable that Facebook will continually improve user experience on mobile devices.

Although their profit is still not stable, the revenue of Facebook is growing ^[5]. With the great number of users, Facebook is still a great and healthy company.

Impacts and Problems

The most obvious impact that Facebook brings is the change of social life. Before Facebook, people might chat with MSN, post with Blogger, and share photos with several different kinds of web albums, but now, these can all be done on Facebook. Furthermore, people can now update little things happened in life with just a few words, which is a new way of sharing since there were no such platform then (blog posts are often too long to achieve it).

It seems like Facebook is getting people tighter and making life better. However, some argues that Facebook actually alienates us ^[6]. Common arguments are that Facebook consumes our time of real social life, or that most friends on Facebook are just nodding acquaintance. Some even argue that spending too much time on Facebook is like addiction and is not healthy ^[7].

However, in my opinion, this is just a matter of life style. Is spending 1 hour a day playing basketball addiction and unhealthy? Why would talking through telephones be better than chatting on Facebook? There is nothing wrong with Facebook itself, but rather it is how people choose to arrange their time that is important. If one thinks that Facebook gives him valuable information and happiness, then there is no need to change. On the contrary, if one feel lonely and empty after reading and liking his friends status and photos, then he might need to consider cutting down the amount of time on Facebook.

Conclusion

Facebook did change the Internet and influenced many people's life. It may not really change the world – there are still poverty, wars, and disasters on the earth - but it did build a new world, for people to share and connect.

Reference

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