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# SWIMMING IN THE VIRTUAL COMMUNITY POOL WITH PLENTYOFFISH

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On a Monday morning in January of 2008, Markus Frind, chief executive officer (CEO) and founder of PlentyofFish.com, was undoubtedly the topic of many conversations as people grabbed their morning coffees from a local vendor. The *New York Times* had just published an article about the Vancouverite's free, online dating site, PlentyofFish (PoF). Now that the world was watching and salivating at the \$10 million per year that the site was generating, one had to question whether its business model could be sustained. Could Frind maintain his strong foothold in the virtual world of social networking sites? Could PlentyofFish continue to maintain its financial success with advertising as its only source of revenue?

If the concept of offering a free, online dating site was so fatally flawed, PoF would not have experienced the success that it had. Frind did not spend the \$10 million a month on marketing that some of his competitors like Match.com, eHarmony and Lavalife did. What he was doing was working just fine – for now, and continued to generate a substantial annual profit.

Frind had proudly announced, on many occasions, that his company consisted of just one employee — himself. While he had hired another employee in late 2007, it was only to assist in providing customer service. As the sole operator of the site, Frind had been able to handle massive amounts of traffic. In fact, for the week of April 28, 2007, PlentyofFish was ranked by HitWise as the 96th-busiest website in the United States. To put this into perspective, PoF outranked Apple.com in terms of traffic! How then, was he able to do all of this alone? Did his success lie in his web design philosophy that allowed users to take part in running the site? Was it the automation of the processing? Could he chalk it all up to efficiency? Other concerns included whether this model could be easily replicated, and should PlentyofFish be concerned about others entering the market with better technology and fancier sites?

As people milled around the corner, some on bikes, and others on rollerblades, several couples casually walked along the street, holding hands. With millions having surfed websites looking for that special someone, one had to wonder how many of these people met through PlentyofFish and how much longer others would continue to do so.

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#### THE CONCEPT

## **Social Networking**

The term "social network" was coined by J.A. Barnes who defined it as a group of 100 to 150 people drawn together by family, work or a hobby. In 2008, thanks mainly to the Internet, social networking had expanded to hundreds of millions of people around the world, creating a virtual community for people to interact with one another about anything and everything. Members created their own online "profiles" with biographical data, pictures, likes, dislikes and any other information they chose to post and share. They communicated with each other by voice, instant messaging, videoconference and blogs. In many cases, these sites also served as a vehicle for meeting in person. One could find dating sites, friendship sites, and sites with a business networking purpose or hybrids that offered a combination of these applications.

Looking for Mr. or Ms. Right or looking at your neighbour's pictures from vacation while checking your email at the same time seemed to define the growing industry of social networking websites. The genius of these sites lay in their ability to capture the essence of informal exchanges while expanding the matrix of searchable, linked pages. Social networking on the Internet was a growing phenomenon which could be broadly categorized into three segments — virtual communities like Facebook; classified listing sites such as Craigslist; and the growing plethora of dating sites like PlentyofFish.

As participants in a social network started to become more entrenched in the social aspect of their network they often became members of that particular virtual community. A virtual community described "People who use computers to communicate, form friendships that sometimes form the basis of communities, but you have to be careful to not mistake the tool for the task and think that just writing words on a screen is the same thing as real community." Much like a real community, a virtual social networking community was based on the idea that once one joined, they needed to actively participate. There was a reciprocal nature to being part of a virtual community; they depended upon social interaction and exchange among users. A person in a virtual community was motivated to contribute valuable information to the group, starting with a valid profile or an honest response with the expectation that they would receive the same in return.

The lifecycle of a membership in a virtual community went through the same stages as that of any other community. Members of virtual communities began their lifecycle first as visitors, clicking through and around a site to determine whether they could connect with other users and fit into the group. After deciding to break into the community and set up a profile or username, they began participating in the virtual community. Those who contributed for a sustained period of time became regulars. If they took the initiative to recruit others to join the community, they became leaders.

Another category of social networking sites were ones that focused on classified listings and operated as a hub aggregating buyers and sellers. Buyers listed a variety of goods ranging from private planes to services such as housekeeping. Craigslist was one of the most popular sites of this kind.

Dating websites allowed individuals to post their profile, view others' and perhaps develop a romantic or intimate relationship. The market was dominated by several large commercial websites such as Lavalife, eHarmony, and Match.com as well as the newer PlentyofFish. These sites targeted teens to retirees, with a number of new sites targeting niche markets based on religion, race, and occupation. They were based on a shift in thinking about web applications, built on interactivity between developer and users called Web 2.0.

<sup>1</sup> Howard Rheingold, <u>The Virtual Community</u>, http://www.rheingold.com/vc/book/intro.html, accessed January 27, 2008.

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#### Web 2.0

Web 2.0 was a term first coined in 2004 at a Web conference whose theme was "The Web has become a platform<sup>2</sup>, a foundation upon which thousands of new forms of business would emerge." According to Tim O'Reilly, one of the conference's moderators,

Web 2.0 is the business revolution in the computer industry caused by the move to the Internet as platform, and an attempt to understand the rules for success on that new platform. Chief among those rules is this: Build applications that harness network effects to get better the more people use them. (This is what I've elsewhere called "harnessing collective intelligence.")

Web 2.0 systems were theoretically unconstrained as they would harness "the power of user contribution, collective intelligence, and network effects." PlentyofFish was able to take advantage of this new business model by encouraging user contributions and their collective intelligence, while also capitalizing on the network effects it had built with these very users.

#### **PLENTYOFFISH.COM**

#### **Business Model**

Founded in 2003, PlentyofFish was free to users, a feature that differentiated it from other online dating sites. This was reinforced in the site's slogan: "100% Free. Put away your credit card." However, this came at a cost to users. While other online dating sites provided customer support as part of their service, PlentyofFish did not have that same support structure. It only responded to fraudulent identity notifications and subpoena requests. For example, instead of providing customer service, "...users rely on fellow members, whose advice is found in online forums. The Dating & Advice category listed more than 320,000 posts, making up in sheer quantity what it lacked in a soothing live presence available by phone."5 However, this also meant that users had to be willing to comb through the wide array of content before finding the information they needed. Therefore, while the growth of Web 2.0 aided Frind in achieving his goal of allowing users to drive the website, this setup raised questions about the quality of content being provided.

Despite it, the site had proven popular, with more than three million members in January 2008 — double the membership in the past year, and despite an attrition rate of 30 per cent of members per month who were purged from the site for inactivity. These members generated traffic volume of more than 600,000 unique logins per day, and more than 1.5 billion page views per month (an average of roughly 50 million page views per day!). PlentyofFish had managed to grow its membership not only in number, but in terms of active members, despite the growing number of alternative online dating services. This was especially appealing to advertisers.

<sup>&</sup>lt;sup>2</sup> Tim O'Reilly, "Web 2.0. Compact Definition: Trying Again," O'Reilly Radar: O'Reilly Media Inc., December 10, 2006, http://radar.oreilly.com/archives/2006/12/web 20 compact.html, accessed January 27, 2008.

Web 2.0 SUMMIT, About Web Summit 2.0, http://conferences.oreillynet.com/pub/w/62/about.html, accessed January 27, 2008. <sup>4</sup> Ibid

<sup>&</sup>lt;sup>5</sup> Randall Stross, "From 10 hours a Week, \$10 million a Year," NY Times [US], January 13, 2008, http://www.nytimes.com/2008/01/13/business/13digi.html?\_r=2&scp=1&sq=plenty+of+fish&st=nyt&oref=slogin&oref=slogin, accessed January 22, 2008.

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With the overwhelming supply of online dating sites in the market, one had to marvel at what set PlentyofFish apart: PlentyofFish had built an engaged, passionate community of users who felt emotionally attached to the site. This created high switching costs for users as well as allowing PlentyofFish to benefit from network effects.

PlentyofFish was sustained by revenue from companies advertising on the site. The advertising mix currently returned an estimated \$10 million per year through banner ads, Google ads (AdSense), and affiliated dating sites. Ads sent users to other sites, even other dating sites, which in turn generated revenue for PlentyofFish. For example, when a user clicked on a banner ad for a dating and relationship book, PlentyofFish might receive the full revenue from the sale of the book as the advertiser gained another customer who might become profitable. In this way, the other site cheaply outsourced customer acquisition to PlentyofFish.

# The Technology Behind PlentyofFish - ASP.NET

While Frind originally created the site to learn the ASP.NET web application framework, it was still being used for PlentyofFish in 2008. Frind claimed that he had stuck with using ASP.NET "because it's trivial and easy and gets the job done." Additionally, Frind believed that he had "gotten really, really good at it" pointing out that, "(what he had) done is about 10 to 20 times more efficient than what anybody else has done with ASP.NET." In fact, PlentyofFish had grown to the scale where "nothing can be brought off the shelf and everything must be built from the ground up." Therefore, while there was no one software package that could accommodate PlentyofFish's needs, Frind believed that he could adapt ASP.NET to meet its needs

In June 2006, when PlentyofFish was receiving approximately "500 million pageviews a month," Frind believed that he would have "no problem running it (by himself) even if it gets to three times its current size." This stemmed from his belief that he could be successful in automating more and more as the site grew. In early 2008, PlentyofFish was serving 1.2 billion pageviews.

ASP.NET coding enabled the site to maintain itself through automated recognition of spam on its forums and the allowance of user-screening for the thousands of photos uploaded daily. This combination of site automation and user engagement made it possible for only one person to operate the site. For example, the "Love and Dating" forum had 320,000+ posts in January, 2008, all of which had to be monitored for unwanted postings and spam. Frind had been able to effectively rid his site of spam by refining "a formula for analysing customer feedback and arriving at a determination of whether a given forum post is spam and should automatically be deleted." Posted photos were checked by users to ensure they did not contain nudity and were of a person. In fact, some 120 "member volunteers" — unpaid members dedicated to monitoring photographs posted to the site — reportedly checked 100,000 photos each year. The founder explained this behaviour as a means of giving back to the free site: "Lots of people feel they want to give

<sup>&</sup>lt;sup>6</sup>Plentyoffish.com, "Changing the Online Dating Industry," <u>Plentyoffish Media Inc.</u> http://www.PlentyofFish.com/about\_team.aspx, accessed January 27, 2008.

<sup>&</sup>lt;sup>8</sup> Markus Frind, "The Paradigm Shift – Adapt or Die," <u>Plentyoffish Media Inc.</u>

http://PlentyofFish.wordpress.com/2007/08/08/looking-for-3-senior-software-developers, accessed January 27, 2008.

<sup>&</sup>lt;sup>9</sup> Richard Macmanus, "Plenty of Cash for one-man band," ReadWriteWeb.com, June 10, 2006 http://www.readwriteweb.com/archives/plenty\_of\_cash.php, accessed January 27, 2008.

<sup>&</sup>lt;sup>10</sup> Randall Stross, "From 10 hours a Week, \$10 million a Year," <u>NY Times [US]</u>, January 13, 2008, http://www.nytimes.com/2008/01/13/business/13digi.html?\_r=2&scp=1&sq=plenty+of+fish&st=nyt&oref=slogin&oref=slogin, accessed January 22, 2008.

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back to the site because it is free." Frind likened this automation to putting his website on autopilot, with users supporting themselves through online forums, while receiving minimal support from the site administrator.

## Servers

PoF was able to minimize the amount of servers it employed by being more efficient. Frind stated that he used "one web server, one mail server, two database servers now and a couple of little web servers to run the Userplane instant messenger. So under 10 but I've started to scale up." To bring this into perspective, similar social networking sites such as Friendster and AmericanSingles.com (with less traffic) used 200 servers each. Having fewer servers meant that there was less or, in Frind's case, no need to employ technicians to ensure that the servers were kept up and running. This translated to significantly lower operating costs.

PoF's servers ran on SQL Server 2005. The growth of the website meant that they would need to add new servers. On February 27, 2008, Microsoft released a number of upgrades — Windows Server 2008, Visual Studio 2008, and SQL Server 2008. Frind's need to add additional servers in the near future meant that he would likely have to make a decision on which servers — SQL server 2005 or 2008 — to employ. With Frind's heavy reliance on creating efficiencies for his website, could he afford to wait to employ SQL Server 2008? Conversely, if he did switch to SQL Server 2008, could he afford to work out the kinks which might ultimately cause problems for the site?

## **Scalability**

At the heart of most database applications was a database management system (DBMS). For most mid-to-large scale databases this was either Oracle or Microsoft SQL Server. Understanding the nuanced differences between the two products could be difficult for even the most seasoned database professional. One very important difference between the two was that SQL Server ran only on the Windows platform, while Oracle ran on a variety of platforms like UNIX or Linux.

Frind's choice for a DBMS was SQL Server 2005, but other popular sites, such as Craigslist, had chosen Oracle to manage their databases. Craigslist received over nine billion page views per month. This was six times the number of page views that PoF received.

On the issue of scalability, there were two basic concepts — scaling up and scaling out. Scaling up meant adding additional expensive hardware to handle higher loads, while scaling out meant distributing the load using low cost multiple servers. Frind needed to consider what route he wanted to take if he continued to grow. Would he be able to achieve the scale that Oracle allowed for Craigslist, with SQL Server 2005 as PlentyofFish's DBMS?

<sup>&</sup>lt;sup>11</sup> Randall Stross, "From 10 hours a Week, \$10 million a Year," <u>NY Times [US]</u>. January 13, 2008, http://www.nytimes.com/2008/01/13/business/13digi.html?\_r=2&scp=1&sq=plenty+of+fish&st=nyt&oref=slogin&oref=slogin, accessed January 22, 2008.

accessed January 22, 2008.

12 Plentyoffish.com, "Changing the Online Dating Industry," Plentyoffish Media Inc. http://www.PlentyofFish.com/about\_team.aspx, accessed January 27, 2008.

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## The PlentyofFish User Experience

From the moment that you entered the website, until the moment you left, you were bombarded by pictures of users of the site. Intrigued by the fuzzy and distorted photos, one click and you were viewing a user's profile page. Simplistic in design, the profile page offered information such as height, age, body type and ethnicity. You read the brief description and curiously continued to scroll down the page. More pictures of your "fish" appeared and as you ran your cursor over each one, they expanded to give a much larger, clearer view. Hooked, you might have thought "How can I meet this attractive and witty individual?"

In order to contact any of the 600,000 "fish," a user first had to become a member. This was easily done by moving through the registration screens – two very simple and user-friendly pages. The entire process took only a couple of minutes to complete and the majority of information requested (aside from secure information such as a password) was presented on a profile page. By accurately representing themselves with respect to age, location and preferences, the user was instantly given the opportunity to connect with potential matches in the immediate area that were similar. The prospect of meeting new people immediately was one of the most important driving factors for the website's popularity.

This ability to connect with others so readily had been leveraged by PlentyofFish to create the company's successful online dating community. The longer the user was active, the greater the chance of building a network and finding the "right" match. This idea was reinforced by PlentyofFish's design, which matched users that would be most interested in each other based on their past messaging and searches. Moreover, new users were constantly adding themselves to the website's profile database, creating a new source of people to meet. Thus, how deep a "fish" chose to swim in the virtual community pool was user-determined.

# Catching a Fish

Once the user had initiated contact or been contacted, the process of communication was quite simple. Assuming that the parties involved fulfilled the requirements outlined by the other individual such as age range or more specifically, "must not be looking for an intimate encounter," the user could openly send and receive messages. These messages were placed directly in the inbox and easily accessible as the system was similar in design to many other email platforms. Frind had also recently added a VoIP (voice-over-Internet protocol) which allowed users to send voice messages to other members as well. This ease of use allowed members to immediately "jump into the pool," establishing online conversations with whomever they chose. The type of message sent — voice, email or instant message — was entirely up to the user.

However, not every match that a user made was going to be positive. Even the most optimistic user might have run into individuals that were rude, creepy or downright shocking. Thus, the user had to wade through the pools looking for "fish" that met their needs. If the user did establish contact with a disreputable individual they could block that other user. However, if someone was bent on creating havoc, a new user profile could always be created. There were no user services available to help deal with these types of issues, which made it difficult to fix any problems that did occur. In this sense, PlentyofFish could be thought of as the Wild West of online dating, whereby users policed themselves.

<sup>13</sup> Matt Harley, "Money and relationships: It's Love 3.0," The Globe and Mail, February 14, 2008, pp. B1 & B6.

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## What was Lurking in the Sea?

There were several forces that posed serious threats to PlentyofFish. A significant force that PlentyofFish had to contend with was the threat of new entry. The capital, or rather lack of capital, required to start a dating site similar to that of PlentyofFish was minimal. All that one needed was the purchase of a domain name and servers to hold information. This meant that there were numerous potential competitors, ranging from major corporations such as Google to minor ones such as freelance web designers. Also, despite the scale that PlentyofFish had been able to achieve, there were no cost disadvantages for any new competitors. A second threat to PlentyofFish was from other, unrelated sites. While sites such as Craigslist and Facebook were not seen as dating sites, they had each branched into that area to attract more users. Craigslist had a personals section while Facebook added dating applications to its site. Dating sites, such as PlentyofFish, also had to contend with fierce rivalry from their current competitors. Whether they were first movers such as Lavalife or niche players such as HonestyOnline, the market for dating sites was becoming increasingly saturated. With spectacular success stories such as PlentyofFish, one could only expect firm rivalries to become more intense.

#### **OTHER VIRTUAL COMMUNITIES**

#### Friendster

With more than 58 million members worldwide, Friendster was the pioneer in the field of social networking. Driven by simplicity, Friendster prided itself on delivering a clean, user-friendly and interactive environment where users could easily connect with anyone around the world. Friendster targeted the 25-and-under market with no professional or group affiliation. Friendster set itself apart by being the first at introducing innovative features such as a network graph server, as well as launching a choice of languages to navigate the site, thus expanding its ability to tap non-English markets. Friendster continued to innovate and recently expanded its targeted demographic to include older adults.

## LinkedIn

LinkedIn was an online network of more than 17 million professionals from around the world, representing over 150 industries. LinkedIn prided itself on claiming that it was not networking — it was what networking should be. The mission of the website was to help the user be more effective in their work and open doors to opportunities using the professional relationships they already had.

The registration process for LinkedIn closely resembled completing a professional resume. LinkedIn focused on information such as current or most recent job position, job industry, past experience, and professional overview. Firms used this site to keep internal and remote employees connected with each other, search out potential employees and as a knowledge management site where they could compare their job postings to their competitors'.

Members could join LinkedIn through invitations or by starting a network of their own. LinkedIn was not purely a free service, but rather offered levels of service ranging from free membership to premium accounts that charged users anywhere from \$19.95 to \$200 a month. In 2007, LinkedIn was the fourth most popular networking website, behind Yahoo 360, MySpace and Facebook.

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#### **Facebook**

Facebook was a social utility that connected people through its website, requiring only a valid email address to register. To connect with coworkers or classmates, members used their school or work email addresses to join a network. Since its launch in February 2004, Facebook enrolled over 63 million users worldwide.

Facebook was completely free, and like PoF supported by ads. In August 2006 Facebook signed a three year deal with Microsoft to provide and sell ads on their site in return for a revenue split. The deal followed an announcement from Facebook's direct competitor, MySpace, who signed a similar deal with Google. The youthful demographic that both services attracted was highly prized amongst advertisers and a number of companies were eager to jump on the bandwagon. In July of 2006, Apple signed an agreement with Facebook to give away 10 million free iTunes samplers to Facebook members. There was even rumor of a Facebook credit card.

# **MySpace**

MySpace was an online community that encouraged its members to create their "own" space online reflecting their personality in music, movies, photos, journal entries and interests that they might share with their growing network of friends. MySpace was for everyone — from friends to family, from singles to colleagues and from classmates to those looking for long lost friends. Although MySpace called itself a private community it gained great popularity through the increasing number of bands using this site to get their music heard and to connect with fans. Even Presidential candidates, such as Hillary Clinton, used MySpace as a means to journal their days on the campaign trail. MySpace was constantly expanding rapidly all over the world with the latest addition being China in 2007.

#### LISTING SITES

# Craigslist

Craigslist was much like other social networking sites in its structure and revenue generation, operating as a hub that aggregated buyers and sellers. One of the top 10 busiest English language sites in the world, Craigslist was a free website which offered very little customer support. Since it only employed 25 staff, they only fixed problems sporadically, requiring users to serve themselves or request other members' assistance. Craigslist served buyers and sellers in 50 countries and 450 localities. Their sites generated 10 billion total pageviews and six million unique visitors a month, more than any other site of its kind. Craigslist, like other listing sites, charged fees for a few of its listings but did not contain commercial listings other than postings.

#### **DATING SITES**

## Match.com

Launched in 1995, Match.com was an online dating site that charged for its service. It brought people together by creating the opportunity for them to post their profiles and pictures for others to view. With more than 15 million members worldwide, members of the site had the ability to interact with an enormous group of potential matches. Match.com was available on six different continents, in 30 different countries,

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and 18 different languages. This large scale approach increased members' chances of finding the person and relationship they were searching for. Match.com estimated 200,000 people entered into relationships because of the site. If, however, a member was finding it hard to find a match then he or she could browse through Match.com's free online magazine, Happen. This magazine contained helpful articles about romance, sex and relationships. Although communication between members required a fee, Match.com allowed visitors to browse the extensive library of profiles and pictures. This gave prospective users a sneak peak at the types of matches available to them if they joined. The site provided secure and anonymous interactions between members whether they communicated via email, instant messaging or audio and video. In addition to the traditional online communications, the company also offered a wireless dating experience whereby members could match via their cellular phones.

## SINK OR SWIM?

There were several challenges that PlentyofFish might have to face, the most obvious of which was competition. The PlentyofFish website was also replete with unfinished patches and quirks that made the site visually unappealing.

Should Frind expand PlentyofFish globally? Should he follow the likes of Friendster and MySpace and develop sites in Korean, Japanese, Chinese and other languages? Should he increase the number of applications available on the site? If he did so, should he imitate Facebook and invite third-party developers to provide applications suited to his target market?

To increase or protect revenues, Frind could change the membership structure of the site to have members pay for basic access and optional services. If he chose to add these functions or features would ASP.NET be sufficient? If PlentyofFish continued to grow at its current rate would SQL Server 2005 or 2008 handle the load? To what extent did the business need to invest in new technology?

As commuters scrambled to get to work during the Monday morning rush hour, some of them might have thought of what it was like to be Markus Frind — not having to work 9 to 5. Frind had nicely summed up the situation he had created for himself, stating: "Most of the time I don't have to do anything." Would this continue to be the case, or did he need to invest substantial time, money and effort in protecting his business? After five successful years of operation, had PlentyofFish run its course?

<sup>&</sup>lt;sup>14</sup> Randall Stross, "From 10 hours a Week, \$10 million a Year," <u>NY Times [US]</u>, January 13, 2008, http://www.nytimes.com/2008/01/13/business/13digi.html?\_r=2&scp=1&sq=plenty+of+fish&st=nyt&oref=slogin&oref=slogin, accessed January 22, 2008.