

Forecasting for a social network: Trend analysis in 2004 and today¹

Forecasting para uma rede social: análise de tendências em 2004 e hoje

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Abstract

Forecasting, the study of possible future through trend research and analysis, may be applied to design processes in order to guide project decisions. This work examines the use of trend analysis in one case study: youMe, a social networking app for mobile devices, developed in 2004. Design forecasting was an important part of this project, with the research of sociocultural and technological trends. Here, we describe trends identified then, and compare them with the current reality, in order to observe similarities and differences between the then imagined future and the actual situation today and in the recent past, especially when it comes to online behavior and the use of mobile devices.

Keywords: design, trends, Forecasting, internet, social networks, mobile devices.

Resumo

Forecasting, o estudo de possíveis futuros a partir de pesquisa e análise de tendências, pode ser aplicado a processos de design de modo a orientar decisões projetuais. Este trabalho examina o uso de análise de tendências em um caso particular: youMe, um aplicativo de rede social para dispositivos móveis, desenvolvido em 2004. O design *forecasting* foi uma parte importante do projeto, com a pesquisa de tendências socioculturais e tecnológicas. Aqui, descrevemos as tendências identificadas na época, e as comparamos com a realidade atual, a fim de observar similaridades e diferenças entre o futuro imaginado então e a real situação hoje e em um passado recente, especialmente no que se refere a comportamento online e uso de dispositivos móveis.

Palavras-chave: design, tendências, *forecasting*, internet, redes sociais, dispositivos móveis.

Designers and the future

As creators of models, prototypes, and propositions, designers occupy a dialectical space between the world that is and the world that could be. Informed by the past and the present, their activity is oriented towards the future (Margolin, 2007, p. 4).

Designing is an activity faced towards the future, since its goal is to develop what is yet to exist. Look-

ing towards what is yet to come is intrinsic to the process of designing. The launch of a new product may take months or even years from conceptualization to market introduction and, in the meantime, a lot might have changed, including policies, technology, regulations, markets and consumers. Therefore, it is decisive that the developing process includes the study of future possibilities. The faster the world changes, the more important trend research becomes to the design process.

¹ The paper was originally presented at the 5th International Forum of Design as a Process "The Shapes of the Future as the Front End of Design Driven Innovation", held at Tecnológico de Monterrey University – Campus Guadalajara (Mexico), Sept 18-20, 2014. The paper was included in the proceedings of the event, edited by Flaviano Celaschi *et al.* (ISBN 978-607-515-147-2). This is a reviewed version of the paper, improved with the contributions from the Forum.

What is forecasting?

Forecasting, the process of appraising situations yet to be known, is a planning tool that helps design teams to deal with the uncertainties of the future by estimating what is likely to change or remain the same, and if something new is expected to come along. The forecasting practice is based on the analysis of past and present data and on the identification of trends, using the team's experience, knowledge and judgment to formulate possible futures.

There are several different terms related to the idea of *looking to the future*— including forecasting, futurology, foresight, futures study and futuristics —, but all of them, in one way or another, deal with what is yet to come and formulate predictions through systematic investigation, which can use objective and/or subjective methods. Objective methods — also known as explicit, formal or statistical methods — are those that use well-specified processes to analyze data, so that other researchers could replicate them and achieve similar results. Subjective methods — also known as implicit, informal, clinical, or intuitive methods — use non-specific, hard to replicate processes. They may utilize objective or subjective data and formal or informal analysis, but all subjective methods have in common the characteristic of being particular, that is, they are based on individual experience and judgment (Armstrong, 1983). The forecasting research presented at this work involves mainly subjective methods.

There are different approaches to forecasting, with none established as a standard in the industry (Evans, 2003). In "Design, the Future and the Human Spirit" (2007), Margolin describes differences between predictive and prescriptive futures. The predictive approach is based on what could happen, while the prescriptive one is about what should happen. When it comes to methods, the predictive approach involves gathering data and organizing it in patterns that facilitate reflections about future possibilities, while in the prescriptive approach data play a subordinate role in the argument for a specific line of action. Finally, the predictive approach tends to be more pragmatic, and the prescriptive one, more idealistic (Margolin, 2007). Finally, the predictive approach intends to identify the future, while the prescriptive one tries to create it.

Cécile Poignant, curator and editor of website Trend Tablet, presents an argument for the predictive approach, when she comments the work of trend hunters: "Trends are not about revolution, they are about evolution. Our job is not to invent things. Our job is to see things in advance and bring them to people. After all, a trend is something that has already begun" (Poignant in Evans, 2003, p. 1).

Josephine Green, on the other hand, pioneer of strategic thinking in trend and innovation for design at Philips, uses the term "future by doing", advocating an approach where, more than foreseeing the future, the emphasis is in creating it collaboratively. Green describes the "development of a multi-faceted Foresight in Design approach", based on "researching, engaging with, co-creating, envisaging and re-conceptualizing the future" (Green, 2007).

Forecasting? Why (and what for)?

Forecasting may point to possible future competitors, predict behavior of users/consumers and identify new technologies, which allows for better informed briefings for design teams. Looking towards the future is part of the design process not only as a base for innovation, but also as a way to foresee the effects of the creation. Through forecasting, it is possible not only to anticipate new materials and processes that promote a more sustainable design, but also to evaluate consequences of non-sustainable practices. It is also possible to envision scenarios involving social effects, allowing them to be considered early in the development process.

The youMe project

In the beginning of 2004, Escola Superior de Desenho Industrial (ESDI) was invited to join in Microsoft Research Design Expo — a program created and managed by the American company in order to promote collaborations between Microsoft Research and the design and computer sciences academia. Each edition, Microsoft invites students from different countries to participate and to develop solutions regarding specific topics. In 2004, six higher education institutes with acknowledged interdisciplinary design programs took part in the project: Brazil's ESDI, Netherlands' Delft University, Israel's Bezalel Academy of Art and Design, the Indian Institute of Technology, and, from the United States, New York University and University of Southern California.

The proposed theme for that edition was "People-to-people, from close friends to strangers" and, during one semester, partaking students — in teams from two to six people — should design solutions related to interpersonal relationships. Teams were encouraged to think in an innovative manner, exploring ways of how the use of computers and their services could improve communication and intimacy building between people. Products should be designed for short-term future use, that is, the design should take in consideration which technologies would be available and how users' behavior and sociocultural contexts would be in three to five years ahead.

ESDI took part with fifteen undergraduate students, organized into five teams of three, who participated as volunteers, without any connection to regular courses. Teams were supported by faculty advisors, liaisons from the Microsoft design team and guest consultants. Following guidelines from Microsoft, teams worked through steps of the design process, such as research, conceptualization, preliminary presentations, development, prototyping, usability tests and final concept presentations.

For the youMe team, the first step of the process was forecasting research — exploring possibilities of future technologies and behavior related to interpersonal communication — using analysis of patterns and trendsetters. In pattern analysis, the past is the key to the future, since the latter will develop as a logical extension of events and trends. The analysis of trendsetters is based on the belief that the future will be governed by attitudes, goals and actions of influential individuals and groups. Since they are people ahead of their time, the analysis of their current behavior may reveal the future behavior of society.

Sociocultural trends research

Sociocultural research helps to clarify important aspects of the future when it comes to user behavior. How will users relate to devices and services? How will interpersonal relationships be? What would be the new attitudes and concerns of society?

In 2004

For the youMe team, it was important to research future user behavior when it comes to virtual personal connections — in opposition to face-to-face interaction — and to public sharing of preferences, opinions and personal events.

At the time of the project, beginning of 2004, internet was already established as a phenomenon and giving signs of steady growth. In 2002, Jean-François Coget, Yutaka Yamauchi and Michael Suman compared internet and television proliferation, observing that the former was becoming as disseminated as the latter, but to a much faster pace. According to them, the percentage of internet users in the United States had grown from 8% in 1995 to around 67% in 2000 (Coget *et al.*, 2002, p. 181).

One of the trends identified by the research was the growing physical isolation that followed internet propagation. The more people connected online, the less they would see each other in person. The report “The Internet and the Family: The View from Parents, The View from the Press” (Turow, 1999) identified 39% of parents of young internet users as being “Online Worriers”, that is, these parents worried about the effects internet could have on their children and their families. From this group, 72% of the interviewees agreed that children’s exposure to the Internet may interfere with family values and beliefs; 77% believed that families that spend a lot of time online talk to each other less than they otherwise would; 88% agreed that going online might lead to the child’s isolation; and 66% agreed it could lead to anti-social behavior by the child (Turow, 1999, p. 15).

In “Cyber-Race” (2000), Kang commented on the then new possibilities of online interaction, mentioning the deficiencies that medium had compared to real-life interaction.

Cyberspace presents a new universe of communication architectures, which is growing increasingly compelling and diverse. Among other things, these technologies may enable social interaction among individuals who would not otherwise meet or converse in real space. Recall how chat rooms, instant messaging, discussion fora, and websites enable communications of broad audience scope regardless of geographical distance. Still, despite the impressiveness of these communication technologies, cyberspace cannot convey the full sensory richness of a face-to-face encounter (Kang, 2000, p. 1153).

Ahead, however, Kang stated that “social depth” in cyberspace would be intensified in the following fifteen years with the improvement of computing-communication technologies, bringing virtual interaction closer to real-life interaction: “As media richness increases, cyberspace-mediated social interaction will incrementally start

to feel more ‘real’ and less different from a real-space encounter” (Kang, 2000, p. 1204).

Morahan-Martin and Schumacher (2003) affirmed that loneliness had been associated with growing internet use. Lonely people would be attracted by the possibility of finding online companionship and by new standards of social interaction. On the internet, not only levels of presence and intimacy can be controlled more easily, but also anonymity and lack of face-to-face interaction can reduce inhibition and anxiety, facilitating a more active social behavior. The lack of usual triage mechanisms — physical appearance and social status, or stigmas such as stuttering or excessive shyness—, easily spotted at personal interactions, helps less attractive or extroverted individuals not to be quickly dismissed at first glance.

In “Relationship Formation on the Internet: What’s the Big Attraction?” (2002), McKenna *et al.* described important differences between real-life and virtual interactions:

*For example, there are qualities of Internet communication and interaction, such as its greater anonymity, that are known to produce greater intimacy and closeness. There are aspects of the Internet that enable partners to get past the usual obstacles or ‘gates’ that in traditional interaction settings often prevent potentially rewarding relationships from getting off the ground. Still other features facilitate relationship development by providing meeting places for specialized interests, so that members have important features in common from the start (McKenna *et al.*, 2002, p. 9).*

The interaction based on common specialized interests was a strong trend identified by youMe team’s research. Social networks based on common interests started to come up in the end of the 1990s. Launched in 1997, SixDegrees.com was the first social network, allowing users to create profiles and to have a list of friends, with no interactions, but surfing lists of your friends’ friends (Boyd and Ellison, 2008). Friendster, launched in 2002, was another social network that achieved success betting on the connection between friends of friends. In the beginning of 2004 — the time when the youMe project was at its early stages — a social network from Google called Orkut was launched and quickly became successful in Brazil. Between January and April 2004, the number of Orkut users in the country grew exponentially, bringing Brazil from sixth to second place in the website’s participation ranking. While Orkut was growing in Brazil, it declined in the USA and Japan until Brazil surpassed them, in June 2004, becoming the country with the biggest share of users (Recuero, 2008).

In summary, the research has identified three key trends when it comes to online interpersonal relationships:

- (a) Appreciation of the anonymity enabled by the internet;
- (b) Depersonalization and weakening of relationships caused by the absence of non-verbal aspects of communication, such as tone of voice and facial expressions;
- (c) Easier connection between people with similar interests, values and beliefs.

Nine years later

In 2013, we can revisit the predictions made in 2004 and compare it with current situations. Internet use, for instance, has been consolidated as a reality: in the USA, in 2013, 85% of adults and 95% of teenagers use the internet (Pew Research Center's Internet & American Life Project, 2013).

While at the end of the 1990s and beginning of the 2000s the World Wide Web was marked by static pages, chat rooms and discussion forums with only a few experts publishing online content, today it sees the emergence of user-generated content tools, democratizing production and distribution of content. The paradigm shift from web pages to apps is part of a revolution that has been happening in the internet over the last years. De Notaris (2011) comments that in the "Web 1.0" phase, users visited pages, joined discussion forums, searched for static information through search engines, communicated with each other in chat rooms and illegally downloaded music files via software like Napster, where people shared their files anonymously. In the "Web 2.0" phase, "people continue downloading (illegally) music, video, image and text files [...]. But the use of blog and social network sites implies a most active participation and responsibility in writing and sharing information" (De Notaris, 2011, p. 116). Users share content related to their own experiences and opinions, and use proper names instead of avatars. "Web 2.0" and its extreme sharing have replaced the anonymity of "Web 1.0". This life-sharing phenomenon, according to De Notaris, is an important social feature where people share "their musical habits, what books they read, what movies they watch, what they produce and how they consume. People are always on and steadily and reciprocally connected" (De Notaris, 2011, p. 116).

The strengthening of video communication also marks the new phase of the World Wide Web. The number of world users of video chat reached 1.5 million in 2011, with a predicted growth to 16.4 million in 2015 (Deans, 2012). The popularization of video communication software such as Skype and Google Talk happened in part due the spread of broadband access — in December 2012, 65% of adults in the USA had broadband connection at home (Madden and Zickuhr, 2012). Other factors are the possibility of video communication via various devices — such as cell phones, tablets and high-definition television sets — and the integration between video chat software and social network, like between Skype and Facebook or between Hangouts and Google+.

Since the research carried out in 2004 by the youMe team, social networks kept on growing exponentially. In 2004, teenagers started the massive use of MySpace, entertained by resources of profile personalization (Boyd and Ellison, 2008). Orkut maintained a steady growth pace in 2004 and 2005, and has grown more expressively in 2006, especially in Asian countries like India and Pakistan (Recuero, 2008). In Brazil, Orkut continued being the most popular social network until August 2011, when Facebook surpassed it by 1.9 million single users (UOL, 2011). Facebook was created in the beginning of 2004, restricted to students at Harvard University, where their creators studied. The network gradually expanded to other universities

and in September 2005 included high school students and professionals inside corporate groups, until it expanded completely and started to accept any user that tried to sign up (Boyd and Ellison, 2008).

According to a report published by the Pew Research Center's Internet & American Life Project about online behavior in the United States, in May 2013 almost three quarters (72%) of adults in the country used social networks. This number reveals a significant growth in relation to the 67% in the end of 2012 and even more compelling when compared to the 8% registered in February 2005 (Brenner and Smith, 2013).

Comparing the key trends identified by the 2004 research to the circumstances in 2013, we can pinpoint some disparities. When it comes to item *A* (*Appreciation of the anonymity enabled by the internet*), there has been a movement in the opposite direction, with growth of exacerbated self-exposure noticed in the proliferation of personal websites, blogs, social network profiles and various forms of content publishing and sharing.

Trend B (*Depersonalization and weakening of relationships caused by the absence of non-verbal aspects of communication, such as tone of voice and facial expressions*) is being overrun by the advance of video communication.

Trend C (*Easier connection between people with similar interests, values and beliefs*), however, has been confirmed by the massive participation in social networks worldwide.

Technological trends research

The research of technological trends can relate current and future technologies, anticipating possible applications. How and when will different technologies emerge and how fast will they be adopted? In the youMe project, it was necessary to predict how the mobile devices market would be in a close future. How disseminated would they be? Which new technologies would be employed?

In 2004

The research identified a trend pointing to the growth of mobile devices — such as palmtops, PDAs (personal digital assistants) and cell phones — with technological development in the field and launch of models in different price ranges.

The emergence of technologies such as Bluetooth, internet access and playback of audio and video files and the addition of video cameras also indicated a trend of multifaceted use of cell phone, no longer limited to spoken conversations or text messages.

In 2002, Mark Dunlop and Stephen Brewster signaled that the design of their interface would be a challenge to new mobile technologies:

These devices share a common problem: attempting to give users access to powerful computing services and resources through small interfaces, which typically have tiny visual displays, poor audio interaction facilities and limited input techniques. They also introduce new challenges such as designing for intermittent and expensive network access [...] (Dunlop and Brewster, 2002, p. 235).

Designers could no longer design for the traditional model of personal computer, immobile on a desk. Dunlop and Brewster predicted that, besides challenges regarding portability and size, mobile devices would also in the future be used

by a larger population spread than traditional PCs and without any training or support networks, whether formal or informal. Furthermore, unlike early computers which had many users per computer, and PCs with usually one computer per user, a single user is likely to own many mobile devices which they interact with indifferent ways and for different tasks (Dunlop and Brewster, 2002, p. 235).

In summary, the key technological trends spotted by the youMe team were as follow:

- (a) Disseminated use of mobile devices;
- (b) Multitask use (it would be necessary to design systems that allow for interruption and retaking of tasks);
- (c) Higher resolution but small dimension screens, limited size keyboards and limited key options; and
- (d) Use in varying contexts (it would be necessary to design for mobility).

Nine years later

In 2013, the trends spotted in 2004 have been confirmed. Regarding item *A (Disseminated use of mobile devices)*, a report from Pew Internet reveals that 91% of adults in the USA in 2013 have a cell phone, 56% have a smart phone and 34% have a tablet (Pew Research Center's Internet & American Life Project, 2013).

Item B (Multitask use) was also corroborated by the proliferation of apps with different purposes available for download on mobile devices. In 2011, 75% of 12 to 17 year-olds owned a cell phone and used the device not only to talk and send messages, but also to take (83%) and share pictures (64%), listen to music (64%) and play games (46%) (De Notaris, 2011, p. 109).

Trend C (Higher resolution but small dimension screens, limited size keyboards and limited key options) can be observed today in cell phones that maintain size restrictions in favor of portability.

And, finally, trend *D (Use in varying contexts)* can be recognized in the growing integration of GPS (global positioning system) related functions. Through satellite navigation, mobile devices can locate themselves and adjust apps accordingly.

Final considerations

The research of sociocultural trends allowed the youMe team to identify and pursue the fulfillment of user needs. Results of the forecasting research have guided the following stages of the design process, like user research, conceptualization, and design development, testing and evaluation. The "connection through common interests" trend was crucial to the decision of making youMe a social network where users could share interests, events and opinions.

Additionally, the concern over a growing physical isolation that could follow virtual connections led youMe into being a support to face-to-face interaction. Users could feed their own profiles over the internet, but could only see other users' profiles via Bluetooth, that is, when they were physically close. Therefore, youMe was not an online communication tool, but an instrument for users to obtain information about people around them and then break the ice and initiate a face-to-face conversation more easily.

The research of technological trends investigated possible ways to fulfill the needs identified in the socio-cultural research. The disseminated use of Bluetooth equipped devices would allow the direct connection between devices up to 10 meter apart so that youMe users could access user profiles in nearby phones. The development of display resolution and playback of audio and video would make it possible for users to see effectively profiles with multimedia content.

The forecasting practice in this project was the starting point of the design process, serving as inspiration and guiding design decisions. Furthermore, forecasting was an opportunity to explore the future of interpersonal communication, while expanding the perception of possibilities and adjusting the focus in order to identify probabilities.

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Submitted on April 15, 2015

Accepted on August 6, 2015