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The product service ecology: Using a systems approach in design

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Designing Service Entanglement

: holistic approach to new pattern of complexity in service design

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acknowledgements
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Relating Systems Thinking & Design 2013, Oslo, Norway
Designing Service Entanglement: holistic approach to new pattern of complexity in service design

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Relating Systems Thinking & Design 2013, Oslo, Norway
a journey of a thousand miles begins with a single step  [Lao-tzu]
Service Entanglement research

UPMC Technology Development Center  health information visualization service
Carnegie Mellon University  interaction design graduate student
Service Design teaching  at school of business & dept. of techno-art
Ridibooks (e-book service startup)  e-book reading & gifting experience
Samsung Electronics  appstore & cloud services for mobile devices x multi-platforms
Mobile App Startup  cartoon viewer + content distribution/advertising patent
Apple  retail experience + roadmap
Non profit organization  north korean teenage defectors’ self-reliance
Bain & Company  m&a (post-merger integration) strategy
18th Medical Command, U.S. Army  medical sergeant (surgery assistance, readiness management)
European Union Chamber of Commerce  investment matchmaking
The launch of MobileMe was not our finest hour. There are several things we could have done better:

- MobileMe was simply not up to Apple’s standards - it clearly needed more time and testing.

- Rather than launch MobileMe as a monolithic service, we could have launched over-the-air syncing with Phone to begin with, followed by the web applications one by one - Mail first, followed 30 days later (if things went well with Mail) by Calendar, then 30 days later by Contacts.

- It was a mistake to launch MobileMe at the same time as iPhone 3G, iPhone 2.0 software and the App Store. We all had more than enough to do, and MobileMe could have been delayed without consequence.

We are taking many steps to learn from this experience so that we can grow MobileMe into a service that our customers will love. One step that I can share with you today is that the MobileMe team will now report to Eddy Cue, who will lead all of our Internet services – iTunes, the App Store and, starting today, MobileMe. Eddy’s new title will be Vice President, Internet Services and he will now report directly to me.

The MobileMe launch clearly demonstrates that we have more to learn about Internet services. And learn we will. The vision of MobileMe is both exciting and ambitious, and we will press on to make it a service we are all proud of by the end of this year.
Team,

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Steve
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VP internet services --- directly report to Jobs
we have more to learn about internet services. And **learn we will**
Research on Services

I am in San Francisco in our VP internet services --- directly report to Jobs,

“we have more to learn about internet services. And we will learn we will”

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Research on Service Entanglement

product combination + relation + orchestration of \{product, system and services\}

business experience on service

VP internet services --- directly report to Jobs

“we have more to learn about internet services. And we learn we will”

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Service Entanglement results from multiple interlinked service systems. These can be both physical and digital.

- Entanglement encompasses people*, products, services and systems.
- Entangled services are codependent.
- Entangled services collectively shape an experience and create value for people and systems.
- Not all values and experiences from Service Entanglement are positive. Because the services are often superposed and not designed to be a single system.
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- Not all values and experiences from Service Entanglement are positive. because the services are often superposed and not designed to be a single system

becoming more conscious of qualities and patterns of relationships among interlinked service systems
Why?

Digital services are pervasive in people’s life more than ever. Networks among digital services has become not only increased by its number, but denser and stickier in terms of quality.

**Digital services are more than just networked, but entangled.**
Facebook platform supports more than 42 million pages and 9 million apps

Why?

There are now more than 42 million Facebook pages and 9 million apps and websites integrated with Facebook, according to a recent amendment to the social network’s filing for an initial public offering.

The number of pages on Facebook with 10 or more Likes has increased by 5 million since Dec. 31, 2011, and the number of apps and websites that integrate Facebook are up by 2 million since that date. These new totals show that Facebook’s platform continues to grow in ways beyond new users. It also shows just how much is competing for users’ attention these days.

Facebook did not provide a category breakdown of the 42 million pages on Facebook. However, in a letter to prospective investors, Facebook CEO Mark Zuckerberg shared that more than 4 million businesses have pages on the site. Other pages on the social network — including many of the most popular ones — are pages for popular figures, movies and sports teams. A large proportion of pages are also likely to be fan-generated community pages. Unclaimed locations also account for some of these pages, although Facebook has been working to eliminate duplicates.

The number of apps and websites connected to Facebook is likely to quickly grow past 9 million. With Open Graph integration proving to be a large source of traffic for third-party apps and websites, we can expect many more blogs and media sites, as well as mobile games and other apps to implement aspects of the platform.

Along with stats about pages and apps, Facebook provided other updated figures for photo uploads, interactions and friend connections in its filing this week. Between Jan. 1 and March 31, there were more than 300 million photos uploaded to the site each day — up from 250 million per day in Q4 2011. Users also generated an average 3.2 billion Likes and comments each day in the first quarter of 2012 — up from 2.7 billion per day in Q4 2011. And Facebook now has more than 125 billion friend connections between its 901 million monthly active users.

A Facebook Bug Pretty Much Took Down the Entire Internet

If you thought the Internet freaked out for a little bit and every site you went to was down, you’re not alone. Major websites were down: CNN, Huffington Post, ESPN, Gawker, The Washington Post, BuzzFeed, etc. were all broken. Why? Because of a glitch with Facebook.

Developers at Gawker said that the glitch
Service Entanglement for interaction designer
Study of Service Entanglements

Dropbox
Evernote Trunk
**Facebook Connect**
Facebook Home
Fifty Three & Moleskin
**Fitbit Apps**
Flipboard
Google Now
**Google Wave**
IFTTT
iTunes in Starbucks
Linkedin
Pinterest
SmartThings
**Square**
Uber
...

Interview with in-house designers

Traditional services adopted or disrupted by technology services
– Healthcare
– Retail
– Public

Technology-based services (corporate)

Technology-based services (startup)

Manufacturing companies making device to service expansion
Facebook Connect

Fitbit Apps

Becoming more conscious of qualities and patterns of relationships among interlinked service systems.
Facebook Connect

multiple services form an experience

Fitbit Apps

people’s behavioral data and metadata become direct or indirect financial assets
What is IFTTT?
IFTTT is a service that lets you create powerful connections with one simple statement:

```
if this then that
```

IFTTT is pronounced like “gift” without the “g.”

Channels
Channels are the basic building blocks of IFTTT. Each Channel has its own Triggers and Actions. Some example Channels are:

- Facebook
- Evernote
- Email
- Weather
- LinkedIn
multiple services form an experience

people’s meaningful data* contribute to indirect financial assets

recipes*

ratings on trustfulness*
Flipboard service provides all-in-one channel experience* through sub-service systems all in one touchpoint* service aims to generate leverage* related to sub-service systems + leverage towards media partners*

Google Wave all in one webpage* no leverage generated towards Google family services*
iTunes in Starbucks

Square
organized service delivery* forms an experience

customer = Starbucks visitors

seamless service migration*

entangled services share revenue and customer data

customer = cafe owners

light-weight operation*
Exploring typology of Services Entanglements: systems perspective

- **how entangled service systems get codependent each other?**
  what are the leading and supporting constituents of co-dependent relationship?
  how co-produced value is distributed across the constituents?
  density of relationships? [single, handful, plenty of]
  openness of connections? [unique, limited, unlimited, inscrutable]

- **how entangled service systems’ experience are orchestrated?**
  who are the stakeholders of designing the intersections of systems?
  how are project and task ownerships distributed across the stakeholders?
  what are the barriers of interfacing, layering and polishing systems intersection?

: from unexplored messs towards organized complexity
Why Service Entanglement is helpful

- Product
- Service
- Networks
- Ecologies

Model by Hugh Dubberly (2013)

Product Service Ecology (Jodi Forlizzi, 2013)
Why Service Entanglement is helpful

Services now create experience and value in more complex way than a single product or service system does.

Current Interaction and Service Design practice and research do not really focus at multiple service/business entities interrelations.

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What Service Entanglement can do

1. Service Entanglement helps concrete understanding on Service Ecology: as a world-view

2. Service Entanglement provides a point of view to assess current landscape of service ecology in Service Design project: as an approach for better problem solving

3. Service Entanglement can inspire designers to think of a meaningful codependency in New Service Creation and Development: as an approach for problem seeking + perturbation
Discussions

- How the study of Service Entanglement can advance discussion of Service Element in Design concept?

- If designers are not totally in service relationship, what would it be the proper description of it? (ex. designers creating a service startup using open APIs from certain systems)
Quantum entanglement is kind of romantic. Two particles with an entangled fate, no matter the distance between them.

Yet the mystery of their fate is necessary. When you determine the value of one of them, the wavefunction collapses and entanglement ends.

Do you love me?

Is there a right answer to this question?
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