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**iPED 2009:**

**From 'Anarchy' to Establishment:  
Case study in the evolution of a  
mathematics social networking  
community**

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# Summary

- Introduction to social networking services, Facebook, and their use in Higher Education
- Case study: Coventry University Maths Department Facebook Groups
- Conclusions

# Social networking services

**Definition** (Boyd & Ellison, 2007):

- Personal profile
- Personalisable
- Contacts/friends list
- Messaging service

Original concept: (Hiltz et al., 1978)

First actual service: SixDegrees.com in 1997 (closed in 2000) - see (Boyd & Ellison, 2007)

# Top 10 Social Networking Sites

Name	Registered users (Millions)	Global Alexa Page Ranking
MySpace	263	11
<b>Facebook</b>	<b>250</b>	<b>3</b>
Windows Live Spaces (formerly MSN Spaces)	120	N/A
Habbo	117	4,829
Friendster	90	93
hi5	80	37
Tagged.com	70	95
Orkut	67	128
Flixster	63	778
MyLife.com (formerly Reunion.com)	51	997

## Sources:

[http://en.wikipedia.org/wiki/List\\_of\\_social\\_networking\\_websites](http://en.wikipedia.org/wiki/List_of_social_networking_websites)  
[www.alexa.com](http://www.alexa.com)

# Worldwide growth among selected social networking sites

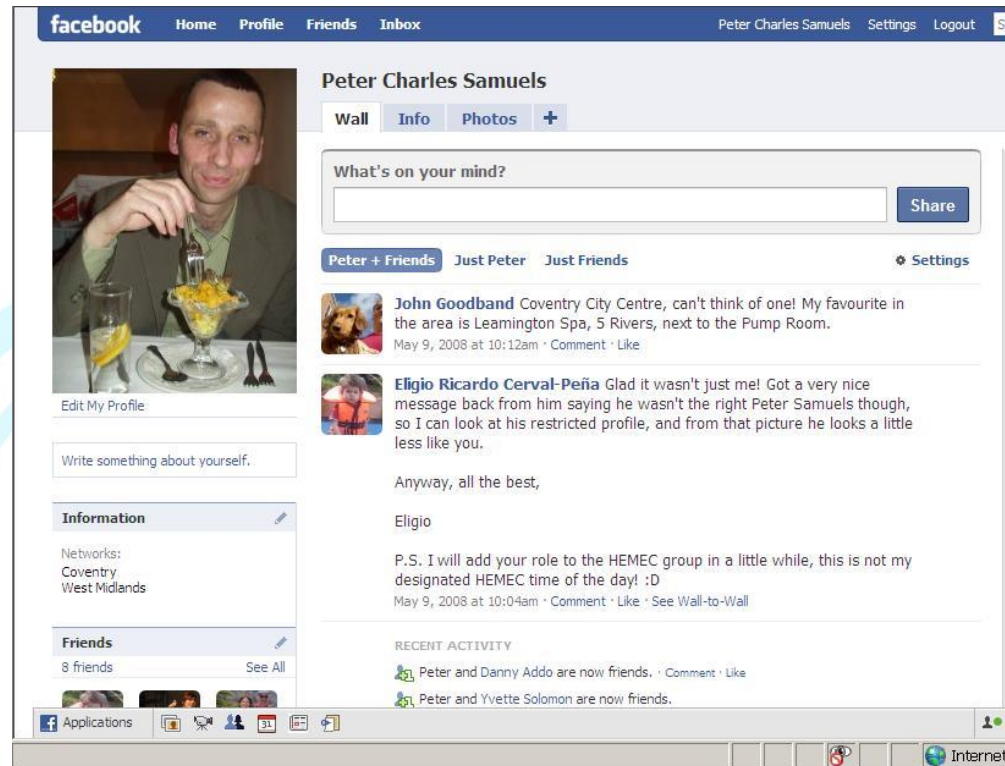
Total worldwide audience, age 15+

Source: (comScore, 2008)

	Total Unique Visitors (m)		
	Jun '07	Jun '08	% Change
<b>Total Internet</b>	<b>778</b>	<b>861</b>	<b>+11%</b>
<b>Social Networking</b>	<b>464</b> (59%)	<b>581</b> (67%)	<b>+25%</b>
<b>Facebook</b>	<b>52</b>	<b>132</b>	<b>+153%</b>
MySpace	114	118	+3%
hi5	28	56	+100%
Frienster	25	37	+50%
Orkut	24	34	+41%
Bebo	18	24	+32%
Skyrock Network	18	21	+19%

# Facebook

- Opened in 2004 as a closed SNS for Harvard students
- Became an open site in 2005
- User profiles & groups less open than on other sites



# Use of Social Networking in Higher Education

- Over 90% of UK HE students have a SNS account (Ipsos Mori, 2008)
- SNSs share several qualities of good educational technologies (Maloney, 2007):
  - Facilitate peer feedback
  - Match the social context of learning, e.g. university or department groups
- Students are willing to invest time & energy building relationships around SNS groups (Selwyn, 2008)
- However, dialogue exchanges are usually 'low bandwidth' and, at best, concern **social aspects of learning**, not the learning itself (Selwyn, 2008)



# Case Study: CU Maths Department Facebook Groups

## Aim:

To investigate the effectiveness of Facebook for supporting mathematical communication and participative undergraduate learning identities

# Methods

- Interviews:
  - Staff member (SM)
  - Postgraduate student (PS)
- Focus group with 6 undergraduate (UG) students (5 were Facebook group owners)
- Analysis of Facebook data

# The CU Maths Facebook groups

- **University Maths** – original group, set up by SM
- **'Alternative'** – set up by 6 students in reaction to University Maths, eventually forced to close down by Maths Department
- **'Underground'** – set up by same students after closing down of Alternative Group
- **CUSM** – set up by same students and PS after registration of CUSM as a society with the Student Union

# CU Maths Facebook Groups

<b>Group name</b>	<b>University Maths</b>	<b>'Alternative'</b>	<b>'Underground'</b>	<b>CUSM</b>
<b>Period open</b>	May '07 – present	Oct '07 – May '08	May '08 – present	Oct '08 - present
<b>Current status</b>	Inactive	Closed	Inactive	Active
<b>Owner(s)</b>	SM + PS	6 UG students	6 UG students	6 UG students + SM + PS
<b>Form of membership filtering</b>	CU members only	None	Invitation only	Mainly membership of student society
<b>Main forms of dialogue</b>	Discussion topics / online chat	Online chat	Online chat	Discussion topics/event organisation /online chat

# CU Maths Facebook groups: No. members

	<b>Staff</b>	<b>Others</b>	<b>'08 1<sup>st</sup> yrs</b>	<b>'07 1<sup>st</sup> yrs</b>	<b>'06 1<sup>st</sup> yrs</b>	<b>'06 2<sup>nd</sup> yrs</b>	<b>'06 3<sup>rd</sup> yrs</b>	<b>PG</b>
<b>University Maths</b>	8	-	-	10	10	13	2	5
<b>Alternative</b>	1	31	-	19	5	11	-	2
<b>Underground</b>	1	6	-	6	-	1	-	2
<b>CUSM</b>	4	2	5	12	5	-	-	3

# Interview with SM:

## 1. The social role of the maths support centre

*The newly refurbished maths centre had made a big difference to the way the maths undergraduates socialised. There was a small core group of about six students and they acted as a nucleus pulling other students into the group. This group contained some very strong personalities and they had lots of influence on other 2<sup>nd</sup> years.*

## 2. Educational use of Facebook?

*I was surprised ... the students didn't even use the University Maths Group to discuss revision for the exams.*

However, from Oct. '07, students started sending SM private messages about maths problems.

### 3. Setting up the of Underground Group

*Setting up this Group gave the students a sense of self-confidence ... that they were still in control, that they could set up their own group if they wanted to no matter what had happened to the Alternative Group.*

## 4. Learning support in the CUSM Group

*After a discussion at a social gathering where they were challenged by the 1<sup>st</sup> year member of the Group, the 2<sup>nd</sup> and 3<sup>rd</sup> year students in the Group voluntarily posted lists of modules that they are willing to help the 1<sup>st</sup> year students with. However, take-up has not been significant.*

# Interview with PS:

## 1. Characteristics of different groups

*I think the students saw me as part of the establishment so they didn't invite me to join the [Underground Group] ... the University Maths Group had become stagnant, but the Alternative Group, because it was owned by students, had more freedom.*

## 2. Closure of the Alternative Group

*The [Alternative Group] wasn't suitable for being the main University maths students Facebook group for lots of reasons ... it was cliquey ... the group wasn't promoted to everyone and not everyone was made to feel welcome ... it wasn't an official student society but it used the university name and so there was bound to be a conflict ... particularly because the name was rude.*

*When they set up the [Alternative Group], they knew about official student societies but they probably didn't want to be bothered with all that stuff ... it's so much easier just to set up a Facebook group.*

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# Focus Group:

## 1. Purpose of the groups

IN: *So you started [the Alternative Group] up for a laugh?*

S1: *It was to start with... some of the original posts might have been fairly interesting [sarcasm – i.e. frivolous] .... but as we went along there was more serious points towards it - some people were actually asking maths questions and it was having maths related things .... there was occasional course-related thing but mostly it was just general.*

## 2. Learning Relationships

IN: Do you want all the staff to be involved [in CUSM]?

S2: Yes

S1: *Not all the staff because then it is just the University Maths Group except you got to pay 2 quid*

S3: *We've got to keep an element of fun*

....

S1: *It would just seem – to me the University Maths Group didn't seem to have much point because I wasn't prepared to put a question into something where everyone would think I was stupid*

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# 3. Maths as a university subject

S1: *I don't think there are that many people who actually have a genuine interest in maths .... I don't, I really don't, I never have.*

- Students distinguished 'real' or creative mathematics, engaged in only by a few students, and a more common instrumental mathematics
- Also recognised their own motives for taking mathematics may have confused ability with liking

# Conclusions (1)

Facebook tends to flatten the hierarchical social culture of academia. This can be both a good thing in terms of general student engagement but also a challenge in the sense that there is a **culture clash** between web 2.0 tools and the social and pedagogic structures of academia.

# Conclusions (2)

While Facebook clearly has the potential to support engaged discussion and enable a shift in power relationships between learners and tutors, this potential is unlikely to be taken up when students are not driven by an initial intrinsic interest in their subject.

Typical Facebook discussion on eve of deadline: *I'm really bored with this essay!*

# Conclusions (3)

The phenomenon of social networking services should be viewed from:

1. The context of the social networking of students in general:

*Some mathematics students who may have difficulties in overcoming shyness or articulating ideas have been transformed into fluent writers by utilising Facebook*

2. The students' self-positioning in the wider academic community and its practices:

E.g. influence of maths support centre, social meetings of CUSM

# References

- Boyd, D.M. & Ellison, N.B. (2007), Social networking sites: Definition, history and scholarship, *Journal of Computer Mediated Communication*, 13(1), Article 11
- comScore (2008) Social Networking Explodes Worldwide as Sites Increase their Focus on Cultural Relevance, [http://www.comscore.com/Press\\_Events/Press\\_Releases/2008/08/Social\\_Networking\\_World\\_Wide](http://www.comscore.com/Press_Events/Press_Releases/2008/08/Social_Networking_World_Wide)
- Hiltz, S.R., Turoff, M., Keller, S. & Grosch, H.R.J. (1978) *The Network Nation*, Harlow: Addison-Wesley
- Ipsos MORI (2008) Great Expectations of ICT: How Higher Education Institutions are measuring up, Bristol: Joint Information Systems Committee
- Maloney, E. (2007, January 5th) What Web 2.0 can teach us about learning, *The Chronicles of Higher Education*, 53(18): B26
- Selwyn, R. (2008) Learning and Social Networking, in TLRP-TEL Education 2.0? Designing the web for teaching and learning, London: Institute of Education

