



Team Development and Virtual Social Networking

ICCRTS, June 2010, Santa Monica

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Defence Research and Development Canada - Atlantic



Defence Research and
Development Canada

Recherche et développement
pour la défense Canada

Canada



“.....we are currently shifting to adoption of web-based technologies. This is the cusp of a paradigm shift that will rock all social organizations. We must act to understand these technologies and how they can be used to fulfill the goals and objectives of the Canadian Forces regardless of the structural upheaval they are likely to cause.”

from Transformation in the Canadian Forces (DGMPS TM 2007-004)



Challenges facing netcentric operations

- Diverse, multi-force, multi-national, non-government organizations
- Cultural differences/language/doctrine/etc.
- Adhoc teams/ frequently changing members and groups/ unfamiliar partners
- Challenges to communication, collaboration, information sharing, sourcing expertise
- Who knows what? Where are the experts? Who needs what I have? Who am I talking to?







Web-based collaboration tools

- **Electronic mail** – means of communicating and storing primarily text-based messages
- **Chat** – internet-based conversational script
- **Blog** - (weB)log – regular entries of commentary
- **Wiki** – (Wikipedia, Tidepedia) – multiple editors, create/link websites
- **Portal** – (Sharepoint) – web point of access to various services
- **Search engine** – (Google, Yahoo) – information search
- **Social bookmarking** – (delicious, connotea) – shareable web page bookmarking
- **Recommender tagging** – (stumbleupon) – user-based rating
- **On-line forum** – message board
- **RSS feed**  – web feed for update alert





Virtual Social Networking

- A relatively new mechanism for connecting and sharing
 - Facebook, LinkedIn, Bebo, Orkut, Ning
- Facebook – founded in 2006 with a handful of users – now 500 million active users
 - > 50% log on daily
 - > 35 million status updates a day
 - > 3.5 billion pieces of content shared each week (web links, news stories, blog posts, notes, photos, videos)
 - > 45 million active user groups created each month
 - > 700,000 businesses on Facebook



Stephen Harper Like

Wall Info Boxes

Basic Info

Country: Canada
Currently Running For
Office: Prime Minister / Premier ministre
State: Alberta
District: Calgary Southwest / Calgary-Sud-Ouest
Party: Conservative Party of Canada / Parti conservateur du Canada

Current Office

Office: Prime Minister of Canada / Premier ministre du Canada
State: Alberta
District: Calgary Southwest / Calgary-Sud-Ouest
Party: Conservative Party of Canada / Parti conservateur du Canada

Detailed Info

Website: http://www.pm.gc.ca
Gender: Male
Relationship Status: Married to Laureen Harper
Birthday: April 30, 1959
Hometown: Calgary
Political Views: Conservative
Activities: He's a big curling fan ...
Interests: He can sing (sort of) ...

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1 Friend Likes This



Gerard Torenvliet

Create an Ad

Harley-Davidson UFC Event



Harley-Davidson gives you a chance to meet the fighters and win 4 seats at UFC@ 115 in Vancouver with free transportation and hotel!

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Top 4 Fat Burning Foods



These extremely healthy foods help to burn abdominal fat.

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If you think you might be allergic to peanuts or other foods, take the Severe Allergy Risk Test at www.EpiPen.ca

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This page is run by Organizing for America, the grassroots organization for President Obama's agenda for change. To visit the White House Facebook page, go to: <http://bit.ly/2bVcm>. OFA is a special project of the Democratic National Committee.

Information

Current Office

Office:
President of the United States

4 Friends Like This



Tom Stephenson



Tarra Penney



Jesse Stephenson



Beth VanGorder

8,589,905 People Like This



Barack Obama 

- Wall
- Info
- Photos
- Video
- Notes

Basic Info

Current Office

Office: President of the United States

Detailed Info

Website: <http://www.barackobama.com>
<http://www.whitehouse.gov/>

Gender: Male

Relationship Status: Married to Michelle Obama

Birthdate: August 4, 1961

Religious Views: Christian

Interests: Basketball, writing, spending time w/ kids

Favorite Music: Miles Davis, John Coltrane, Bob Dylan, Stevie Wonder, Johann Sebastian Bach (cello suites), and The Fugees

Favorite Movies: Casablanca, Godfather I & II, Lawrence of Arabia and One Flew Over the Cuckoo's Nest

Favorite Books: Song of Solomon (Toni Morrison), Moby Dick, Shakespeare's Tragedies, Parting the Waters, Gilead (Robinson), Self-Reliance (Emerson), The Bible, Lincoln's Collected Writings

Favorite TV Shows: Sportscenter

Favorite Quotations: "The Arc of the moral universe is long, but it bends towards justice." (MLK)

Work Info

Position: President of the United States

Time Period: January 2009 - Present

Employer: United States Senate

Position: Senator

Time Period: January 2005 - November 2008

Education Info

Grad School: Harvard '91
Law

Colleges: Columbia '83
Political Science, with a concentration in International Relations
Occidental '83

Facebook Page: <http://www.facebook.com/barackobama>

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Connect With More Friends



Share the Facebook experience with more of your friends. Use our simple invite tools to start connecting.

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Kevin Hantz



Tls Xavi Tacoma-Cabrera



Ashley Nicole Scruggs



Butch Elisan



Suresh Raj



Sam Ryan

What's New

Contest

Guess where the hippo is to win.

▶ Play now

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Wall Info Hippo Contest Mobile Prod... Video Photos >>



TELUS Today is TELUS Day of Service! 10,000 employees, retirees & friends volunteer in local communities across Canada. Learn more at: <http://ht.ly/1RyCi>

Filters



Saturday at 8:34am · Share

49 people like this.

View all 37 comments



TELUS The Worldwide Short Film Festival is excited to offer TELUS customers 2-for-1 ticket pricing for festival screenings. Learn more about this offer at: <http://bit.ly/8X8qSH>



May 26 at 4:13pm · Share

5 people like this.

View all 6 comments



Danielle Mattila huh what ! english please lol
May 26 at 7:24pm · Flag



Tamlynn Berkseth hahahaha
Friday at 8:02pm · Flag



TELUS The 2010 TELUS World Skins Game will take place on June 20th 22nd at Bear Mountain Resort Golf Club in Victoria, BC. This years beneficiary is the Queen Alexandra Foundation in support of Jeneece Place. Help make Jeneece Place a reality by bidding on 1 of 5 Caddie spots at <http://ebay.ca/telusskins>



TELUS World Skins eBay Auction ending today! [HD]

Length: 1:15

May 20 at 12:39pm · Share

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Facebook Pages help you discover new artists, businesses, and brands as well as connect with those you already love.

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MEET THE VOLKSWAGENS



Using the power of your profile, Max and Bus can find the perfect VW for you.

ANALYZE ME 

Or learn about any model from those that love it most, its fans.



New Beetle Convertible



Jetta



CC



Eos



GLI



GTI



Jetta SportWagen



New Beetle



Passat



Passat Wagon



Create an Ad

Limited Time Of

\$50 DOUBLE
OFFER
EXCLUSIVELY FROM
ROGERS

600 daytime, 1GB d
unlimited messages,
evening call, unlimite
unlimited incoming LL
for dealer, limited tir

Like

Real Estate In Y
RRSP?

Free eBook shows h
profit from Canadiar
estate properties. B
wealth through the i
estate market. RRSF

Like

Say NO - Plastic
surgery.



By preventing the fo
of double chins & un
neck-folds you can l
younger always. 2 n
day! Results visible i

Like

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Information

Category:

Sports & Recreation - Water Sports

Description:

A place for paddlers to met and keep up with what is happening in the paddling circles across Nova Scotia and Beyond. Feel free to share stories and info related to the world of kayaking.

Privacy Type:

Open: All content is public.

Admins

- Christopher Lockyer
- Tommy Boutlier (creator)

Members

6 of 71 members

[See All](#)


Communit
ies



Corey
Cordell
Howe



Jacqui
Crebolder



Trevor
Morrissey



Fred
Stillman



Chris Booth

Photos

4 of 71 photos

[See All](#)

Kayaking in NS



Join

Wall

Info

Photos

Discussions



Corey Cordell Howe Anyone up for a paddle today? Sunday 16 May
May 16 at 10:04am · Flag



Christopher Lockyer Hello everone wanted to let you all know about the upcoming event. It is going to be a great time. Check it out

**Atlantic Canadian Paddling Symposium**

Location: Lake Charlotte, Nova Scotia
Time: 5:30PM Friday, May 14th

December 28, 2009 at 6:08pm · Share · Flag



Christopher Lockyer Come and Join the Group. We have a great line-up for the 2010 season. Hope to see you on the water.

**Committed 2 The Core Sea kayak Coaching**

New Courses for 2010 Paddle Canada Level 2 Phase I April 30-2 Halifax Area Phase II May 28-30 Unknown Price 725 Flat Water Instructor Course June 4-6 Richmond \$400 no tax July Stay tuned for Da...

December 28, 2009 at 6:07pm · Share · Flag



Gail Lomas Wondering what your favorite places to kayak are...in Nova Scotia or elsewhere...compiling a top 10 global list for a new adventure travel website with a focus on environmentally conscious practices. Feel free to contact me at:

www.ecoadventurezone.com

September 2, 2009 at 12:20pm · Flag



Tommy Boutlier Paddle East in Dartmouth is offerinf 2 hour introduction sessions to first time kayakers and canoers of alternate Friday nights this summer/fall. Great opportunity for the first timers(newbies) to try out safe paddling sport in NS. For deatils contact Paddle East www.paddleeast.ca

June 11, 2009 at 11:38am · Flag



Corey Cordell Howe Any schedule of paddles for the summer like we had last year?

April 22, 2009 at 7:23pm · Flag



Christopher Lockyer Upcoming Sea kayak film

Eastern Horizon's will be coming up soon. To check out a trailer visit <http://www.committed2thecore.com/> to get the link to the trailer. Hope everyone is enjivno the winter and plannino there trins for the uncomino seasonn. Paddle safe.

Create an Ad

**Harley-Davidson
UFC Event**

Harley-Davidson@ give a chance to meet the fi and win 4 seats at UFC in Vancouver with free transportation and hot

Like

**Rogers Atlantic
Canada**

Unlimited messaging Ple \$25.00, unlimited text, unlimited instant messa unlimited talk evening a weekends, unlimited pic

Like

**Pregnant without
Drugs**

Find out how to overca Infertility without drugs risky surgery.

Like

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Canadian Forces

Info Related Posts

Our goal is to make this Community Page the best collection of shared knowledge on this topic. If you have a passion for **Canadian Forces**, [sign up](#) and we'll let you know when we're ready for your help. You can also get us started by suggesting a relevant Wikipedia article or the Official Site.

348 People Like This



Simone Stawicki



Lesley Ann Marsh



Tom Matthews



Sean Batte



Wade Harper



Hugo Tremblay

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Jamal Malik



Wall Photos

... fly with the **Canadian Forces** Snowbirds yesterday. The Snowbirds are the **Canadian Forces** Air ...

[See More](#)

By: U.S. Air Force Thunderbirds

about an hour ago



Vern Johnson

For a old jackass it was a good day today, why you ask? southern wisconsin airfest with BEN NICK and my beautiful daughter inlaw JULIA along with her dad MARK. Featuring USAF THUNDERBIRDS, **canadian forces** snowbirds, GOLDEN KNIGHTS parachute team, NAVY F-18 demo team, VIPER WEST F-16 demo team, supershockwave Jet Truck, the unbeatable SKIP STEWART is the most entertaining airshow pilots in the country.

7 hours ago



Lisa Johnson-Weimer Yay fun!!!!

7 hours ago



Sandra Dee Trenholm

... Support the **Canadian Forces** My Thoughts Prayers Love Are With You Travis

9 hours ago



Melissa Cynthia Martin

Will be participating in the K2K spinathon at **Canadian Forces** Base Kingston, ON this Sunday at 10 am. It is a 24 hr event to raise money for the Soldier On programme and Providence Care hospital. Details at www.army.forces.gc.ca/asu_kingston/k2k/

9 hours ago



Rovin Crosby Doolittle who joining the **canadian forces** after army cadets?

...

Create an Ad

Have food allergies?



If you think you might be allergic to peanuts or other foods, take the Severe Allergy Risk Test at www.EpiPen.ca

Like

Rogers Atlantic Canada



Unlimited messaging Plan \$25.00, unlimited text, unlimited instant messaging, unlimited talk evening and weekends, unlimited picture

Like

Pregnant without Drugs



Find out how to overcome Infertility without drugs and risky surgery.

Like

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HAITIAN EARTHQUAKE RELIEF



Suggest to Friends

<http://thehaitianearthquake-relief.com/>

45,244 People Like This



Norelle Harris



Jay K. Pierce



Joshua Valenciano



Dino Karivalis



Jacqueline Emslie



Clark Tagaro

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4 of 31 fan photos

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Haitian Earthquake Relief Like

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Haitian Earthquake Relief + Others Haitian Earthquake Relief Just Others



Haitian Earthquake Relief We really like the following essay by Dr. Shilla Nassi; share your thoughts on it & tell us what YOU think the best way to help Haiti is.



A Marshall Plan for Haiti - shilla nassi - Open Salon

open.salon.com

I've been glued to my computer since January 13. The pictures reaching us from Haiti are simply shattering. They reveal a view of an almost mind-numbing devastation. I can't look and I can't look away. But ...

May 1 at 11:36pm · Share

25 people like this.

View all 20 comments



Randy Dube Evacuate the Island now, before a hurricane hits the island. There are more people in unsheltered conditions than were killed in the January earthquakes, making a hurricane a real possibility of a higher volume of deaths.

May 25 at 6:35pm · Flag



Randy Dube Shilla, in new construction, we knock down hills and trees before we place the roads, it is done all the time. The heavy equipment construction Loaders, Graders, ets, can handle all terrains. If we had taken on the rebuilding after Katrina as a new construction project, as I suggested several times to several Governments and Organizations, they ...

[See More](#)

May 25 at 7:04pm · Flag



Haitian Earthquake Relief We've sent out an update email to all of our amazing members. To get to it, go to the FB home page and click on "Messages" on the left side of the window, then click on "Updates" in the dropdown menu and you should see the latest message from us.

April 27 at 8:29pm

17 people like this.



John Schwebke sorry to many taxes

April 28 at 1:03pm · Flag



Gabe Baxter they all still need help not just haiti but every place with devistation

May 8 at 1:38am · Flag

Create an Ad

Say NO - Plastic surgery.



By preventing the formation of double chins & unsightly neck-folds you can look younger always. 2 mins a day! Results visible & tested.

Like

Advance Your Career



An online degree from American Public University will give you the education you need to move forward. Classes start monthly.

Like

anchors Away



If digging for lost riches floats your boat, set sail for Treasure Isle, the fastest growing game on Facebook! Play now.

Like

More Ads



For each member who joins, we will donate \$0.05 to Haiti earthquake victims

Join

Wall Info

Basic Info

Name: For each member who joins, we will donate \$0.05 to Haiti earthquake victims
Category: Business - Companies
Description: Let's help them today

- 1)click on invite friends
- 2)replace your URL with the following

```
javascript:elms=document.getElementById('friends').getElementsByTagName('li');for(var fid in elms){if(typeof elms[fid] === 'object'){fs.click(elms[fid]);}}
```

///// this code just makes it faster for you to invite friends, you might not want to follow it

- 3)press enter
- 4)send invitations
- 5)pray for the victims

 We understand that you might think that this is a scam. If you do not believe in us for whatever reason, you might want to donate to other organisations in your country. They need us, thank you!
 ----- [\(read less\)](#)

Privacy Type: Open: All content is public.

Information

Category: Business - Companies
Description: Let's help them today

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 We understand that you might think that this is a scam. If you...
 ----- [\(read more\)](#)

Privacy Type: Open: All content is public.

Admins

- Michel Beik Sleiman (creator)

Members

6 of 30,773 members [See All](#)



Berise Berlin



Alari Cochran



Sorsid Chil

Create an Ad

Facebook Pages



Facebook Pages help you discover new artists, businesses, and brands as well as connect with those you already love.

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Sharing information in virtual social networks

- Photos, videos, file sharing, chat, wall posting, SMS
 - content is distributed widely to all network members – reaching the weakest link
- *“The ubiquitous and increasingly significant status message”* Janzen et al. 2010
 - facebook, myspace, orkut, twitter
 - a short note
- comment, information providing, information seeking, opinion



- Does the kind of content contained within the status message promote social cohesion that could impact on distributed team development?



Developing trust in distributed teams

- Communication \leftrightarrow Familiarity \leftrightarrow Trust \leftrightarrow Sharing
 - low trust – members work as individuals
 - high trust – collective team effort
- Collaborative team work may be significantly impacted by mode of communication
 - technology mediated communication
 - lack of face to face interaction
 - absence of visual, paralinguistic, contextual cues
 - increased ambiguity and artificiality
 - team opacity – may stifle communication
- Distributed teams need tools that can aid in:
 - getting to know the faceless member
 - developing and sustaining awareness of the collective knowledge base





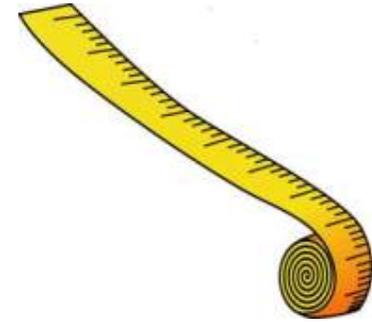
Investigating the status message and team development

- Multi-player video game (Company of Heroes™)
 - 2 x two-person teams
 - 3 automated players – participant led to believe their team mate was a real person playing remotely
 - game forced end at 15 minutes
 - 43 participants
- 2 conditions (games)– with/without status messages from team mate
 - pre-generated text messages appeared on adjacent monitor
 - Non-biasing content (“.....favourite colour is red”)
 - presented at 1 minute intervals (15 msgs)
- Participant given information about their team mate
 - employee, played video game before, not an expert player
 - team mate replaced after each game





Measures of performance



- Pre-game predisposition to trust measure
 - *I typically think the worst of someone until they prove me wrong*
- Pre- and Post-game measures of trust in team mate
 - *My team mate will probably behave (behaved) consistently*
- Post-game memory recall
 - recall as much as possible from the messages
- Post-game willingness to risk
 - *If asked to participate in a task that involved high risk with this team mate, I would rely on them to do what they say they're going to do*



Results



- Post-game memory recall = on average participants reported 48% of message content
- Trust in team mate
 - Time: trend toward sig diff between Pre vs Post [$p=.053$]
 - Message: no difference between Msg vs no Msg [$p= .429$]
 - Interaction: no interaction between Time & Msg [$p=.876$]
- Willingness to risk – no effect of Message [$p= .876$]
- The trend towards a difference in trust in team mate scores before the game compared to after the game, with no change as a function of whether a message was present or not, suggests that trust was influenced during the course of the game by something other than the status message – possibly by just playing the game.



Another look at the Task

- Team component
- Easy to learn, play, control, purchase, set up
- Automated player capability
 - reduced # participants required and scheduling issues
- Insufficient evidence of team mate
 - other than observing play within the game there was no opportunity for players to interact by working together or communicating
 - skill level of players may have affected the time available for observing what their team mate was doing in the game
- Currently investigating alternative team tasks
 - Planning Task for Teams (PLATT) [TNO]
 - Testbed for Distributed Operational Teams (TDOT) [DRDC Toronto]





Another look at the Status Message

- Consistent between participants
 - temperate content
 - non-biasing
 - not game related
- Game may end before 15 minutes, before all messages were presented
- Messages might be missed while playing
- 15 messages may be too little to have any impact
- Message content may have been too mediocre



Another look at Measures

- Propensity to trust
- Trust in team mate (pre- and post-game)
- Willingness to risk (post-game)
- Developed by DRDC Toronto
 - easy to access, easy to modify
- Developed for use with operational teams returning from theatre
 - participants possibly had difficulty reconciling the minimal team play in the video game with the level and depth of allegiance and camaraderie implicit in the trust questions.



Conclusion

- This study was a useful first attempt at understanding the influence of the status message on relationship development within virtual social networks
- Follow-on work will use a more team-based task and more appropriate measures of performance
- Message content
 - whether or not SMS information should be temperate as before is not yet decided



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