

Reach Your Goal or Get Shamed: Effects of Public Shaming on Social Media in Changing Behavior

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Conclusion

More considerations are needed for designing applications that automatically post shameful messages on social media once users fail to reach their goals.

What We Did

- We designed and developed *FBless*, a Chrome extension that helps to reduce time spent on Facebook.
- We then conducted a **between-subject** study where one group would trigger auto-posting of shameful messages once the time they spent on Facebook exceeded the limit set as their goal, and the other wouldn't.
- We analysed the data to see whether there's a significant difference, i.e. whether this feature is effective in changing behavior.

Motivation

- For self-improvement and better life, people aspire to break old habits and form new ones.
- Behavior change and habit formation is no easy task.
- Goal-setting helps. What if goals are not met?
- Social media enriches ways we interact with each other.

Our hypothesis:

Applications that automatically broadcast failures of goal achievement will help users achieve their goals towards changing specific habits more frequently than those that don't.

Supporting Theories

Guilt and Shame

Publicness in Goal Commitment

Positive Punishment

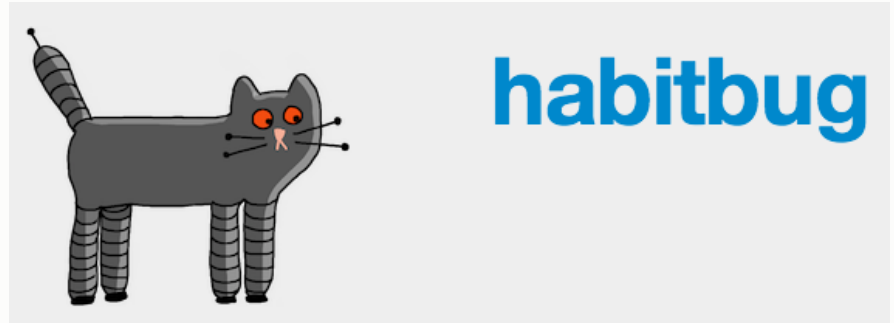
Persuasive Technology

Existing Applications



Goal: X times to gym / week
Track: Foursquare check-ins

Twitter app
Reply @habithug if you've
done the activity
If not, tweet to your
friends
Shame Alarm, BetterMe, Getupp, Aherk...
But do they actually work?



Experiment - Participants

- Recruited via mailing lists.
- Recruiting email contained the message:
"If you want to spend less time on Facebook, you're welcome to participate in our study".
- All Stanford students.
- 22 initial participants
(only 5 completed the study :().

Experiment - FBless



Chrome Extension

Utilizes Chrome API to detect and tab events and obtain tab information

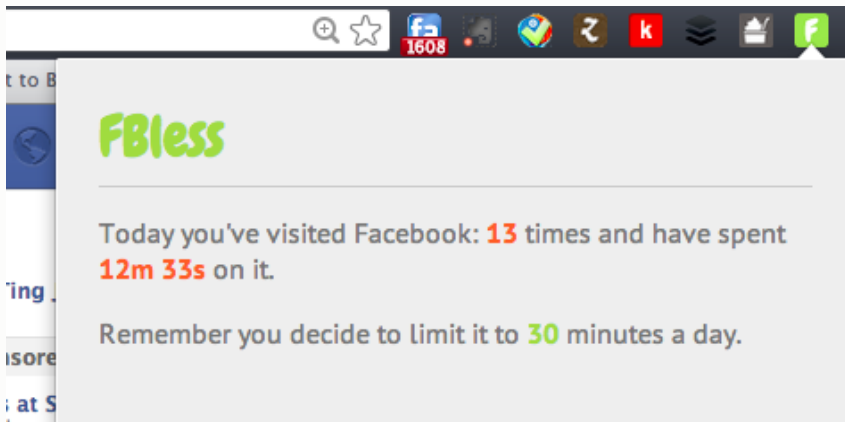
Server

- Constructed with Node.js, hosted on Heroku
- Connects Facebook accounts
- Collects daily reports
- Posts shameful messages on participants' behalf

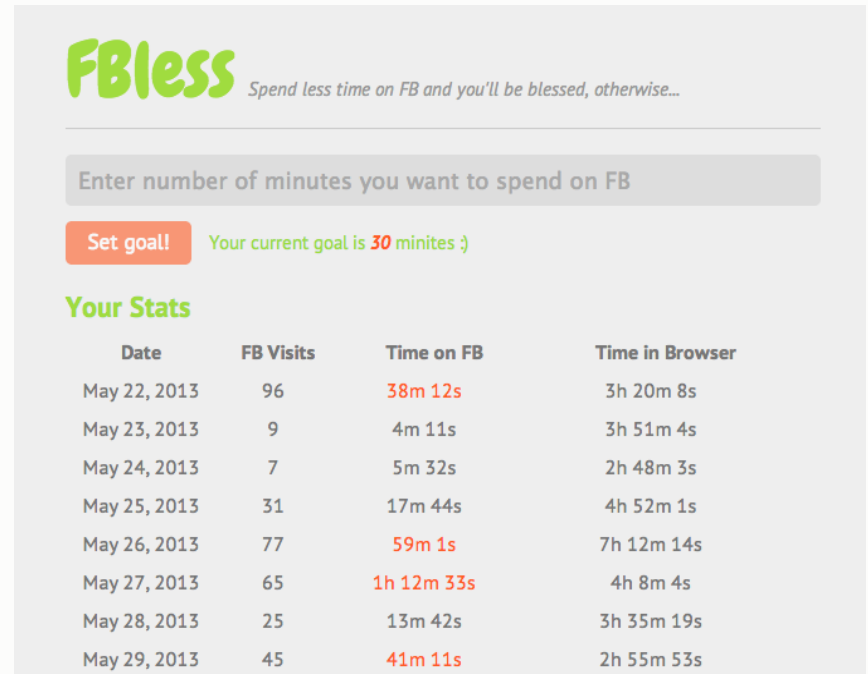
Experiment - FBless



Shameful message



Popup window



The "Options" page for FBless. It features a green logo and the tagline "Spend less time on FB and you'll be blessed, otherwise...". Below this is a text input field labeled "Enter number of minutes you want to spend on FB". A "Set goal!" button is next to it, followed by the text "Your current goal is 30 minutes :)".

Your Stats

Date	FB Visits	Time on FB	Time in Browser
May 22, 2013	96	38m 12s	3h 20m 8s
May 23, 2013	9	4m 11s	3h 51m 4s
May 24, 2013	7	5m 32s	2h 48m 3s
May 25, 2013	31	17m 44s	4h 52m 1s
May 26, 2013	77	59m 1s	7h 12m 14s
May 27, 2013	65	1h 12m 33s	4h 8m 4s
May 28, 2013	25	13m 42s	3h 35m 19s
May 29, 2013	45	41m 11s	2h 55m 53s

"Options" page

Experiment - Procedure

Group A	Phase 1	Phase 2
	Baseline (7 days)	<ul style="list-style-type: none">- Users asked to set daily goals- Auto-posting off (9 days)
Group B	Phase 1	Phase 2
	Baseline (7 days)	<ul style="list-style-type: none">- Users asked to set daily goals- Auto-posting on (9 days)
Post-study survey + interview		

Results - Quantitative

	p-value	t-value	Degrees of Freedom	Significant?	Participant ID
Daily Total Time on Facebook (seconds)	0.3410	0.9858	14	No	4
	0.3410	0.2947	14	No	5
Time/visit (seconds)	0.2968	1.0838	14	No	4
	0.9816	0.0234	14	No	5
Daily Frequency (Visits)	0.0944	1.7939	14	Not quite	4
	0.4651	0.751	14	No	5

Group A (No auto-posting): t-test values for comparing the user's mean before and after enabling Facebook auto-posting for each user. This is done on three different metrics: total daily time on Facebook, daily time/visit, and daily frequency (Facebook visits per day).

Results - Quantitative

	p-value	t-value	Degrees of Freedom	Significant?	Participant ID
Daily Total Time on Facebook (seconds)	0.7267	0.3586	11	No	1
	0.9169	0.107	10	No	2
	0.7626	0.107	14	No	3
Time/visit (seconds)	0.3707	0.9333	11	No	1
	0.1259	1.6698	10	No	2
	0.0423	2.2337	14	Yes	3
Daily Frequency (Visits)	0.5703	0.5851	11	No	1
	0.1847	1.4246	10	No	2
	0.0563	2.0811	14	Not quite	3

Group B (Auto-posting enforced): t-test values for comparing the user's mean before and after allowing him/her to set a daily goal for him/herself. This is done on three different metrics: total daily time on Facebook, daily time/visit, and daily frequency (Facebook visits per day).

Discussion

Possible Explanations

- Participants not self-motivated enough.
- Other personal concerns matter. (from surveys and interview)
(Privacy? Don't usually post on FB? Dislike auto-posting in general? Always keep a positive profile? ...)

Experiment Limitations

- Many participants dropped out because it took too long and they felt auto-posting was too invasive.
- They can disable the extension and re-enable. No reason to believe they did, but couldn't know for sure anyway.
- Nobody actually posted, we failed to investigate interactions among friends around the shameful message.

Discussion - A More Intelligent Extension

- Daily average times on Facebook:

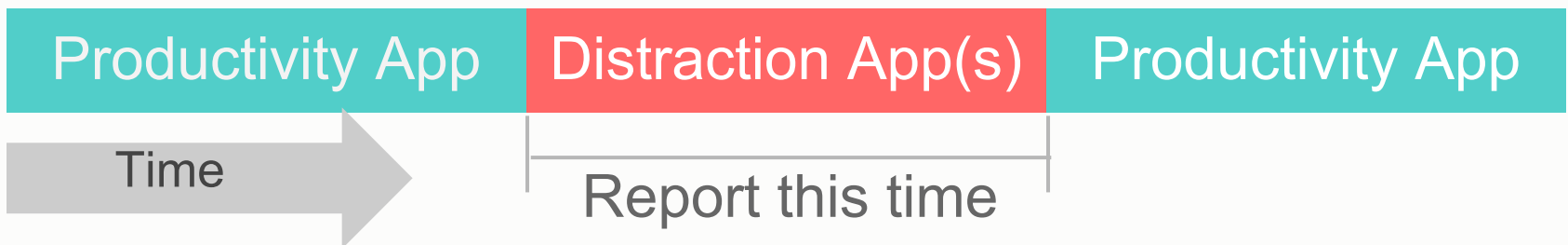
3, 9, 10, 26, and 46 minutes.

- Average time per visit:

40, 79, 64, 55, and 91 seconds.

- Proposed Improvement:

- Mark apps as "productivity apps" and "distraction apps".



Conclusion

More factors need to be considered when designing applications with similar auto-posting features in order for them to be **accepted** and **effective**.

Social theory regarding public shaming should be applied more carefully in social media, or social media is not merely an extension of traditional social settings and thus does not adhere to all aspects of social theory.

Thank you:)