

WATERLOO **ENGINEERING**

Consulting Engineering Design Problem

Spring 2012
Waterloo Engineering Competition
July 6-7

General Rules & Guidelines

1. All communication devices must be turned off.
2. Competitors will be allowed to use:
 - a. Computers, USB keys, CDs, pre-existing files etc.
 - b. Internet
 - c. Reference books

All other tools must be cleared with the competition coordinator before use. Cell phones, online communication (e.g. MSN, GoogleChat, Skype) or other communication devices are prohibited.

Violation of these rules may result in disqualification.

3. Visitors are not allowed throughout the development and build stage.
4. Keep work stations clean. Tidy up at the end.

Schedule

The schedule for Consulting Engineering is as follows:

Friday, July 6	4:45 p.m. – 5:00 p.m.	Check-In	DWE 3519
	5:00 p.m. – 5:30 p.m.	Welcome/Briefing/Question period	DWE 3519
	5:30 p.m. – 11:30 p.m.	Design	Various DWE Rooms
	11:30 p.m. – 11:45 p.m.	Submissions/Debriefing	DWE 3519
Saturday, July 7	9:30 a.m. – 10:00 a.m.*	Check-In	RCH 3 rd Floor Lobby
	10:00 a.m. – 12:00 p.m.*	Presentation/Demonstration	RCH 309
	12:00 p.m. – 12:30 p.m.*	Prizes and Winner Announcements	RCH 301

Volunteers will bring food and drinks around to teams between 9:00 and 10:00 p.m. Each competitor will be given one (1) can of drink. Competitors are encouraged to bring water bottles as bottled water will not be provided. There will be water fountains nearby for refills. Please remind the competition coordinators and volunteers of your dietary restrictions and/or allergies.

There will be a question period after the problem is presented during the briefing session. No questions will be answered during the development and build stage to ensure fairness in the competition.

Background Information

Social Media sector has been growing at a tremendous rate in the past decade. This is mainly driven by advertisement businesses within social media corporations. For Example, approximately 85% of Facebook's revenue came from advertisement [2]. Investors are able to see the value of the marketing service that is provided by social media, and it leads them to continuously invest in social media companies. This leads to the boom in social media sector and brought companies such as LinkedIn, Facebook and YouTube to netizens (people who frequently uses Internet). As a consequence, social media became the new revolution of advertisement.

Social media is able to attract users from various age groups and demographics. In 2011, there are approximately 800 million users on Facebook, 100 million users on Twitter, etc. [1] The population that is involved within the social media space is definitely important to clients who wants to improve their marketing strategies.

However, the effectiveness of social media to investors/clients is always questionable, because it is very difficult to quantify the direct relationship of investors' Return on Investment (ROI) with social media's advertisement. Social media companies have been trying to perform researches on relevant topics and also to prove the effectiveness of social media to their investors in either quantitative or qualitative perspective.

Problem Statement

Your group is hired as consultants for a social media company. You are asked to help the company to attract more investors/clients to invest in social media advertisements.

You are asked to construct a marketing strategy on behalf of the social media company.

The following are guidelines that may help you (you do not have to strictly follow them):

- Select a single or many industries/brands/companies as your target customer
- How would you incorporate the advertisement within the social media? For example, what kind of advertisement methods will you use? You are free to create new advertisement methods other than side-bar advertisement.
** Assume it is technically possible to implement the methods.*
- How would you measure the effectiveness or the impact of your social media advertisement quantitatively or/and qualitatively?
- How would you evaluate impacts of your advertisement to your potential client's ROI? How would you represent your information effectively to your clients?
- How would you keep a long term, sustainable relationship with your client?

MARKING SCHEME

The marking scheme is divided into three parts. The first deals with the overall quality and feasibility of the solution, and the second and third parts deal with the quality of the report and presentation.

Solution	50%
Life-Cycle, Environmental, Social, and Economic Analysis	10%
Structured Engineering Design Methodology	10%
Technical Innovation	15%
Feasibility	15%
Report	25%
Comprehensiveness	10%
Stating Assumptions	5%
References/Sources	5%
Presentation/Format	5%
Presentation	25%
Presentation Quality	10%
Speaker Quality	5%
Compliments the Report	5%
Responses to Questions	5%
Penalty: underuse of time	-5%
Penalty: overuse of time	-5%

Deliverables:

- 1) A technical report detailing your analysis and suggested solution.
- 2) A PowerPoint Presentation, 15-20 minutes in length.

References

[1] Pingdom. "Internet 2011 in numbers." *Pingdom*. N.p., 17/01/2012. Web. 10 Jun 2012.
<<http://royal.pingdom.com/2012/01/17/internet-2011-in-numbers/>>.

[2] Cutler, Kim-Mai. "Facebook's net income and revenues: \$1 billion on \$3.71 billion in 2011." *InsideFacebook*. N.p., 01/02/2012. Web. 25 Jun 2012.
<<http://www.insidefacebook.com/2012/02/01/facebooks-net-income-and-revenues-1-billion-on-3-71-billion-in-2011/>>.