



WATERLOO
ENGINEERING SOCIETY

Consulting Engineering Competition

Design Problem

Fall 2013

Waterloo Engineering Competition

November 8th and 9th

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

Friday, November 8 th	5:45pm – 6:00pm	Registration	MC 2066
	6:00pm – 6:30pm	Competition Briefing	MC 2066
	6:30pm – 11:30pm	Report and Research Phase	Rooms to be assigned
	11:30pm – 11:45pm	Debriefing and Dismissal	MC 2066
Saturday, November 9 th	7:30am – 8:00am	Competitor Sign-in	RCH 3 rd Floor Lobby
	8:00am – 10:30am	Presentations	RCH 306, 307
	10:30am – 11:15am	Break for Deliberation	
	11:15am – 11:30am	Announcement of Winners	RCH 306

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

BlackBerry (formerly Research In Motion) is a Waterloo based company founded in 1984. In their early years, they produced an array of products all related to wireless networks such as point-of-sale terminals and pagers. Fast forwarding to 1998, they released the first BlackBerry device, the BlackBerry 850. It could only send and receive emails and act as a pager. By 2002, they had developed the technology to include voice calling as well in the BlackBerry 5810.

In 2004, just as they were celebrating their 20th anniversary as a company, they reached the 1 million user mark. Three years later in 2007, they reached the 10 million user mark. Their meteoric success was largely attributable to their ability to constantly push the boundaries of what was possible to do with a mobile phone. However, trouble was brewing on the horizon.

In July of 2007, Apple released the first iPhone. A year later, Android phones also came on the market. For the next couple years, things were still going well for BlackBerry. They eventually peaked at just over a fifth of the global smartphone market share in 2009. The years since then have seen a fairly steady decline. Many have pointed to a failure to adapt to the rapidly changing smartphone market as well as an unwillingness to take their competition seriously as reasons for the decline. Other reasons for the decline include a failure to attract app developers to their platform,

BlackBerry's management is currently considering the option of selling all or parts of the company.

PROBLEM STATEMENT

For this competition, you will be assuming the roles of consultants hired by a large holding company who is thinking of putting together a bid for BlackBerry. They are hiring you to come up with an idea for a flagship product that will help BlackBerry become competitive again.

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

- Choose a market segment to focus on (e.g. corporate versus consumer) and create your design with that in mind.
- This product may or may not use a BlackBerry operating system depending on what you decide is the best option.
- Do not be too detailed with the technical specifications of the product. Use nothing you could not explain to the average phone user.
- Feel free to come up with new technologies and features although they should be at least plausible given the current state of smartphone technology (e.g. no nuclear reactor powered phones) and BlackBerry's core areas of competence.
- Justify why you think this product would be attractive to consumers based on the current state of the smartphone market.
- You will not be required to develop a visual prototype of the product. Focus will be on the innovativeness of the features instead of the physical design.
- Partnerships with other technology companies are also a possibility if their products would be useful to integrate into the design. If you choose to go this route, assume these partnerships would be approved.

MARKING SCHEME

The marking scheme is divided in to 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%
Complements the Report	5%
Responses to Questions	5%
Penalty: underuse of time	-5%
Penalty: overuse of time	-5%