Entrepreneur for Computer Science

CSC 488

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Lecture

} Slides

} Class participations: Feel free to interrupt to ask questions

} Ask questions the way to learn in entrepreneurship

} Not compulsory, but it is your responsibility to catch up with your missed lectures with your friends

Course Group Projects (CSC 488)

There will be two group presentations: midterm and final presentations

You have to attend the presentations

To keep the length of the midterm and final under control, the class should consist of no more than 15 groups

Form a group of 4-5 members

Select a group leader to submit reports and ppt. We will take his/her submission as final

If your group is under-sized, I will randomly pair you up with other under- sized team(s)

A group has to work together the whole semester as if it is a startup team

I will not entertain "complaints" on group-mates or regrouping after the deadline

A student cannot be in more than one team

As you are in a team, you present as a team.

I will not try to distinguish you within the team. Therefore, all the members will have the same score for the group projects (except those absentees)

Midterm Project on Company Analysis

} Pick an IT startup from around the world which is "sizable" (with notable number of users).

Discuss its success factors in terms of the following with supporting evidence:

} } Company background (history, product/service, team, etc): What is its founding history? How does its history and team contribute to its success?

} Business model

} Its competitive advantages over other similar, bigger or listed companies, i..e, its factors of its success

} SWOT analysis and how to mitigate threats and weaknesses

} Suggested growth plan and exit strategies with reasons

E.g., Dropbox, Evernote, Snapchat, Spotify, etc.

}

}

We will not duplicate companies. Send us your company's name as soon as you form a team. Companies will be taken
▶ 18 on a FCFS basis.

Final Project on a Business Plan

} Suppose you are to start up an IT company. Discuss your technologies, value proposition, business model and business plan. Be realistic.

} Send us your company name and a tagline/catch-phrase describing the company beforehand

} There are not many unexploited commercializable ideas
  à Be creative in thinking about them

Attending Seminars on Technopreneurship

Be exposed to different experience and perspectives on entrepreneurship
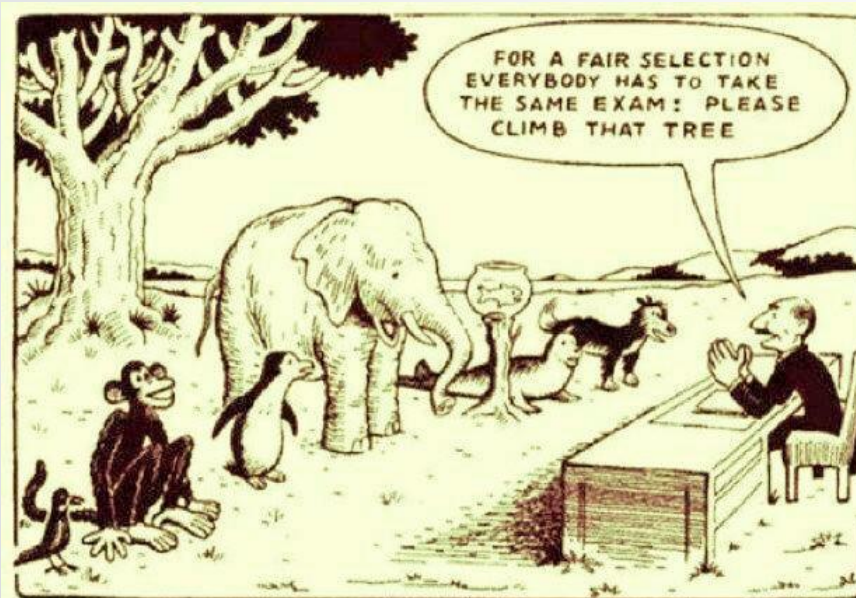- Broaden your horizon
- Sharpen your analytic thinking

Write a report on what your *personal* reflections and lessons learnt for the ones you attended
- Half a page to 1 page
- Do NOT repeat the facts of the seminar (i.e., the abstract)

Course introduction

No model answer. Grading is on strengths.

Entrepreneurship

Entrepreneurship seeks to understand how opportunities to create something *new* arise and are discovered or created by *specific persons* who then use various means to *exploit or develop* them, thus producing a wide range of *effects*.

The potential to create something new (new products or services, new markets, new production processes, new raw materials, new ways of organizing existing technologies, etc.) that has emerged from a complex pattern of changing conditions-changes in knowledge, technology, or economic, political, social, and demographic conditions.

Entrepreneur

- Somebody who shifts economic resources out of an area of lower and into an area of higher productivity and yield" J.B Say quotes by Drucker.

- Emphasis on doing something different, moving from a low productive environment to higher one.

- The key to entrepreneurship is doing that "thing" differently which moves you up the value chain. (Peter Drucker)

Technopreneurship

- **Technopreneurship** is not just about technology alone; but is about how to manage that technology in order to achieve superior value for the customer (how to use technology [ICT] to improve value).

- Also known as cyberpreneurship or netpreneurship or technology entrepreneurship.

Technopreneur

- Technopreneur can be defined as " an entrepreneur with the skills and mindsets to deal with a knowledge economy"

- Technopreneur - people who shift economic resources up the *value chain*.

- This Value Chain is customer focused, the focus is not in developing complex products or technology but on developing a product or service that offer higher value to the customer.

• knowledge to produce economic benefits
• a way of referring to the manner in which various high-technology businesses, especially computer software, telecommunications and virtual services, as well as educational and research institutions, can contribute to a country's

Why Should You Care About IT Entrepreneurship?

} "IT is cheap. *No* company is investing heavily in IT department."

  } IT support and maintenance indeed does not cost much as it is at the low end of the value chain.

} "I am smart. Shouldn't I work in financial industry?"

  } Consider your upside, working hours, stress, contributions to economy, value system, interest, etc.

} Can't I open a flower shop, grocery store, barber shop, restaurant or cookie bakery?

  } Certainly! But you need to think about how to scale up your business. IT may help on this.

} My experience as a member of some IT professional bodies (Oracle, CISCO, IBM, NCS etc.)

  } Global business cannot be separated from IT

  } Business people envy your IT knowledge

  } IT people need business knowledge

Course introduction

Value Chain

- Automation of manual processes. E.g. payroll

- Improving a value chain is eliminating the middle-man that incurred the cost of product higher to the end customer.

- Going up the value chain does not mean that the product or service has to be complicated but that the customer sees real benefit!

- Inventors and innovators.

What is invention?

- A new or improved product (material, component, device, machine, system) or process (synthesis, treatment, fabrication, method of manufacturing) discovered as a result of study or experimentation. Inventions that are novel (unique), useful and non-obvious to someone skilled in the art can be patented as compositions of matter, process of making, or field of use.

- Invention is a completely new product or service, a patent, or a breakthrough.

http://www.enchantedlearning.com/inventors/

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What is innovation?

- The act or process of commercializing an invention or introducing something new or improved that creates value in the form of a commercial product.

- Innovation requires people using new knowledge and understanding to experiment with new possibilities and using sound collaborative decision making tools in order to choose and implement new ideas.

- Innovation is the turning of all ideas, big and small, into successful outcomes. It's the implementation of ideas generated as a result of the creativity-supporting culture.

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What is creativity?

- Creativity is having ideas, the spotting of an opportunity or inspiration. This definition includes both incremental (small) change and breakthrough thinking.

Intrepreneurs

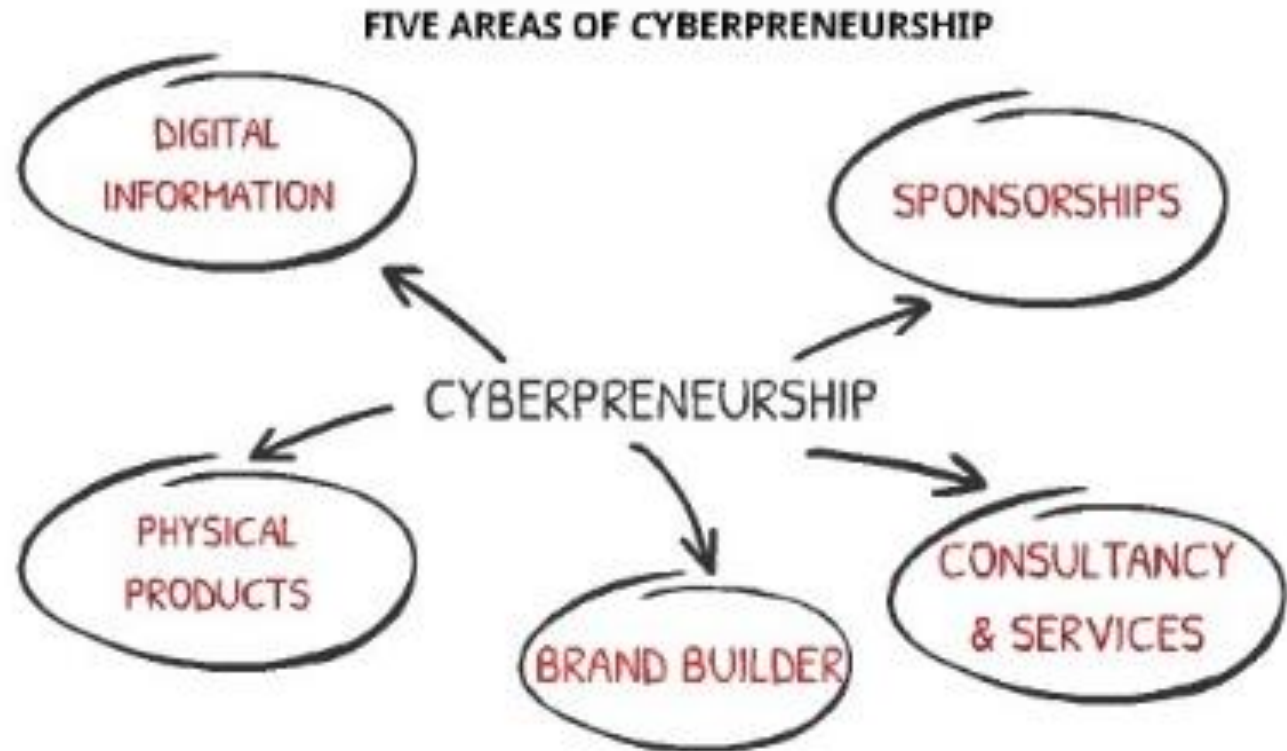Persons who create something new, but inside an existing company rather than through a new venture.
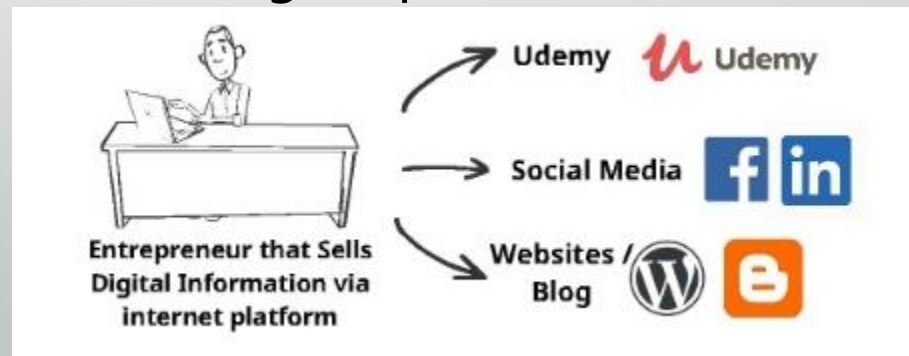
CYBERPRENEUR

Cyberpreneurs

❖ Cyberpreneur is a term that combines digital or cyber world with the word entrepreneur.

• Cyberpreneur means an entrepreneur that utilized the digital world to start, promote, scale or further develop and innovate their businesses, services and branding to create and sustain wealth.

• The unique thing about Cyberpreneurs - they are not tied to any physical location in doing their business and can primarily operate anywhere in the world where there is an internet connection

Areas of Cyberpreneurship

FIVE AREAS OF CYBERPRENEURSHIP

DIGITAL INFORMATION

SPONSORSHIPS

CYBERPRENEURSHIP

PHYSICAL PRODUCTS

BRAND BUILDER

CONSULTANCY & SERVICES

Selling Digital Information

➢ The package that encapsulates the digital information can be in the form of blogs, vlogs, e-books, digital training course, videos and podcast

➢ Cyberpreneurs can leverage other existing platforms for the distribution of their digital products or create their platform.

Udemy **Udemy**

Social Media

Websites / Blog

Entrepreneur that Sells Digital Information via internet platform

Selling Physical Products

➢ the advantage of being a cyberpreneur is that your target market can range from local to the global demand

➢ If Being cyberpreneurs, you can leverage the availability of manufacturers such as in China, India or Vietnam to produce your very own product and brand
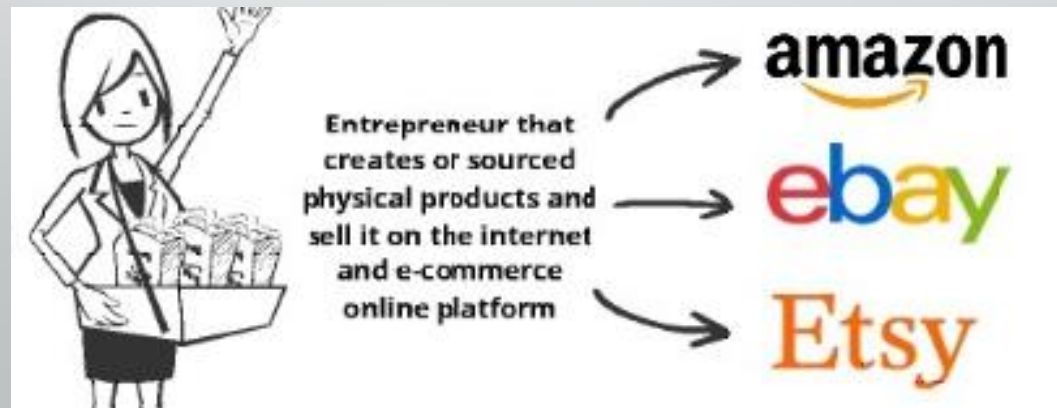
Selling Sponsorships

➤ Cyberpreneur can create and sustain a thriving online community around your personal or business brand. This can in the form of social media influencer, Facebook page or YouTube channel that has a considerable following

Entrepreneur that creates loyal followers or community and gives endorsement of a product or service in exchange of sponsorships

Selling Brands

➢ Being an online entrepreneur, you will have the ability to build brands and promote them across various digital platforms and social media

➢ With the emerging digital business nowadays, Cyberpreneurs will also have the option of exiting their digital business by selling the brand that they built over time

Cyberpreneurs create, build and scale their brand from scratch to a brand that has added value

Cyberpreneurs can then sell their brand platform (website, YouTube channel, Facebook Page, Amazon FBA account) to investors or new owner
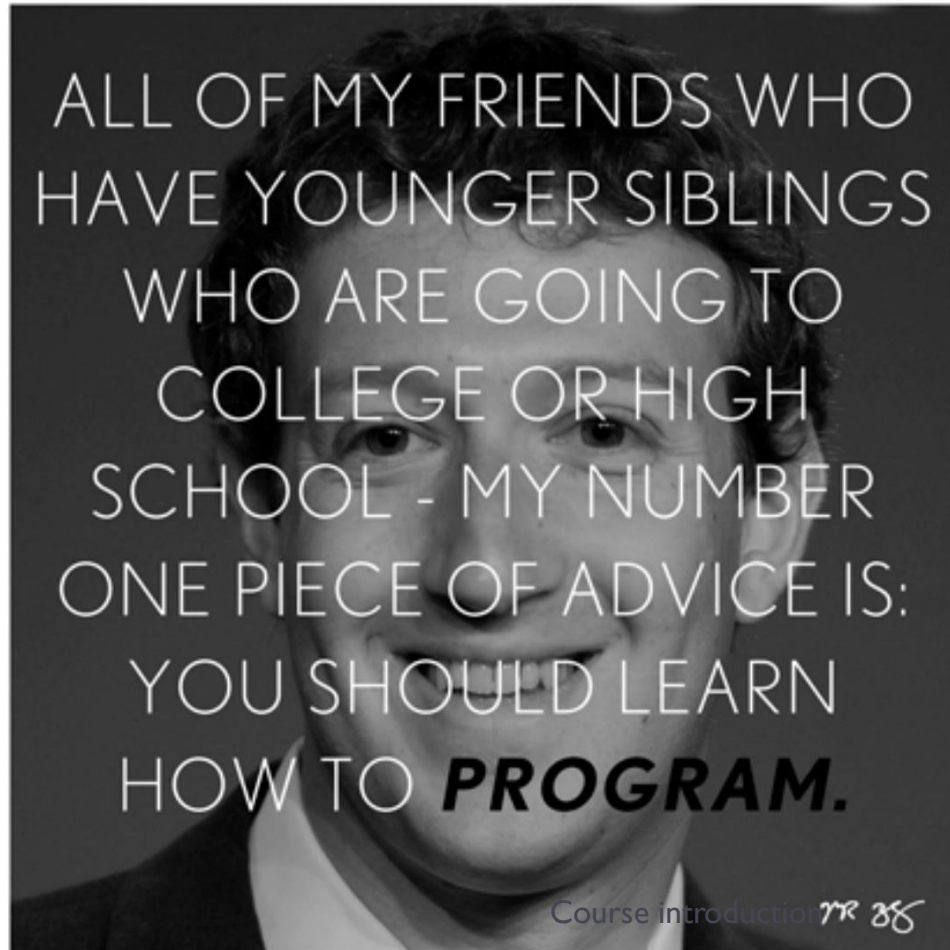
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WHAT'S NEXT FOR CYBERPRENEURS?

➢ Cyberpreneurs and Cyberpreneurship will have a long-lasting impact on the way we perceive work in the future

➢ As the tools needed for cyberpreneurs to create and sustain their business becoming more advanced and cheaper, then more people will become Cyberpreneur

➢ The next wave of Cyberpreneurs will come once the internet becomes faster and available to many parts of the globe

➢ As the emerging tools right now such as Virtual Reality and Augmented Reality becoming mainstream, the more cyberpreneurs will be created in the future

IT Entrepreneurship Pre-requisite: CSC201 (As Said by Facebook CEO Mark Zuckerberg)

ALL OF MY FRIENDS WHO HAVE YOUNGER SIBLINGS WHO ARE GOING TO COLLEGE OR HIGH SCHOOL - MY NUMBER ONE PIECE OF ADVICE IS: YOU SHOULD LEARN HOW TO **PROGRAM.**

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Course introduction

Key Activities

1. Identifying an opportunity
2. Exploiting or developing this opportunity
3. Running a new business successfully

What is business idea?

- **Ideas** – the indispensable start-up ingredient all inventions and innovations need.

- **Ideation** – the process of forming and relating ideas that invariably have a bearing on the identification and resolution of a

- Opportunities

Ideation is a process of:
- Deriving ideas through free-association and analogies
- Challenging conventional ideas
- Combining simple elements into new ideas

Coming up with business ideas

Factors to consider…..

INTERNAL FACTORS	EXTERNAL FACTORS
• Personal interest	♥ government support
• Knowledge/talent	& assistance
• Training/work experience	♥ tax incentives
• Other considerations like	♥ financing
income, employment	♥ business growth rate
service, etc	♥ other factors

Ideation Methods

FOUR main methods can assist in ideation :-

1. Brainstorming (free-association)

2. Synetics (analogical association)

3. Challenging (fruitful association)

4. Morphological approach (decomposition/composition)

(Source: http://www.problemistics.org/courseware/toolbook/ideation.html)

Brainstorming

- Brainstorming is a way of generating ideas, in a group, on a specific theme, by free-association.
  Association can be triggered by:
  - ✓ contiguity (e.g. next to, before and after, cause and effect, etc.)
  - ✓ similarity (e.g. same as, common to, etc.)
  - ✓ contrast (e.g. unlike what, different from, opposite to, etc.)
- Brainstorming is characterized by three main aspects:
  - i. elicitation/production of ideas by free-association (free-wheeling)
  - ii. circulation/acceptance of any idea by positive attitude (free-playing, deferment of judgement)
  - iii. selection/combination of ideas (parts, whole) for refinement and with a view to further generation of ideas

Synectics

- Synectics is based on the systematic use of analogies for the generation of ideas.
  Analogies can be:
  - ✓ Personal (identify yourself with the elements of the problem)
  - ✓ Direct (apply solutions taken from other fields, e.g. natural world)
  - ✓ Symbolic (play with images, e.g. metaphors)
  - ✓ Fantastic (express wishes, desires, fantasies in pursuit of a solution)
- Synectics is characterized by two contrasting dynamics:

  i. Making the strange familiar : compare/associate strange phenomena to familiar ones
  ii. Making the familiar strange : see/approach common phenomena under a new light and from an unusual perspective

Challenging

- Challenging (Why? Why? Why?) is a way of pushing towards a reformulation of an idea by subjecting it to strong opposing views with the aim of either reinforcing or replacing the original idea.

- Challenging can refer to:
  - assumptions (counter-views)
  - specifications (counter-requirements)
  - solutions (counter-proposals)

- Remark
  For challenging to be carried out effectively, an Idea Log Book should be kept at hand for jotting down hunches, hints, alternatives, unconventional thoughts, etc.

Morphological Approach

- A Morphological Approach ('mince and mix') is a way of generating ideas by decomposing a problem into sub-problems and listing, in a matrix, all the factors pertaining to it [mince].
Each possible combination (of factors in a sub-problem; of sub-problems in a problem) represents the basis for the generation of new ideas [mix].

- Stages
- Break the problem down into independent sub-problems
- Break the sub-problem down into factors
- Combine factors for possible solutions to each sub-problem
- Give a score to each sub-problem solution
- Construct general/total solutions from combinable sub-solutions
- Give a score to each total solution
- Select the total solution with the highest score

Choosing the Line of Business

Product Industries

Manufactured products intended either for mass market or individual customers demand. Examples are garments, toys, shoes, canned goods, (for mass market); precision instruments for industrial use, made to order furniture (as specialized products)

Process Industries

Manufactured products intended either for mass market or individual customers demand. Examples are garments, toys, shoes, canned goods, (for mass market); precision instruments for industrial use, made to order furniture (as specialized products)

Sub Contracting Industries

Manufacture of product components or parts for other bigger companies. Bigger companies find it faster & cheaper to sub contract. Drawback is if small company is totally dependent on one big principal or contracting company

Service Industries

Service enterprises include repair and maintenance shops, printing & machine shops, food catering, Beauty parlors, dress and tailoring shops, recreation estabs. (like bowling alleys and billiard halls), and entertainment enterprises (such as theaters, disco and pub house). Retail & trading is one of the most common type of service business

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Thinking Point

- Now that you already chosen the product opportunity…

1. Write down the product that you chose and justify your choice.

2. What will you do next?

3. You have a vague understanding on enterpreneurship / being an enterpreneur, what do you need to know and how?