LIBRARY WORKSHOP FOR

LANG 2030 Technical Communication I

FALL 2018

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Workshop Learning Goals

Learn to find good materials for your proposal report

• Identify information sources for science & engineering innovation

• Develop keywords for effective searching

• Use appropriate search tools & search them wisely
Have you started your LANG 2030 proposal report?
Your Assignment

• Devise an **innovative engineering idea** in your field

• In your individual **Proposal Report**:
  • Review existing technologies
  • Explain the engineering theories & knowledge that underline your innovation
  • Compare your innovation with similar designs & establish the need for your innovation

• Give a group **Presentation**

• **Refer to course book for detailed requirements**
What is innovation?

Merriam-Webster’s Online Dictionary:

• The introduction of something new
• A new idea, method, or device
• https://www.merriam-webster.com/dictionary/innovation
Which do you think is the most INNOVATIVE company?
Look for Innovative Engineering Ideas

Where to Start?

Check out the suggested Internet sources @
https://libguides.ust.hk/lang2030/ideas
LANG 2030 Library Guide

https://libguides.ust.hk/lang2030/ideas

**Innovation**

What is innovation?

From Merriam-Webster’s Online Dictionary:
1. The introduction of something new
2. A new idea, method, or device
3. Something (as a device) created for the first time through the use of the imagination

From Dictionary of Marketing:

The process through which new products, concepts, services, methods, or techniques are developed.

Your definition?

New ways of doing something? A new technical solution to a problem? or ...?

In your view, who (or which organization or company) represents the pioneering spirit of innovation? And why?
Get Ideas - Example 1

1. Go to www.ted.com, search robots

2. Choose those talks & articles that interest you

3. Gather ideas/keywords
   • Look for words showing in description, etc.

4. Is the search “robots” too broad?
   • Narrow it down, e.g. robots housework

5. Found:
   • Publication Date: Dec 2, 2014

Get Ideas – Example 2

1. **Google: robots housework**
   - What have I found? Is it any good?
   - Choose & skim articles
   - Get ideas & useful words

2. **Found:**
   - Floor-mopping robots and a kitchen that cleans itself: The future of your household chores (Jun 19, 2018)
   - Robotic Kitchen by **Moley Robotics**

   - Founder: **Mark Oleynik**

4. **YouTube:** [https://youtu.be/mKCVoI2iWcc](https://youtu.be/mKCVoI2iWcc)
Remember PowerSearch?

Useful & easy to search!

http://library.ust.hk/

[Image of a search interface with "robotic kitchen" entered into the search field]
PowerSearch Results

Refine results

☐ Expand My Results

Sort by Relevance

Availability

Peer-reviewed Journals (2,394)
Full Text Online (4,747)
Open Access

Collection

online_resources (2)

Primo Central Collection

ProQuest Central (n... (3,082)
Scopus (Elsevier) (2,578)
ABI/INFORM Complete (1,428)
ProQuest Research... (1,216)
ABI/INFORM Trade & Industry (809)

Show More

Resource Type

Articles (3,235)
Newspaper Articles (2,188)
Conference Proceedings (658)
Dissertations (307)
Books (112)

Show More

Subject

Robots [681]
Robotics [2,377]

Show More

PAGE 1 4,747 Results

1. CONFERENCE PROCEEDING
   Discriminating liquids using a robotic kitchen assistant
   Full text available

2. NEWSPAPER ARTICLE
   CallBurger Implements Miso Robotics' Flippy Autonomous Robotic Kitchen Assistant
   Wireless News, Mar 10, 2018
   Miso Robotics reported the public debut of 'Flippy,' an autonomous robotic kitchen assistant. According to a media release, Flippy will begin working...
   Full text available

3. NEWSPAPER ARTICLE
   Miso Robotics: Flippy, the World's First Autonomous Robotic Kitchen Assistant, Now Cooks Burgers at CallBurger in Pasadena, California
   Journal of Engineering, Mar 16, 2018, p 632
   Miso Robotics announced the public debut of 'Flippy,' the world's first autonomous robotic kitchen assistant. Flippy will begin working alongside...
   Full text available

4. NEWSPAPER ARTICLE
   Miso Robotics and Levy Enter Into Strategic Partnership to Bring Robotic Kitchen Assistants to Sports and Entertainment Venues
   Journal of Engineering, Mar 19, 2018, p 77
   Miso Robotics is publicly debuting its first robotic kitchen assistant, an adaptable robotic kitchen assistants, which will help... hospitality company, to bring robotic...
   Full text available

5. NEWSPAPER ARTICLE
   Video of the week: Daniel Boulud and MIT grads to debut robotic kitchen
   Restaurant Hospitality, May 1, 2018
   In the kitchen, trained chefs prep the food and add finishing touches at the end... the new restaurant stand out? The kitchen is operated almost...
Engineering Information Sources for Innovation

Encyclopedia, e.g. Wiley

Patent, e.g. Google Patents

Trade Magazine Articles, e.g. Popular Science

Scholarly Journal Articles, e.g. Journal of Automated Reasoning

Specialist Encyclopedias

Provide authoritative overviews & reviews of topics in the area or field of study.

Search example:
1. Go to Wiley Encyclopedia of Electrical & Electronic Engineering
   https://lbdiscover.ust.hk/bib/991004008679703412
2. Search for robot
3. On the results list, identify useful articles & new terms
4. Choose & click to view full text

5. Use Sections menu to jump to
   • Robot Selection And Implementation
   • Robot Classification
   • Bibliography, etc.
Activity 1
Generate Ideas & Think of Keywords (5 mins)

What would you make if you could make anything you wanted?

Example: A cute robot

Write down keywords or terms that describe the functions, features or purposes of your idea:

• In humanoid form
• Capable of reading emotions
• Can talk, move around & dance
## Engineering Innovations (Examples from previous years)

<table>
<thead>
<tr>
<th>Innovation</th>
<th>Keywords/description</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-book reader for blind people</td>
<td>able to produce sounds, able to convert image &amp; chart to text</td>
</tr>
<tr>
<td>Multiplayer first person Shooter game</td>
<td>motion detecting action game that requires the player to move or run around &amp; shoot, hide behind obstacles, etc.</td>
</tr>
<tr>
<td>Dream recorder</td>
<td>capture lost dreams, especially good ones</td>
</tr>
<tr>
<td>Electricity generation shoe</td>
<td>emergency charging for mobile device, light, high efficiency</td>
</tr>
<tr>
<td>iAlarm</td>
<td>shake vigorously to mute alarm, can set favorite alarm song</td>
</tr>
<tr>
<td>UST RICE</td>
<td>Android App, Food Recommendation, Online Food Ordering</td>
</tr>
<tr>
<td>Hand free umbrella</td>
<td>portable design, durable material, lightweight</td>
</tr>
</tbody>
</table>
Patents (專利)

- An exclusive intellectual property right granted for an invention
- In exchange for patent protection, applicant/owner of the invention must disclose sufficient technical details of the invention
- Owner of the invention (often referred to as assignee) can exclude others from making, using, or selling the invention

Search patents to discover existing inventions, review similar designs, & establish the need for your innovation
Google Patent Search
https://patents.google.com/
Index granted patents & published patent applications from the following patent offices:

<table>
<thead>
<tr>
<th>Patent Office</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
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<tr>
<td>Canada, United States</td>
</tr>
<tr>
<td>Europe</td>
</tr>
<tr>
<td>EPO (European Patent Office), Belgium, Denmark,</td>
</tr>
<tr>
<td>Finland, France, Germany, Luxembourg, Netherlands,</td>
</tr>
<tr>
<td>Russia, Spain, UK</td>
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<tr>
<td>Asia</td>
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<tr>
<td>China, Japan, South Korea</td>
</tr>
<tr>
<td>World Intellectual Property Organization (WIPO)</td>
</tr>
</tbody>
</table>

Years of coverage: Click on “around the world” on patents.google.com

Statistics Graph:

Source: https://support.google.com/faqs/answer/7049585?hl=en&ref_topic=6390989
Google Patent Search - Search Example

• Go to https://patents.google.com
• Search for robotic kitchen
• Results are sorted by relevance by default
• Identify useful patents

Status: Under application
Inventor & assignee: the same person

Status: Granted
Inventor: David Zito
Assignee: Miso Robotics, Inc.
Google Patent Search - Search Example (cont’d)


Methods and systems for food preparation in a robotic cooking kitchen

Abstract
The present disclosure is directed to methods, computer program products, and computer systems for instructing a robot to prepare a food dish by replacing the human chef’s movements and actions. Monitoring a human chef is carried out in an instrumented application-specific setting, a standardized robotic kitchen in this instance, and involves using sensors and computers to watch, monitor, record and interpret the motions and actions of the human chef, in order to develop a robot-executable set of commands robust to variations and changes in the environment, capable of allowing a robotic or automated system in a robotic kitchen to prepare the same dish to the standards and quality as the dish prepared by the human chef.

Images (185)

Classifications
825.9/0081 Programme-controlled manipulators with master teach in means

Patents can be model for your report
Google Patent Search - Refine Search

• Use the left-hand menu to refine a search, to locate better results

• For example, select **Patent Office=US, Status=Grant**
Activity 2
Search Google Patents (5 mins)

1. Go to Google Patents (https://patents.google.com/) , enter your keywords to search

2. Find & select 1 or 2 patents that look relevant to your ideas

Example

Patent Title: Humanoid game-playing robot, method and system for using said robot
Application No.: US20130103196A1

Think of the functions & various related designs to search!
Searching ProQuest for Trade Journal Articles

• Trade Journals
  • Cover industry trends, product news, new techniques & other information of interest to a specific industry/profession
  • Articles in trade journals are usually written by working professionals in the field

• ProQuest ([https://lbdiscover.ust.hk/bib/991000149149703412](https://lbdiscover.ust.hk/bib/991000149149703412))
  OR Library Home > Databases > P > ProQuest
• Use Advanced Search
• robot* AND (kitchen OR cooking)
• Source type: Trade Journals

Can’t find what you want?
Modify search and/or refine results!
Simplicity in the Kitchen

Abstract
Busy consumers are increasingly interested in fast and convenient cooking—witness the popularity of meal delivery cooking kits and appliances can respond. Whether it's an air fryer that crisps food with less oil, or coatings that make it easier to clean a refrigerator, today's consumer demand products that make life easier. New cooking methods will combine with technology and services such as meal delivery kits to improve meals, he says. The slow cooker is often cited as an example of a product people are not interested in interacting with at the next level. Bar code scanning items in the refrigerator could help people keep track of what items are on hand, and this could be connected to a grocery delivery app set up to automatically reorder certain items. Kaiser also noted that consumers in Europe tend to buy higher-end products and keep them longer, which is tricking into the US Professional Elements. Your home kitchen might start looking like a restaurant soon. While attending NAFEM, a professional cooking trade show, Murray was surprised by how many appliances had large touchscreen displays as their main interfaces since this hasn't taken off in the consumer market. Robots Enter the Kitchen. Professional kitchens may continue to influence consumer ones, and elements from science fiction may arrive next.

Headnote
Meet the new design trends coming to your favorite room.

Simple. Easy. Quick. These are some of the ideas driving today's kitchen trends. Busy consumers are increasingly interested in fast and convenient cooking—witness the popularity of meal delivery cooking kits and appliances can respond. Whether it's an air fryer that crisps food with less oil, or coatings that make it easier to clean a refrigerator, today's consumer demand products that make life easier. The trends are influenced by European design and professional kitchens. Convenience is paramount. In the future, there may be more high-tech help available in the kitchen, but only if consumers deem that the functions make sense.
Scholarly Journal Articles

• Written by **subject experts** (professors, researchers, etc.).

• **Peer-reviewed** (i.e. reviewed by other subject experts).

• Lots of references.

• **Pioneer research** may not be ready for commercial implementation yet.

Look for scholarly journal articles to see what **studies & research on new technologies & design** have been done.
Also searching ProQuest for Scholarly Journal Articles
Searching **Scopus** for Scholarly Journal Articles & **No. of Citations**

- Scopus ([https://lbdiscover.ust.hk/bib/991000319279703412](https://lbdiscover.ust.hk/bib/991000319279703412))
  OR Library Home > Databases > S > Scopus
<table>
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<th>Cited by</th>
</tr>
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No. of citations: 3

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• In IEEE Style, for details & examples, visit https://libguides.ust.hk/lang2030/cite
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