

IE-341

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First Semester 1438-39 H (Fall-2017) – 3(2,1,2)

“HUMAN FACTORS ENGINEERING”

Sunday, November 25, 2017 (07/03/1439H)

**Tutorial 8: Project – Part 1: Searching Techniques**

Name:	Student Number: 43	Section: Mon@8/ Mon@10 / Tu / Wed
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**Follow all of the following steps carefully.**

This tutorial is a simple guide that will show you the basics of researching online for articles to use for your semester project. This will be done by applying these basics to a sample case study shown below in blue. Note, you should first carefully read the project instructions before solving this tutorial.

1. Choose a **proper title** for your project. As described in the project sheet, this can include one topic covered throughout this course or any topic generally related to HFE or mentioned in your textbook. **We will choose the following topic: visual displays for the hearing impaired**
2. Locate the proper online **search database**. We will choose here the very popular: **google scholar (scholar.google.com)**
3. Choose your search **keywords**. This is an extremely important step, and doing this step right will save you much trouble for the remaining steps: **displays AND (deaf OR “hearing impaired”) –“sign language”** (this excludes the last term); you can also use the “advanced search” tool to do this
4. Decide on your **search parameters**, i.e. the conditions that limit the material you are searching within (as stated in the project sheet):
  - a. scholarly material: **articles** (i.e. no law cases, patents, dissertations, etc.)
  - b. years: **2013 and up**
  - c. primary sources: **full articles** (abstracts can secondary only)
  - d. article types: **journals and conferences only**

5. **Examine the results.** This involves looking through the title results (which may be tens of thousands) and determining a few (5-7) which:
  - a. are not very technical: e.g. do not contain difficult equations
  - b. are not off-topic: e.g. **blind-deaf displays**;
  - c. have titles that “appear” to match what you are looking for, then save them:
    - e.g. “Towards one-pixel-**displays** for sound information visualization” (2016; conference; full-text)
    - e.g. “Prototyping Virtual Learning Environment with **HMD** and Touchless Interface for **Hearing Impaired** Learners” (2017; journal; full-text)
    - e.g. “Tangible Design for Inclusive Conversations with **Deaf** or Hard-of-Hearing Children” (2016; conference; full-text)
    - e.g. “Using Smart Glasses for the Inclusion of **Hearing-Impaired** Warehouse Workers into Their Working Environment” (2016; conference; full-text)
    - e.g. “The Research of Human-Computer Interaction Model Based on the Morphable Model Based 3D Face Synthesis in the Speech Rehabilitation for **Deaf** Children” (2015; conference; full-text)
  
6. Go through each title and abstract above thoroughly and **choose** 2-3 articles appear to be discussing the **same/similar topic**, and download them:
  - “Prototyping Virtual Learning Environment with **HMD** and Touchless Interface for **Hearing Impaired** Learners” (2017; journal; full-text)
  - “Using Smart Glasses for the Inclusion of **Hearing-Impaired** Warehouse Workers into Their Working Environment” (2016; conference; full-text)

Note how both of the above articles are showing different technologies that help the hearing impaired. The first is a HMD (helmet mounted display) to help deaf people with *machine operating learning*, while the second is a “smart-glass” (another type of HMD) that assists the hearing impaired *workers in warehouses*.

- It is a very good idea at this point to also skim through the articles and make sure the content and language difficulty level is acceptable (i.e. “easy-reading”). It also helps if the articles have one or two **illustrative figures** that are relevant to your chosen topic. This will also greatly help you during the final presentation:

- “Prototyping Virtual Learning Environment with **HMD ...**” article:



Figure 7. Controlling the 3D virtual environment with Oculus Rift and Leap Motion (left) and controlling the 3D virtual environment with Oculus Rift and Xbox controller (right) during the Iteration 1

- “Using Smart Glasses for the Inclusion of **Hearing-Impaired Warehouse Workers ...**” article:



Fig. 3. Pick-by-Vision: Smart glasses provide order information in the pickers field of vision

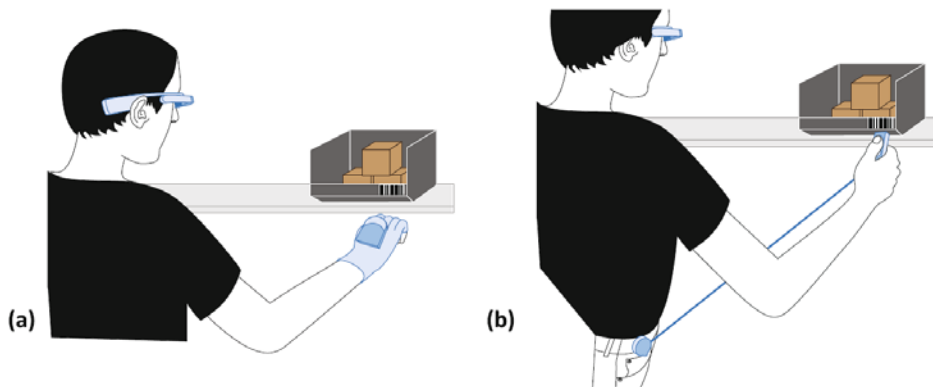


Fig. 5. Proposals for the identification process