**Assistive technology – Computer Science Accessibility for all**

It is estimated that the community of the disabled consists of approximately 15% of the world population, therefore, students with disabilities (visual, locomotor, hearing, psychological) face unique challenges in learning Computer Science. These challenges can be overcome, however, with the use of specialized software tools and hardware equipment, collectively called assistive technology.

1. Online survey

The following survey (see link below) is based on an approach followed by many universities to integrate ethics and social responsibility topics into the Computer Science curriculum. It aims to explore your familiarity with accessibility aspects and to understand what is your opinion related to accessibility topics.

All items (1-15) are mandatory. This is graded work. Your answers to the open-ended questions will be awarded 1 point (0.25 p x4) to be added to your end-of-term exam score.

<https://forms.gle/2akdaPBxtirAmo4MA>

**2. Solution Generation: Tools/Strategies**

**One of the most important questions when assessing a student’s need for assistive technology is: *What are the tasks the student needs to do?***

These are some questions to consider:

1. the student needs to independently complete written work (reports, worksheets);
2. the student needs to navigate the Internet/ use email;
3. the student needs to take notes;
4. the student needs to take tests;
5. the student needs to be able to access educational/special software to enhance participation in the curriculum (eg. navigate a programming environment);
6. the student needs to show their work in Computer Science courses (eg. Coding, building real working apps/games/websites, etc.);

**Consider two of the above mentioned questions and list any assistive technologies and/or strategies you think will assist a Computer Science bachelor student with disabilities in successfully completing the tasks.**

Your answers will be awarded 1 point (0.50 p x2) to be added to your end-of-term exam score.

Fill in the following tables. Your answer should include the following aspects:

1.

|  |
| --- |
| Task  The student needs to navigate the Internet/ use email |
| Product  Refreshable braille display |
| Description  A refreshable braille display or braille terminal is an electro-mechanical device for displaying braille characters, usually by means of round-tipped pins raised through holes in a flat surface. Computer users who cannot use a computer monitor use it to read a braille output version of the displayed text. |
| Feature match/disabilities addressed  It addresses visual disabilities |
| Caveats/Observations  The student can use this technology to extract information from a given page or from an email. |

2.

|  |
| --- |
| Task  The student need to take notes |
| Product  Hearing aid |
| Description  A hearing aid or deaf aid is an electro-acoustic device which is designed to amplify sound for the wearer, usually with the aim of making speech more intelligible, and to correct impaired hearing as measured by audiometry. This type of assistive technology helps people with hearing loss participate more fully in their hearing communities by allowing them to hear more clearly. They amplify any and all sound waves through use of a microphone, amplifier, and speaker. There is a wide variety of hearing aids available, including digital, in-the-ear, in-the-canal, behind-the-ear, and on-the-body aids. |
| Feature match/disabilities addressed  Hearing disabilities |
| Caveats/Observations |