Laboratory in Multimedia 1

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1. Course Description

This course introduces the foundations of making the practical multimedia applications and contents. This course deals with the following topics: (1)make the multimedia application programs using Unity, (2)make a speech recognition interface using Julius, (3)make the AI programs by machine learning, (4)write image recognition programs.
This course is related to diploma policy DP2 and DP4M.

2. Course Objectives

By the end of the course, students should be able to do the following:
- make the multimedia application programs using Unity,
- make a speech recognition interface using Julius.
- make the AI programs by machine learning.
- implement AI by machine learning using python, and write image recognition programs.

3. Grading Policy

Grading will be decided based on repots (100%).
Feedbacks on reports and examinations will be given on LMS.

4. Textbook and Reference

Textbook
The Learning materials are published on the LMS.

5. Requirements(Assignments)

The students are expected to read lecture materials and fill blanks in "main point notes" as preparation. It takes
approximately one hour to finish this work.

6. Note

Absence and non-submission of reports are not accepted.

7. Schedule

[1]   Basic usage of Unity
[2]   Basic C# programming
[3]   Collision detections and physical operations on Unity
[4]   Setting materials and shaders on Unity
[5]   Android application by Unity
[6]   VR application by Unity
[7]   Voice interface (1) input voice
[8]   Voice interface (2) enhance performance of voice detection
[9]   Voice interface (3) application of voice interface
[10]   Machine learning, AI (1) introduction to artificial intelligence programming for games
[11]   Machine learning, AI (2) development of AI programs playing games
[12]   Machine learning, AI (3) obuject detection using deep learning technique
[13]   Machine learning, AI (4) image recognition using the machine learning technology
[14]   Scene change and GUI implementation in Unity
[15]   Multimedia application design - plan and design of plactical programs -