# Computer Vision Systems Programming UE

## Introduction

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# Course Topics

This course encourages you to:

- Explore a Computer Vision (CV) topic of your choice
- Get used to software packages and libraries
- Improve your CV programming skills

# Your Task

Select and implement, and present a CV project of your choice

- In any programming language you like
- Using any **publicly available** libraries you want
- As long as the required effort is appropriate

Matlab, Python, or C++ recommended

# Syllabus

1. Select a CV topic according to your interests
   - Lecturers will help you define topic and scope
2. Give a short presentation on your topic (5 minutes)
   - Explain what you are going to work on
3. Implement and test your application
   - Sensor hardware is provided
4. Write a short report (around 5 pages)
5. Give a final presentation (10-15 minutes)

# Syllabus

## Available Sensor Hardware

Available sensors:

- Kinect depth sensors
- IP camera network with overlapping views (stationary)
- Thermal imaging camera (stationary)
- Android tablets with cameras

Or use your own digital camera, smartphone, ...

# Syllabus

## Short report and Final Presentation

Report and presentation should include:

- A brief explanation of your topic
- How you implemented it (language, libraries)
- Problems you faced during development
- Tests and results

# Course Location and Schedule

There are no regular lectures but two presentation meetings

**Location**: Seminarraum 183/2, Favoritenstr. 9
**Time**: Wed 10:15 – 11:45 s.t.

**Schedule**: `http://www.caa.tuwien.ac.at/cvl/teaching/wintersemester/cvsp_lu/index.html`

# Course Assistance

Assistance mainly via mail (`cvsp@caa.tuwien.ac.at`)

Weekly timeslot for personal support:

- **By appointment** (`cvsp@caa.tuwien.ac.at`)
- **Time**: Wed 11:45 – 12:30 s.t. (after VO)
- **Location**: room HA04-10

  `http://www.caa.tuwien.ac.at/cvl/contact/floorplan.html`

We expect to stay in touch with you throughout the semester

# Prerequisites

You must be able to develop software on your own

- This is **not** a general programming course

Basic image processing and computer vision knowledge

# Grading

Initial presentation: 5%
Implementation and report: 80%
Final presentation: 15%

**Presentations are mandatory!**

# Associated Lecture

We recommend the associated lecture that covers:

- CV software and resources
- Selected CV applications