

## Projektförslag för kandidatarbete inom Elektroteknik (E2)

# EENX15-21-30 Platform for Virtual Guide Dog system

### Background

i3tex AB are developing a system to aid visually impaired person to be able to interact with their vicinity in a more convenient way and with features that are not yet available for the users. The system contains subsystems that need to be put together, a tactile interactive map, a haptic sensor for communicating machine to human and a camera for identifying the immediate vicinity. As for now the subsystems are built as coarse prototypes, using Arduino.

### Problem description

The project should define and design the core system. Identify which components best suited for the product and design the structure and protocol for communications between the units.

- Analysis of the subsystems
- Analysis of what communication needed
- Structure for communication protocol between the units
- Analysis of battery capacity in relation to system performance
- Propose concept design based on above findings.
- Manufacture prototype samples for evaluation and tests.
- Basic programming to prove concept



**Suitable background:** TKAUT, TKDES

**Group size:** 3 to 6 students

**Number of groups:** 1

**Prerequisites:** Basics of Automatic Control, Mechatronic Systems, Programming

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