HARD & SOFT 2024 SUCEAVA

19.05.2024 – 26.05.2024

Cognizant Mobility Romania

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Topic 2024

Smart Home System

Weather
Air Conditioning
Lightning
Tablet
CCTV
Audio
Media Play
WiFi
Mobile Access
PC
TV

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WHAT YOU GET

Dev board

Camera web Logitech

Mini sonar panel

Motor

…and many more useful components
WHAT YOU HAVE TO DO

➢ Build a smart parking access system; based on the camera feed, an algorithm should decide if the house guest can enter or not the garage/parking.

➢ Automatic control of the blinds based on the sun position.

➢ Maintain a constant level of luminosity inside the house. The natural light will have priority over artificial one.

➢ Green energy management -> storage of extra/unused solar energy

➢ Implement a monitoring and management backend / application
THE JURY EXPECTS YOU TO:

✓ Apply the principles of good engineering design, in particular design features that should serve a real function and be part of an overall design strategy.
✓ Include all key HW elements received (BeagleBone Green WiFi, Camera, RF-Id, Linear Motors, Barrier – Concept, Solar panels, Battery pack)
✓ Pay attention to the security of the smart house
✓ Good management of the green energy
HOW WILL THE JURY ASSESS YOUR WORK?

- A brief design PDF document by 10:00am Tuesday by email to Jury Email.
- Jury visit of about 15 minutes to your lab on Wednesday to view work –in-progress
- A final summary PDF document by 8:00am Friday by email to Jury Email.
- Final test and public demonstration on Friday morning
FINAL TEST

Criteria for final test:
➢ Brief design document and summary PDF document are delivered to Jury Email
➢ Green energy management
➢ Security concept
➢ Algorithm for luminosity control
➢ Monitoring and management backend / application
JURY

President:
• Nicolae-Bogdan FOICA - Cognizant Mobility GmbH, Munich

Members:
• Constantin Teodor Ardeiu – Cognizant Mobility Romania
• Ciprian Sorin Teletin – Cognizant Mobility Romania
• Denis Ardeljan – Cognizant Mobility Romania
• Ladislau MATEKOVITS - Politecnico di Torino, Italy
• Daniel MOGA - Univ Tehnica din Cluj Napoca, Romania
Thank You