Designing a Natural User Interface to control a Smart Classroom

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Natural User Interface
Smart Classroom

Conditioning lighting and other equipment available in the classroom
Designing a Natural User Interface to control a Smart Classroom

Integration of

Knowledge - Techniques - Tools - Technologies

from different areas


with which we can design an

IoT platform enabled to integrate an osmotic, distributed and heterogeneous network of sensors and actuators from a smart classroom
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Project Diagram

managed from a Mobile App

provided with NUI’s recognizing Text - Voice - Objects
to provide those capabilities will be applied Techniques and algorithms of machine learning, specifically deep learning

Alex Flores
Alberto Pacheco
App for Text Recognition

Diagram:

- User takes a photo.
- Photo is sent to Google Cloud.
- Cloud Vision API recognizes the text.
- Recognized text is sent to Gateway.
- Gateway turns on/off the light.

Alex Flores
Alberto Pacheco
App for Voice Recognition
App for Object Recognition

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Alex Flores
Alberto Pacheco
Educational Kit

Alex Flores
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Full picture

Manual
- Objects
- Text
- Voice
- Trained models

Automated
- Indoor location
- Activity recognition
- Pruning
- Own models

Smart
- Raspberry
- Home
- Building
- City

Control
- Instrument
- Model
- Processing
- Installation

Educational kit
- Classroom

Android

iOS

Cloud

Raspberry

Alex Flores
Alberto Pacheco
Thanks!!