

NOI Hackathon Summer Edition 2024

Gruppo FOS challenge

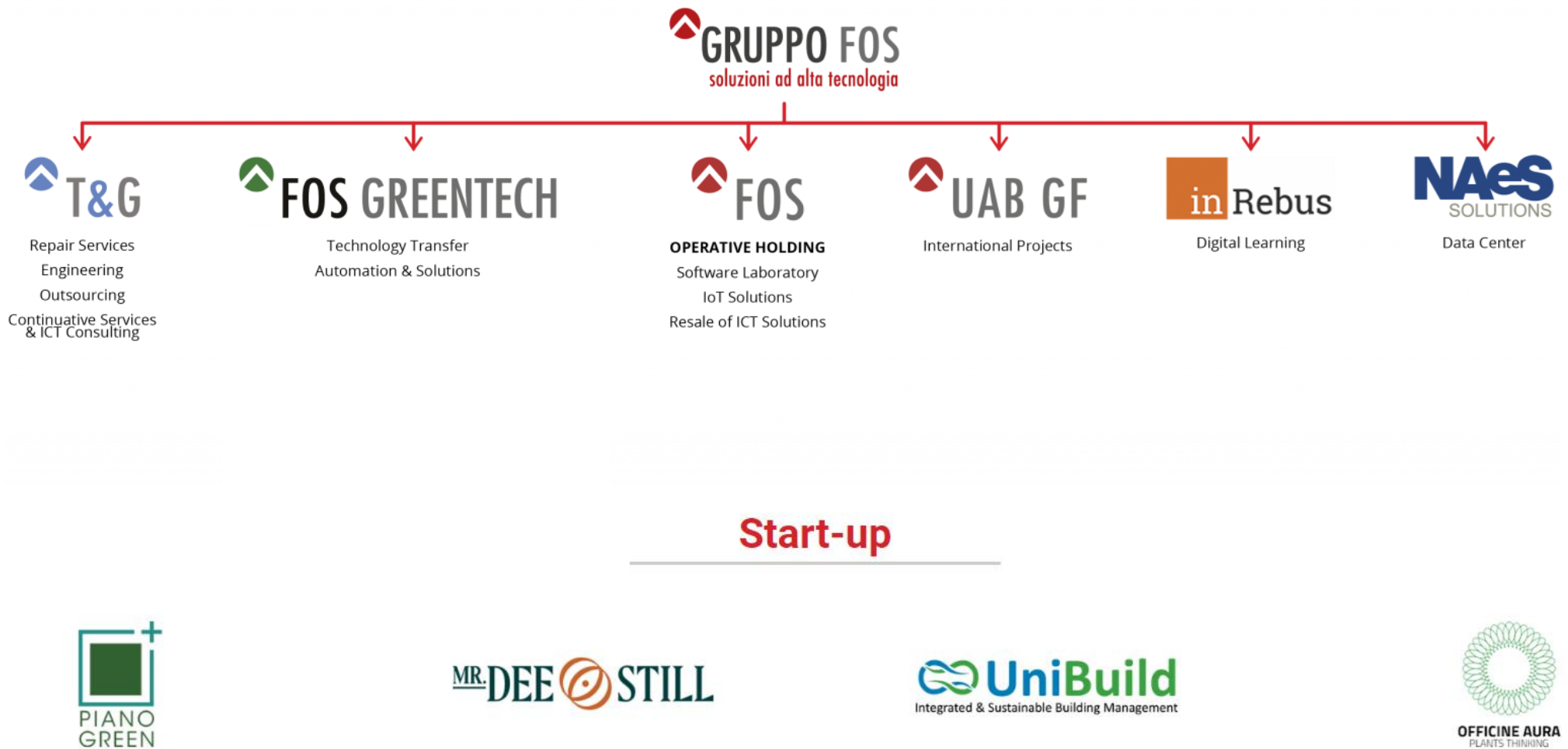
NOI Hackathon Summer Edition

Lido Schenna/Scena, Aug 2nd-3rd, 2024

Alberto Nicoletti, alberto.nicoletti@fos.it, Mentor

Orneda Lecini, Orneda.Lecini@fos.it, Mentor

Gruppo FOS overview



Gruppo FOS academy



- FOS academy HQ (Genova):
- career@fos.it
- Bolzano stage/internship:
- giovanni.giannotta@fos.it

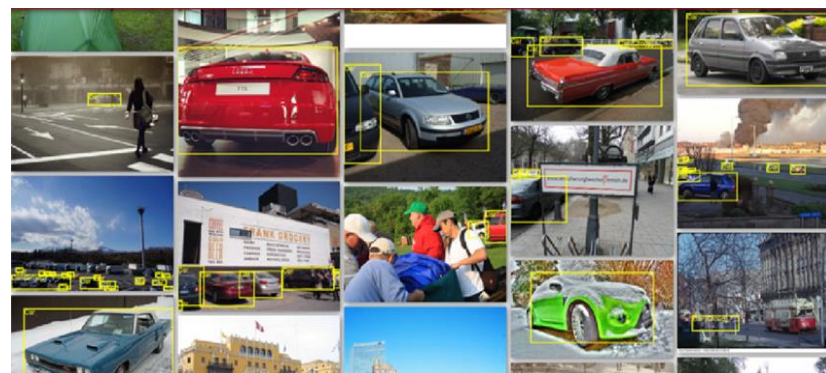


Challenge overview

Creating an automated labelling layer for images.

Said labelling could be displayed using rectangles or, better yet, by outlining the matching objects.

Finally, it must be possible to export the identified outline into some default data format and to load it back again into a display.



Example of image labelling, courtesy of [St-Open](#)

Mandatory Requirements

- It must be possible to carry out the analysis, export the output data and import it again
- The output must be stored in some standardised data format (e.g. JSON or YAML)
- It must be possible to specify the parameters for which an object has/has not to be labelled, either before the analysis or after it (i.e. sort the output data depending on some tags)

Optional requirements

- Manual labelling support
- Outlining using polygons (rather than fixed shapes), potentially with validation (i.e. check that polygons are composed of closed, broken lines)
- Colour coding
- Lightweight solution
- Well-documented codebase

General tips

- Deliver working code, rather than a beautiful prototype
- Development framework: no preferred choice
- It is not about training an algorithm, rather about displaying its output data

Bonus tips

- Using a set of vectors as output format may be a viable solution (rather than storing outline as image data with transparent backgrounds)
- Splitting the development between “front-end” (the outline display/manual labelling interface) and “back-end” (underlying logic, data processing, output generation/importing) may help keeping the codebase more reusable and tidier

Summary and evaluation

1. Requirements: develop a functioning piece of software

- The provided software can perform labelling, exporting the outline data and display it

2. Bonus:

- The additional requirements have been implemented

Best of luck!

NOI Hackathon Summer Edition
Lido Schenna/Scena, Aug 2nd - 3rd, 2024

- Alberto Nicoletti, alberto.nicoletti@fos.it Mentor
- Orneda Lecini, Orneda.Lecini@fos.it, Mentor