

# BLOB-FREE

PROJECT PLAN

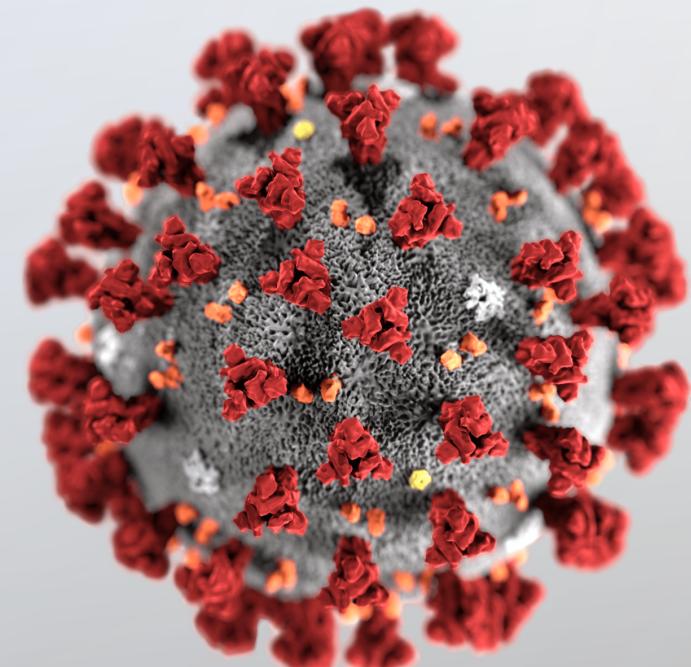
INTERDISCIPLINARY PROJECT A.Y. 2020/21

PROPOSED BY PROF. DOVIS, PROF. PIRAS AND PROF. DI PIETRA

# THE PROBLEM

Coronavirus is putting at risk many lives; thus some rules must be enforced in order to prevent the spreading of the infection. Two very simple but effective measures are:

- Wearing face masks
- Avoiding “assemblages” of people



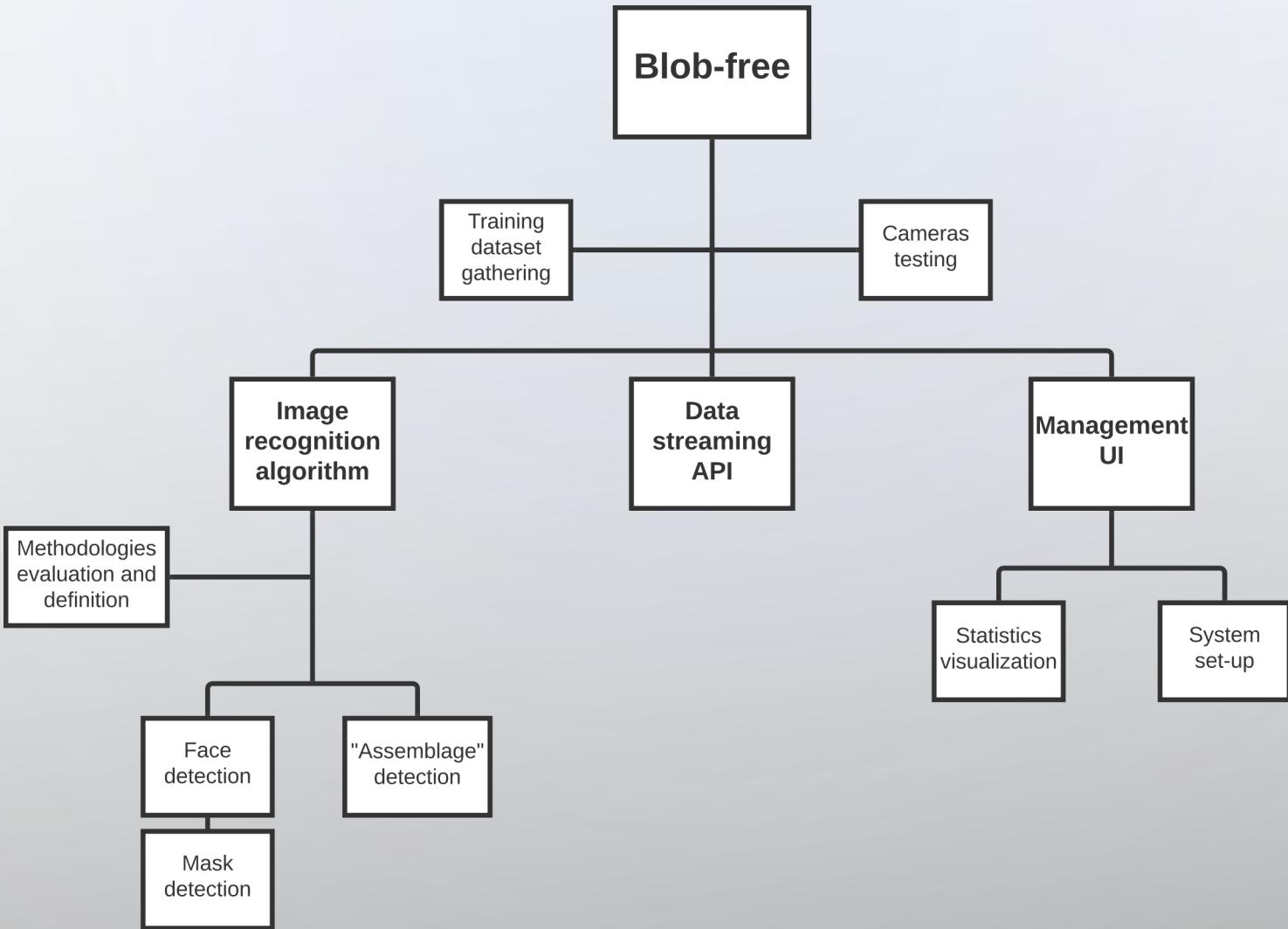
# THE SOLUTION

Build a computer vision system able to detect “assemblages” of people and able to verify that everyone is wearing a mask, using a cheap digital camera and range camera connected to a Raspberry Pi.

- The system can warn users in case a dangerous situation is detected
- The management system shows statistics about the issued warnings, so that the managers of the area can take additional preventive measures
- The system can be deployed in closed spaces where “assemblages” are frequent (e.g. the corridors of a school or university)



# WBS

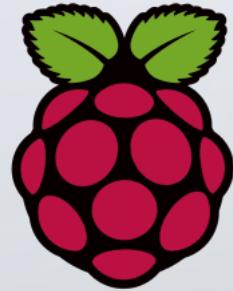


# FIRST STEPS

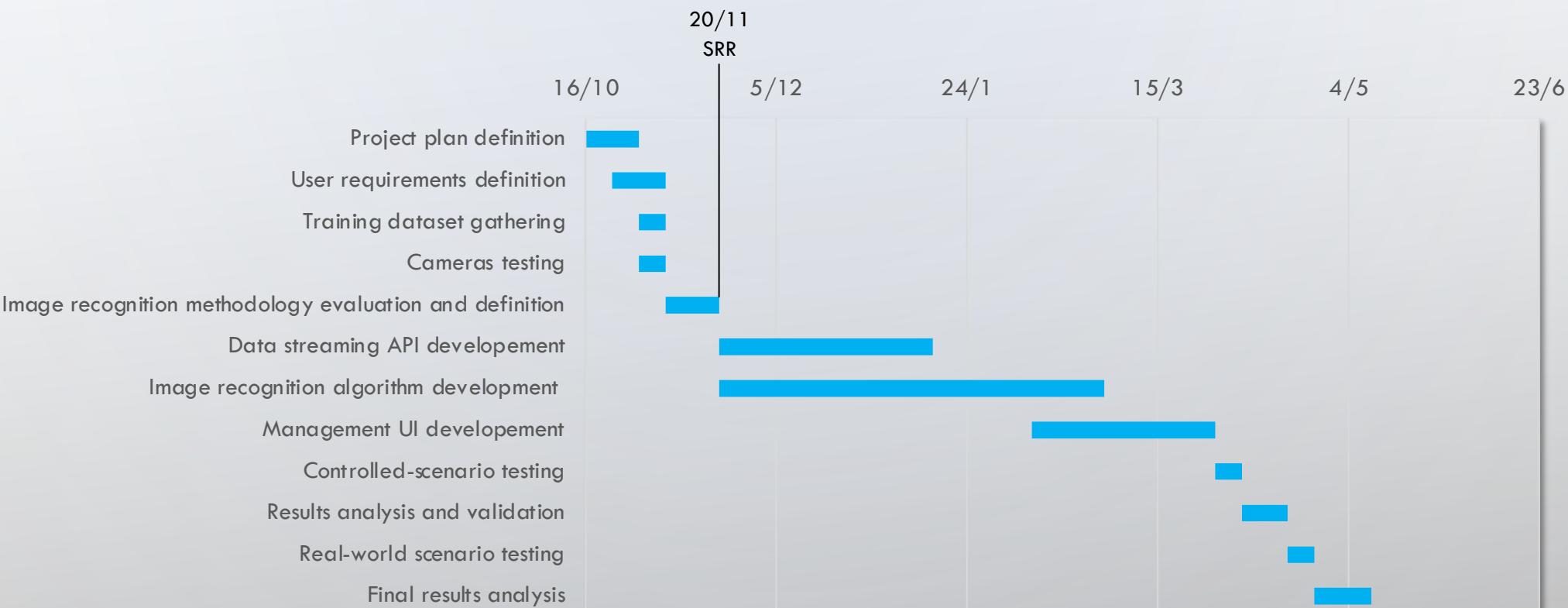
1. Gather data to use in the training of the image recognitions algorithm
2. Test cameras in different conditions and find the optimal setup
3. Evaluate the possible image recognition methodologies and choose the most suitable one for this specific task

# TOOLS

- Server where to perform the image recognition
- Database for the statistics
- RaspberryPi
- Digital camera
- Range camera
- OpenCV library for image recognition
- Python



# WORKPLAN





THANK YOU  
FOR THE  
ATTENTION!

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