NAO Robot Programming

TOPIC	CONTENT
INTRODUCTION	o Presentation of participants and projects o Introduction & installation to the software suite: Choregraphe, Monitor, Webots for NAO, APIs and NAOqi, Web page, documentation and Users website
OVERVIEW OF THE HARDWARE	o Sensors and actuators o Hardware architecture
FIRST STEPS WITH NAO	o Connect NAO and use the web page o How to update the robot and software o Flow diagram, 3D view, stiffness and behavior manager
LUNCH	
OVERVIEW OF THE SOFTWARE SUITE	o Overview of Choregraphe and Monitor o Overview of Aldebaran box library (move, talk , hear, see) and create new boxes, inputs & outputs - Create and edit a movement using the timeline with the record and motor curve features - Use NAO's capacities: vision processing, text-to-speech, voice recognition and inertial board - Create new boxes and add them to the library

TOPIC	CONTENT
PROGRAM WITH PYTHON AND CHOREGRAPHE	o Python introduction with NAO o Structure of a Choregraphe box in Python o Hello world example and the API documentation o Use loops & conditions inside script boxes o Understand logs for debug o Include files in Project Content o Create Python scripts outside Choregraphe using existing APIs o Understand Memory Reader

Benefits to Participants:

1. Software toolkit to each participant.
2. Training Material (eBooks) for each participant.

Note: Techfest, IIT Bombay Certificates to all participants (only if participant attends all the sessions).

TECHFEST OFFICE
STUDENTS' GYMKHANA, IIT BOMBAY
POWAI, MUMBAI
MAHARASHTRA - 400076