

Coursework Progress Report

NAO

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1. Introduction

In this document I'm going to explain results I have achieved during working on the Coursework since 15th of February, how they are different from proposed goals and why, and my working plan for the remaining three weeks.

2. Evolution of Goals

My first goal of this coursework was to develop a new motion for NAO and to apply knowledge got from the course in the real project.

After the first research I found out that NAO already can do a lot of things. So my work started to seem useless, then the goal was changed to writing a full documentation about working with NAOs from the lab. But it was not enough to be a full coursework, so it was decided to add one more task to it: create sequence of motions on Choregraphe, and add them to mobile application, so that person who wants to present Innopolis University's robotics laboratory could take NAO, read his documentation and easily demonstrate him wising mobile app.

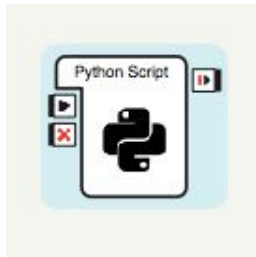
3. Current Stage

Here is how my working plan looked like in the very beginning

- Get acquainted with NAO and his documentation.
- Learn how to use Choregraphe
- Choose the pose and implement it
- Test the result on the simulated robot and then on the real one
- Write a report about the work done

What was done so far:

I got acquainted to NAO and his documentation, learned how to use Choregraphe, created sequence of steps and decided to add my one one. I am going to do this using the following block in Choregraphe:

A screenshot of a script editor window titled 'behavior.xar'. The window has a tab labeled 'Python Script'. The code is as follows:

```
1 class MyClass(GeneratedClass):
2     def __init__(self):
3         GeneratedClass.__init__(self)
4
5     def onLoad(self):
6         #put initialization code here
7         pass
8
9     def onUnload(self):
10        #put clean-up code here
11        pass
12
13    def onInput_onStart(self):
14        #self.onStopped() #activate the output of
the box
15        pass
16
17    def onInput_onStop(self):
18        self.onUnload() #it is recommended to
reuse the clean-up as the box is stopped
19        self.onStopped() #activate the output of
the box
20
```

The editor has a line number column on the left, a 'Find' search bar at the bottom, and navigation buttons (back, forward, search) on the right.

But as they say, better once to see, than hundred times to hear, so follow the link to see video report: <https://youtu.be/O2t-UX2tI-4>
Project from Choregraphe is also attached.

Also I have started to collect useful information in Documentation file:

- Turning NAO on/off
- Interacting with NAO without any device
- Wi-fi/ Wired connection
- Working in Choregraphe
 - Downloading/Customizing Choregraphe
 - Connection to Choregraphe
 - Creating sequence of movements
- Detected Problems of Frodo(Blue NAO) and HitlerCaput(Red NAO)

4. Description of the remaining work

Following steps, that I am expecting to do till the end of the course:

- Add new movement: for now I've decided to add waltz dancing.
- Add this to the remaining part of the behaviour.
- Integrate this sequence of movements in some mobile application, so it can be easily applied. If there will be problems with integrating it to existing apps, then I'm going to create my own small application for this purpose.