Operator instructions for the conduct of a Nao Robot Standard offering

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Insert references to other instructions and sample Event Template and Run Sheet – understanding that these will not be used by the Demonstrator but the Master Controllers

**Key Notes:**

1. Set up and practice is essential
2. Leave at least 2 hours to conduct a pre-demo check at the venue wherever possible – preferably the day prior.
3. Meet the event host and outline the demonstration schedule and requirements.
4. Review conduct of demonstrations and confirm it meets event objectives.
   1. This is the time to contact Phil Watson or delegate (TBA) to seek clarification on ambiguity, expectations beyond the planned demo, ability to provide a more sophisticated/extensive demo by the Master Controllers at a future date etc.)
   2. If you identify prior to the event that there is a need for something beyond the standard demonstration, it may be possible to utilise one of the Master Controllers. This would need to be funded though for labour and T&L.
5. Plan for a full dress rehearsal of the entire demonstration to verify everything runs as expected.
6. ***Scripted Interview:***Meet the presenters who will conduct a scripted interview with Nao-Mi (if in scope of the demo). It is essential that the presenters practice interacting with Nao-Mi:
   1. We have found it takes about 15 minutes rehearsal for an interviewer to become proficient in interacting with Nao-Mi.
   2. Speak loudly and clearly
   3. Speak without pauses – pausing will cause Nao-Mi to say something to the effect of “I didn’t understand you” and the interview will break down quickly.
   4. Understand the ‘trigger’ word they need to speak to get Nao-Mi to respond – it will be the last word/words of the interviewer’s question.
   5. Understand the necessity to wait for Nao-Mi’s eyes to turn deep blue (in listening mode) before asking the question. Eyes are green or blue when Nao-Mi is not listening.
   6. Keep Q&A short – it is not interesting for the audience to have to listen to Nao-Mi speak at length.
7. Talking script will have been provided and agreed.
8. During set up, check robot turns on and connects to the network
9. Confirm access to a
   1. 1mx1m flat and sturdy table
   2. good lighting to light up Visual Analyser pictures
   3. good Wi-Fi connection
   4. a place to put 1 or 2 laptops
   5. access to power
10. Nao-Mi overheats easily. Ensure ample space for excess heat to escape. Access to a small fan would be ideal but not essential for helping to keep her cool.
11. Nao-Mi takes about 5 mins to start up.
12. Consider taking tourist photos of Nao-Mi en route and around local area and compile Introduction presentation for use the next day.
13. Nao-Mi will only be able to run in active mode (looking, moving, speaking) for max 90 mins before they it gets too hot. After powering down for 15-30 minutes it will be able to be active again.
14. Nao-Mi does not walk quickly.

**Prerequisites:**

1. Nao-Mi is in your possession
2. You have reviewed the Run Sheet attached as Appendix Z so you can see how the demos are intended to occur.
3. You know the constraints for interacting with Nao-Mi – speak clearly, low ambient noise, don’t let her overheat.
   1. Putting Nao-Mi into ‘rest’ mode – double click the chest button. She will say, ‘Aaah” and then squat down. Her 4 lights will remain on. This takes her out of Basic channel. Double-click the chest to ‘unrest’ her and she will go ‘Ooh’ and then stand up.
4. Nao-Mi is powered up (allow at least 2 hours)
5. You have your powered up laptop. These instructions are written only for an IBM-compatible Windows laptop[[1]](#footnote-1).
6. The Master Controllers have installed:
   1. Choregraphe (visual command system for the robot – simple capability)
   2. Naoqi (robot operating system),
   3. Python (coding language to command the robot – complex capability) on your laptop and necessary Python modules,
   4. Final Demos
      1. Scripted Interview folder (.py file, scripted interview Q&A)
      2. Visual Analyser folders (3)
      3. Personality insights folder
      4. IP.txt file
7. You have printed out the scripted interview Q&A file.
8. Remove Nao-Mi from the carry box – follow Getting Started With Nao / Configuration document taking particular care not to damage the limbs and digits.
9. Remove and attach power pack to power outlet
10. Plug power into back of Nao-Mi (no response expected). Take care not to push Nao-Mi as she will be limp and will fall over and her head will flop.
11. Turn on – pressing button on chest while making sure you don’t push her over/let her fall over as she will be limp. Result: Chest, eyes and ears and top of head all pulse different colours (blue, light green, red. N.B. If the chest button stays red, there is an issue and the demo won’t run without intervention by a specialist. You can try the Getting Started With Nao document to identify the type of error but you won’t be equipped to fix it. Can you get help from a grad ).
12. After a few minutes, Nao-Mi will make a small trumpet noise (happens randomly) and then say, “Gnouk Gnouk” and stand up and look around and rock slightly. The chest button will pulse green and blue intermittently. She will try and detect a person by turning to look at a sound/person. (This indicates she is in Basic Channel Mode – which means .)
13. Enable connectivity with Nao-Mi……
    1. Need to avoid any network that has security restrictions (e.g. the IBM internal network)
    2. Wireless via Choregraphe software controller – see notes below.
       1. Within IBM Visitor network
       2. Hot spot – have to set up Nao-Mi with the Hot spot as a pre-requisite – must be done at least some hours in advance – Andreas to provide written instructions and include as an appendix.
          1. A slow network connection will most likely manifest itself as very slow responses. Consider using Ethernet.
    3. Ethernet cable – cable is in the carry box. Open the panel in the back of her head. Plug into robot and laptop – Andreas to provide written instructions and include as an appendix.

**Entry**

[Coding – Andreas to send appropriate Choregraphe file] Walk a short distance in the room [perhaps on a high, stable table to enhance the view for everyone] – default distance to walk is set at 1 metre. (Changing it is done by the Master Controllers.)

1. Power on Nao-Mi
2. Click chest button once to obtain IP address – see more detail instructions
3. Open Choregraphe
4. When prompted to enter license code, enter 754d-7563-045b-150b-3f73-6425-204e-7f60-5f46-5b40
5. Click on Connect button (green wireless on top row on the left side)
6. Connect To… dialog box is launched
7. Enter IP address in Use Fixed IP/Host name and ensure both check boxes are ticked
8. Click Select
9. Video Monitor will display what Nao-Mi can see
10. Select File/Open Project and select the ‘Walking a set distance.pml’ file
11. Select ‘Open’.
12. Click on the green Play button on the top row.
13. Nao-Mi will stand up and then walk.
    1. Stay close and help guide her along her path as she often deviates a little
    2. A smooth surface, like glass or Masonite etc, is preferable.
14. After walking, she will stay standing.

Option: You can start with her sitting down (telling her how to do that is described in the Basic Command section - insert reference) and select/highlight the Heart button on the top row of Choregraphe. It takes her out of Basic Channel mode (therefore won’t respond to commands) but she will actively look around and move her head. Make sure you put her back into Basic Command mode (in Choregraphe) before you try to run any demos.

**Talk and Move (Basic Channel)**

Andreas - [Insert](http://doc.aldebaran.com/2-1/nao/basic_channel_conversation.html) appendix of basic commands

Some example commands are:

* Talk – only English, does not have French or Japanese installed
* Q&A - simple
* Lie down/Stand up
* Raise/stretch arms

**Non-Cognitive Demonstrations**

**Pre-requisites:**

1. Connected to Nao-Mi on the same network – wireless or Ethernet cable
2. Obtain IP Address – press chest button once – she says, “Hi my name is Nao-Mi”, she then states
   1. IP address – make sure you write this down as you will need it soon.
   2. may state the charge state of her battery
   3. may state her motors are getting too hot – in her left arm, her right leg etc.
      1. Overheating:
         1. If you don’t respond …. [we don’t know what happens]
         2. Option 1: Put her in Rest mode – press twice on the chest button
            1. Option 2: Turn off – Hold chest button for at least 3 seconds. She will squat. Lights will cycle through different colours and she will make a power down sound. Lights will go off.
3. Dancing Choregraphe script- installed in a known location on your laptop e.g. C:\Users \...\...\Final Demos\Choregraphe Demo\ NaomiDemo1.pml

[Run from Choregraphe – only one person can use the one license at the same time. When using Python, can use more than one laptop at a time]

**Dancing**[[2]](#footnote-2)

1. **Preparation**
   1. Launch Choregraphe
   2. Select File/Open Project and select the file location for the demo script – see above -.pml file
   3. Click on green button along the top row – Connect to….
      1. Response should be a dotted image of a Nao head
   4. Insert Andreas’ instructions
   5. Connect to the robot using the IP address Nao-Mi spoke – it will change – usually only the last three digits – but it depends on if you have moved to a new network.
2. **Conduct**
3. Hit the Play button on the top row
4. Speak any sentence that ends with the word *IBM*. She explains joining IBM after which you can choose to say in the following order…..
   1. *Please Share* (eyes will turn white) – Q&A (can be repeated with three different Q&A (Wait for the eyes to turn blue rotating. Any other colour will not result in a response. You get two chances. She will tell you the answer after two wrong answers)
      1. Favourite City [Paris]
      2. Favourite Singer [Taylor Swift]
      3. Favourite Star Wars character [Storm Troopers]

[Can cut short by speaking the next command]

* 1. *Dance for Us* – ‘Sure’ and then dances Thriller – (DANGER: She will often throw herself off the table – be close by to catch her! If she falls over, she will automatically right herself and stand up again. This is impressive to the viewer but not desirable for Nao-Mi’s well being.)
  2. *Have you got another dance? (May need to simply say, ‘*Dance’– dances Gangnam Style and then says *Thank You* and wipes her brow.
     1. Option: If you want to skip to the cognitive demos, simply click on the red Stop button on the top row of Choregraphe
     2. Note: Nao-Mi cannot dance for more than 5 minutes at one time due to heating and power limits
  3. *Time to Leave* – Says ‘*Thank you. Thank you. See you next time*’ waves and sits down.

**Scripted conversation**

Pre-requisite

1. You need to have developed the script with the Master Controllers (and perhaps the client Exec) prior to the event. This typically can be tailored with minimal development effort. An example script is attached as Appendix Z.
2. Obtain and install the relevant C:\Users\IBM\_ADMIN\....Scripted Demos folder into the appropriate location on your laptop where it can be opened later.
   1. The folder and file names will vary with each demo.
3. Print out the set of scripted Q&A for use during the demo. (N.B. You won’t be able to use your laptop for Q&A as you will need it to control Nao-Mi – unless you can get a second laptop. Andreas – produce a matched set of scripted Q&A and Python scripted file.
4. Turn off Autonomous Life (Basic Channel)
   1. Launch Choregraphe
   2. Click on the Heart symbol on the top right
   3. The solid heart in the centre will turn from deep blue to the same shade as the background.
5. Python has been installed.
6. Naoqi has been installed.
7. IP address has been obtained from Nao-Mi.
8. Set the IP address by replacing the contents of the IP.txt file with the IP address. (N.B. Ensure there are no spaces. )
9. Close the IP.txt dialog box by clicking on the x on the top right corner.
10. Click on the Windows Start button on the bottom left of your laptop screen.
11. In the Search Bar, type CMD (Command Prompt)
12. Click on (or type) CMD.exe
13. Dialog box is launched
14. Find the full path to the Python folder (e.g. C:\Users\IBM\_ADMIN\....Scripted Demos
15. Click on the full path from the top of the Explorer window and type CTRL-C (to copy the path)
16. Select the Command Prompt dialog box
17. Type CD and leave 1 space
18. Right mouse click anywhere in the dialog box and click on Paste.
    1. It should look like this…. cd C:\Users\IBM\_ADMIN\....Scripted Demos
    2. Press Enter
    3. Type python (leaving a space)
    4. Press Tab to display the first file in the folder
    5. Continue to press Tab until you see the file that has a .py suffix. (This may be the first file.)
    6. It should look like this… python “Main Tent (Jason Leonard).py “
    7. Press Enter
    8. Dialog box produces a set of outputs related to connecting to the robot
    9. Nao-Mi stands up and …….<standard mode on start up with lights, swaying>
    10. Nao-Mi is now in scripted mode with the eyes blue
19. Nao-Mi is ready to be asked questions.
20. Interviewer asks each question and presses Enter at the end to prompt Nao-Mi to reply.
    1. Note: Nao-Mi is in Non-Cognitive mode. She does not respond to verbal cues.
21. Nao-Mi answers.
22. Scripted session Ends.
23. Nao-Mi squats
24. Nao-Mi is ready for the next demonstration.
25. N.B. Please check that Nao-Mi is not:
    1. Overheating
    2. Low on battery power

**Cognitive Demonstrations**

**Pre-requisites**

1. Assumes we will continue from the previous demo. I not, there are requirements for IP address, Autonomous Mode etc.

**Visual Analyser**

Nao-Mi is able to recognise the type of image shown to her, a car, a vegetable or something else. This demo is great for crowd interaction as people can pick their own pictures for her to recognise.

* Estimated response time (How long it takes Nao-Mi to answer): 5-10 secs – but she says something while she is thinking that covers some of the gap.
* Demonstrates: Watson API’s, machine learning, PaaS, IBM Cloud hosting.

1. Click on the Windows Start button on the bottom left of your laptop screen.
2. In the Search Bar, type CMD (Command Prompt)
3. Click on (or type) CMD.exe
4. Dialog box is launched
5. Find the full path to

**Personality Insights**

Nao-mi is able to recognise a picture or name of a person, search a database for information on them and then determine their personality traits based on this information. This demo is great for crowd interaction as the list of known names can be large and is great for demonstrating Watson's natural language and cognitive capabilities.

* + Needs to have at least 500 words of content (preferably 3,500 words) to provide an accurate result. Best if this can be sourced prior.
  + Demonstrates: Watson API’s, ……………….

**End ((Non-Cognitive)**

1. Switch back to Basic channel
2. Say “Goodbye”
3. Nao-Mi says “Goodbye”
4. Tell Nao-Mi to “Sit Down”
5. Nao-Mi will ask if you want her to Sit Down
6. Says “Yes”
7. Power down
   1. Hold chest button down for at least 3 seconds.
   2. Nao-Mi says, “Nouk Nouk” and produces power down sound.
   3. Wait about 20 seconds for her to power down. (You do not need to support her as she powers down but don’t knock her as she will fall over.)
   4. All lights will go out.
8. Consider charging for next use.
9. You should not need to cool her down before packing her.
10. **Watch her fingers!**
11. Pack away in accordance with instructions.
    1. Don’t forget the power cable and transformer. ☺
12. Place an elastic band across her fingers on each hand just to protect them when closing down
13. Please send a short note to Phil Watson or Delegate (TBA) to advise:
    1. how well the demo went (for you as well as the audience)
    2. if there a paid cognitive development opportunity for Watson APIs on Bluemix?
    3. what enhanced capabilities you would like to see developed, especially for your Industry.

**Possible Run Sheet**

|  |  |
| --- | --- |
| Entrance | * Get on to stage * Can be already on stage * Can walk on stage (1 metre max) * Can be standing behind a screen that is removed * Music for Nao-Mi to be introduced * Tourist photos of Nao-Mi travelling to event location – dependent on baggage options) displayed via projector / on screen |
| IBM Executive Talk - <name> | * We are happy to configure it to your needs within limits * Can be run on stage or separate * See the section ‘Scripts/Presentation Key Notes’ below |
| Key Topic Talk <name> | * This is an option we provided to the Singapore event * We need a 30 minute break(60 minutes if being moved) between talks where Nao-Mi isn’t seen to switch programs or a screen hides her again |
| Exit | * We suggest Nao-Mi stays on stage until the end of the talk * She will require a movable table if required to get off stage during talks |
| Media Session – Does this apply? | After the addresses, the demonstrator will move Nao-Mi to the Media Session where we will run a similar script with [name to be provided] and possibly a demonstration of Watson and dancing. |
| Demo Booth – Does this apply? | The demonstrator will move Nao-Mi to the IBM Booth and set her up to run Watson demonstrations and dances throughout the event. |

1. We will develop instructions for Mac at a later date.We will develop instructions for Mac at a later date. [↑](#footnote-ref-1)
2. This canned demo may be modified by the master controllers (Canberra Grads) at any time. The latest versions can be installed on your laptop with their help. [↑](#footnote-ref-2)