



Pepper, the humanoid robot

Christof Luyten

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Summary

I. Technical overview

II. Hands-on

- 1. Python boxes*
- 2. Dialog*
- 3. Timeline*

01

Technical overview



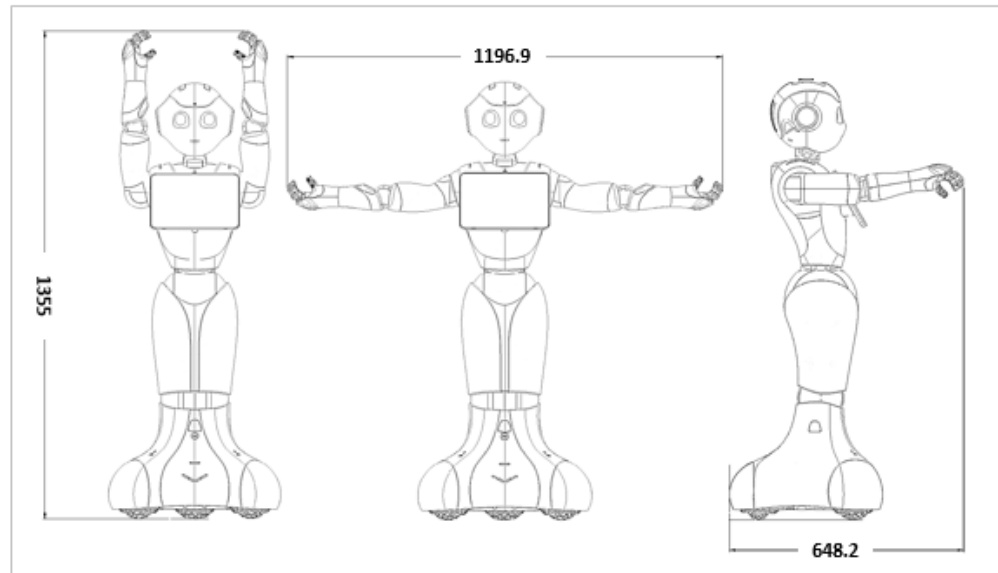
Humanoid robot

- › Softbank Robotics
- › «Pepper is a human-shaped robot, kind, endearing and surprising»



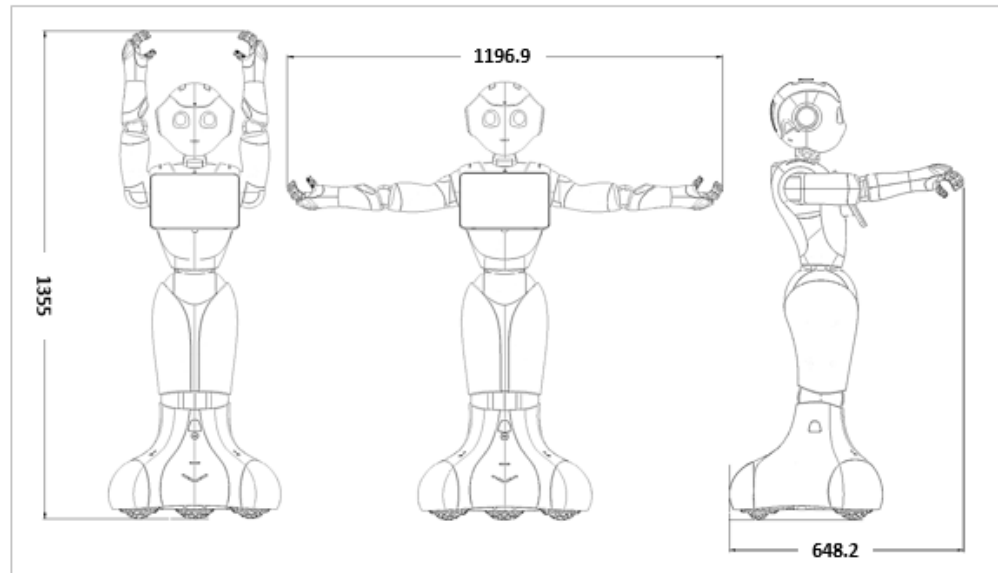
Hardware

- › Atom E3845 processor, 4GB RAM
- › Battery life: 12 hours, power hatch
- › Internet connectivity
- › Inertial unit: gyrometer, accelerometer
- › MRE: Magnetic Rotary Encoders



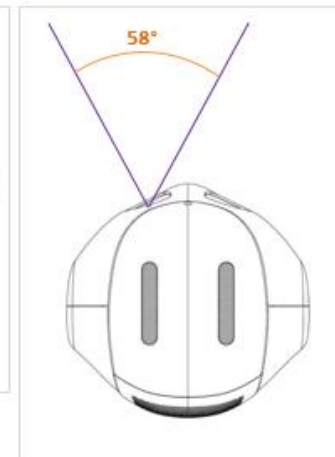
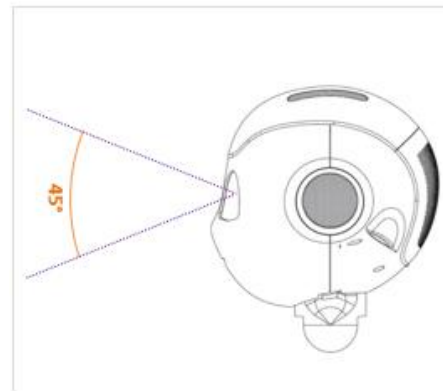
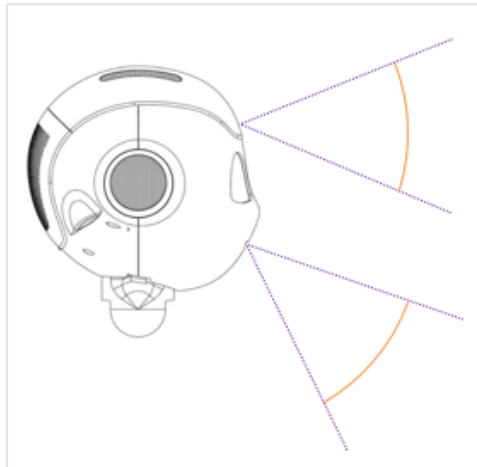
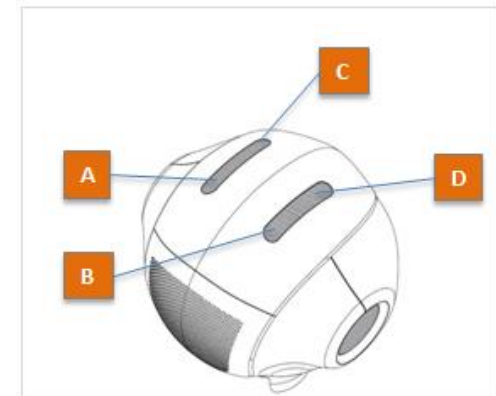
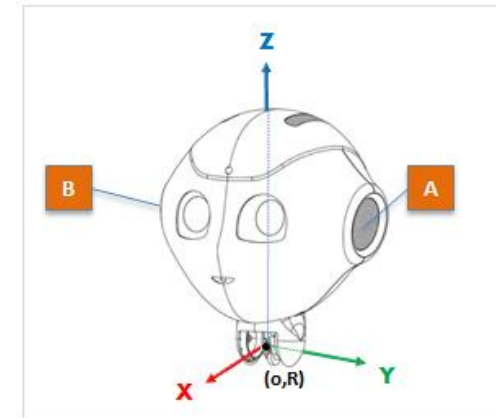
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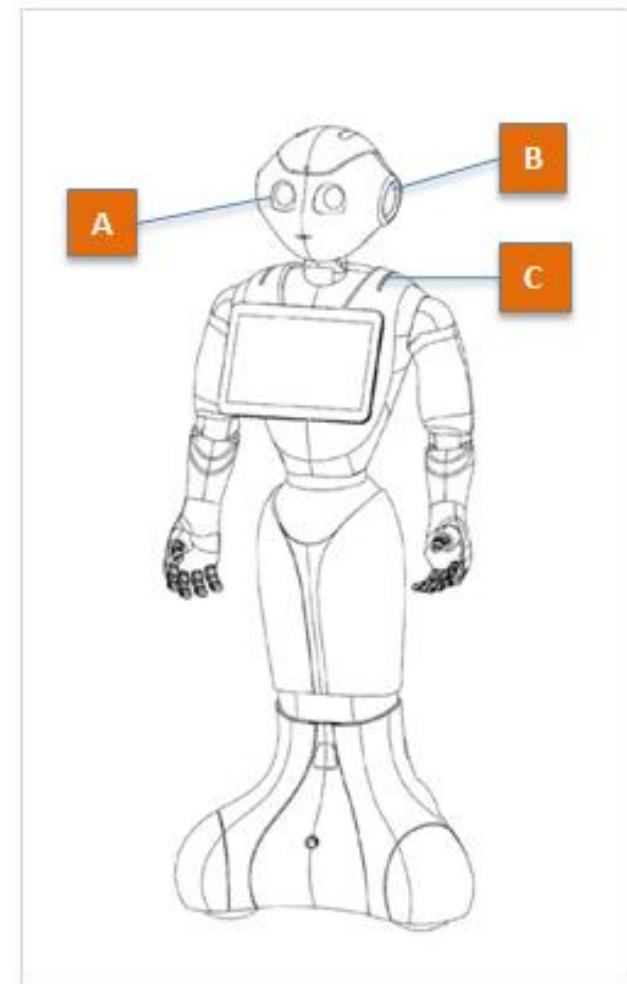
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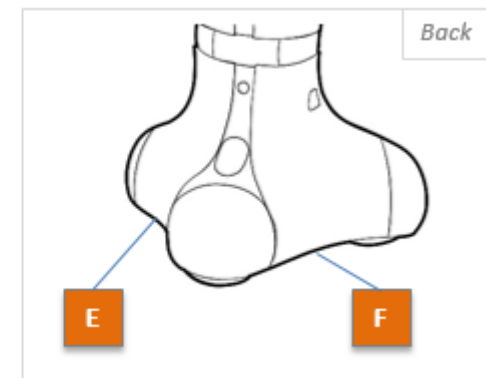
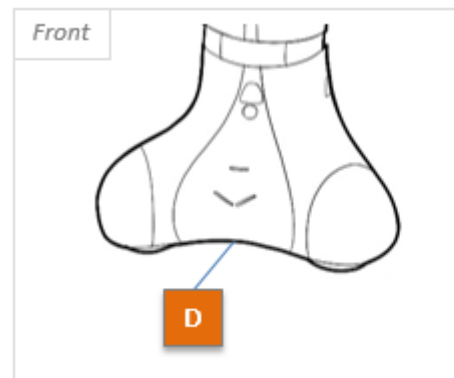
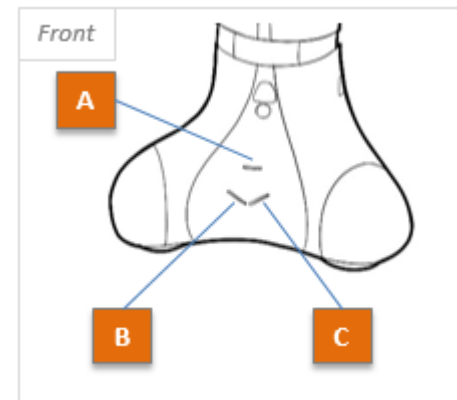
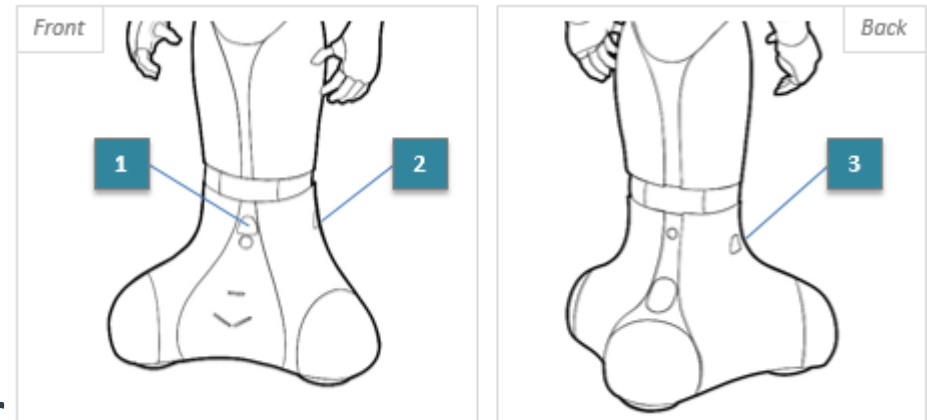
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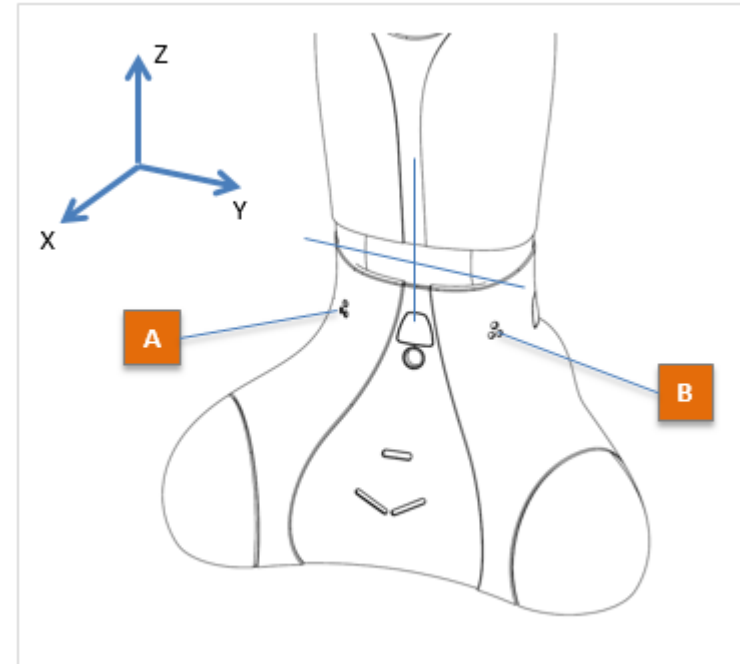
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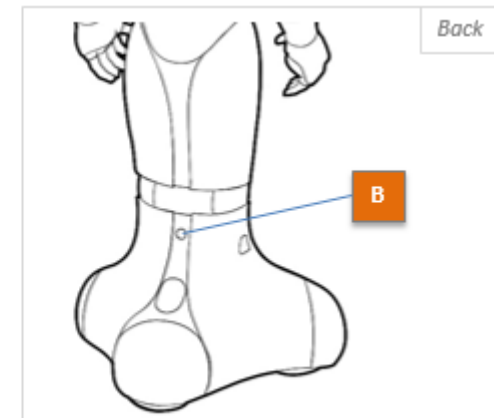
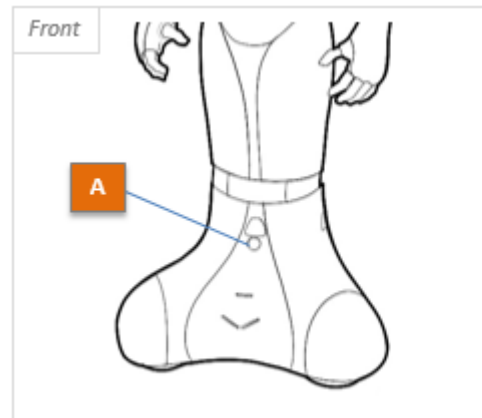
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- › Infra-red



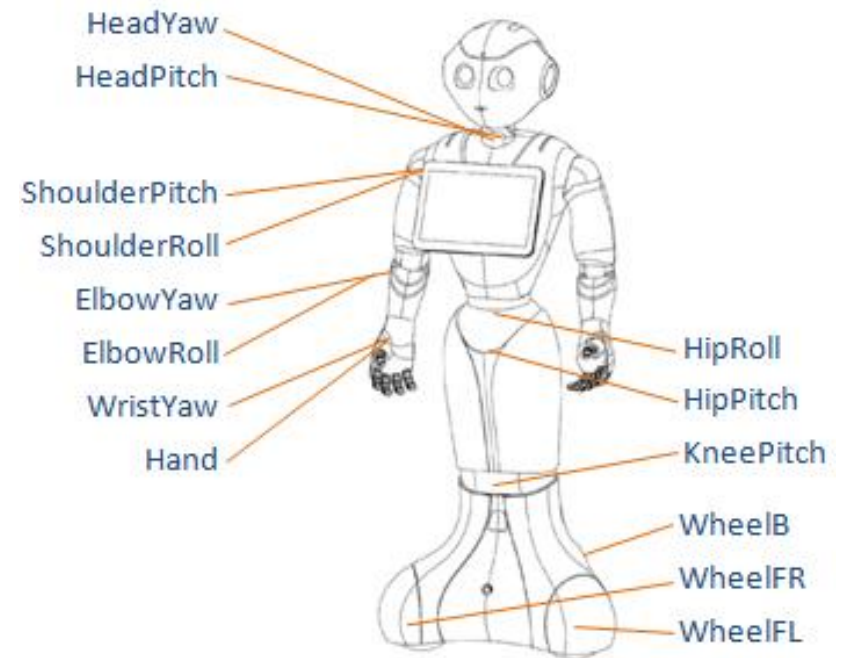
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- › Laser
- › Infra-red
- › Sonar sensors



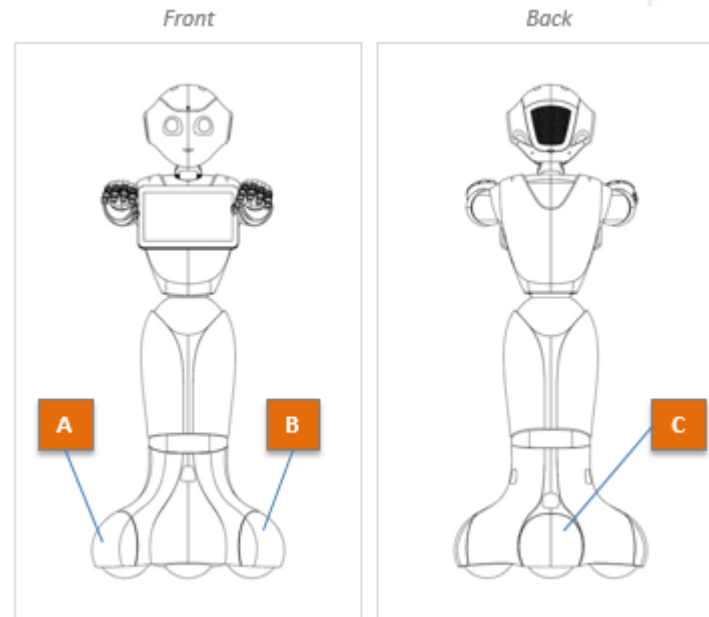
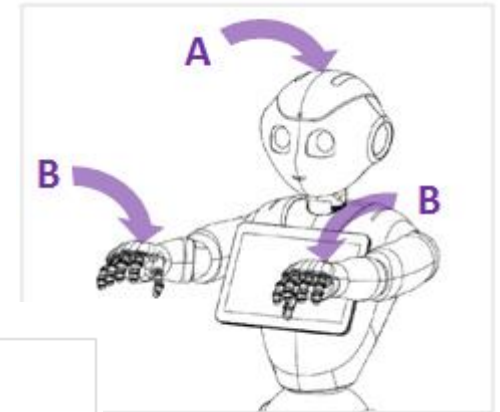
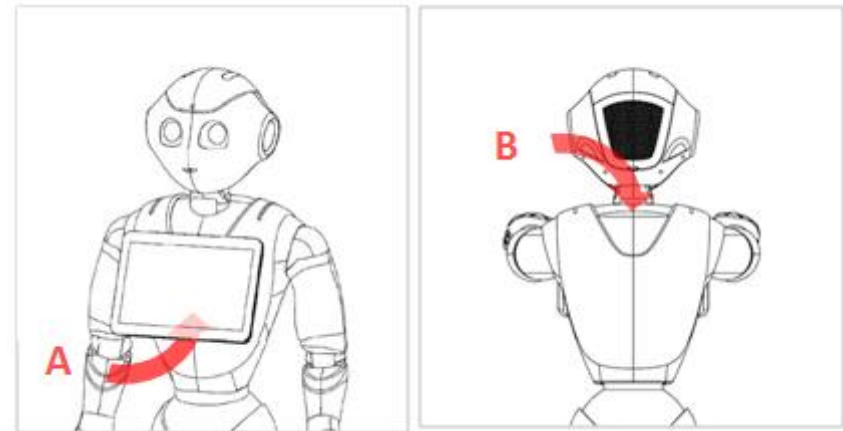
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- › Infra-red
- › Sonar sensors
- › Motors
- › Contact and tactile sensors



Pepper



	Features	Maturity
Speech	Supports English, French, Dutch Tuning of volume, pitch, ... Animated speech	★ ★ ★
Movements	Gestures & poses	★ ★
	Walk around	★
Human interaction	Dialogs & speech recognition	★ ★
	Face recognition Emotion detection	★
Multimedia	Video, images, apps and websites on the tablet	★ ★ ★

“Pepper is a human-shaped robot, kind, endearing and surprising.”

Social Robotics offers



Digital Reception

- Send invites (QR code)
- Welcome visitors
- Inform host of arrival
- Provide info on meeting room
- Entertain visitor while waiting
- Survey

Cute Entertainer

- Games
- Dance
- Quiz
- Tell stories

Innovative Promotor

- Product promotion
- Company promotion
- CMS
- Eyden for easy design of multimedia

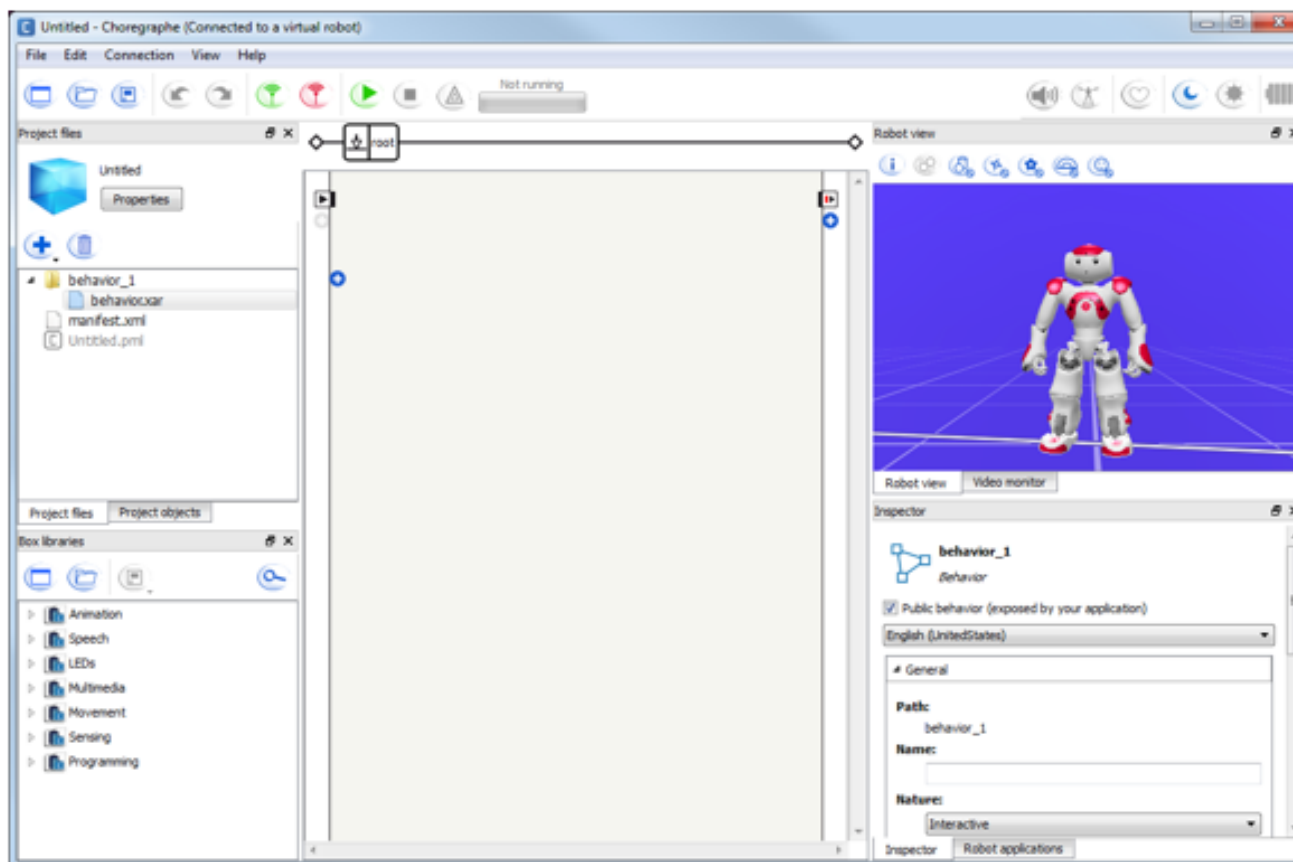
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Hands-on



Software

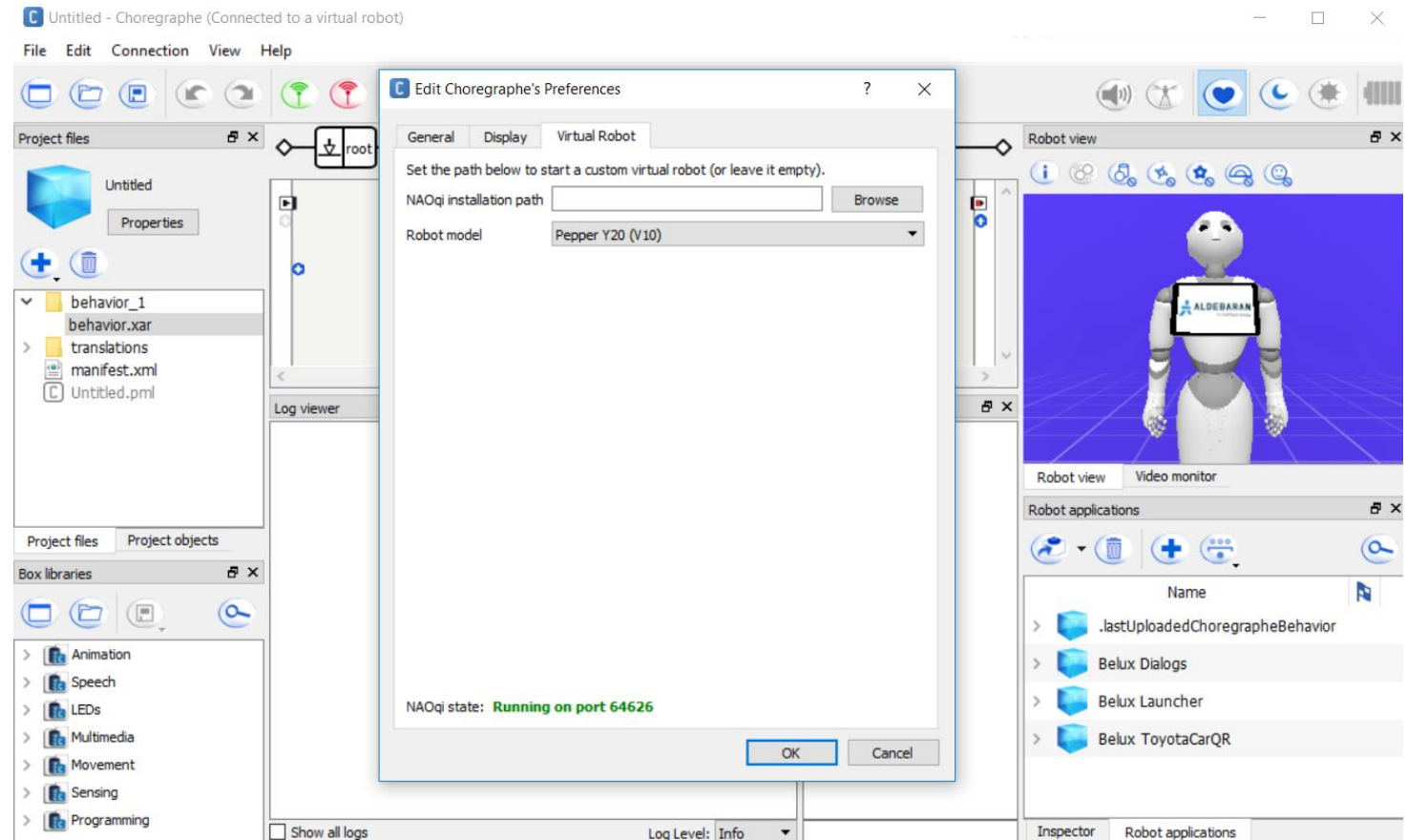
- › NAOqi
- › SDK's: Python, C++, Java, Javascript
- › Choregraphe



Connect to a virtual robot

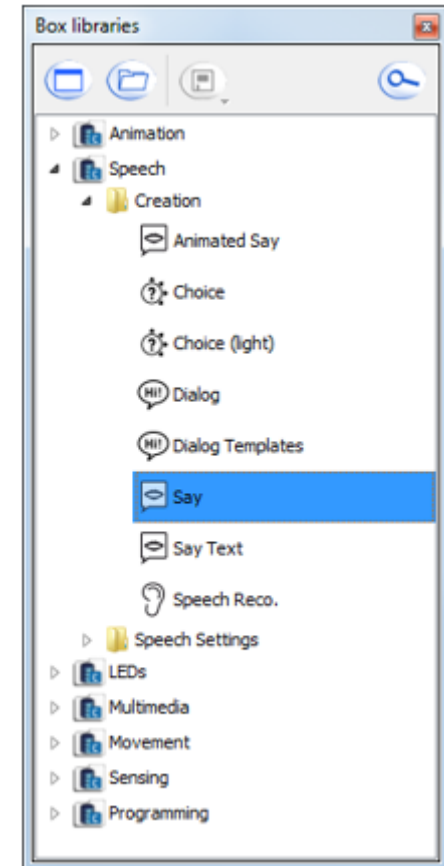
Change the robot to Pepper

- › Edit
- › Preferences
- › Virtual Robot

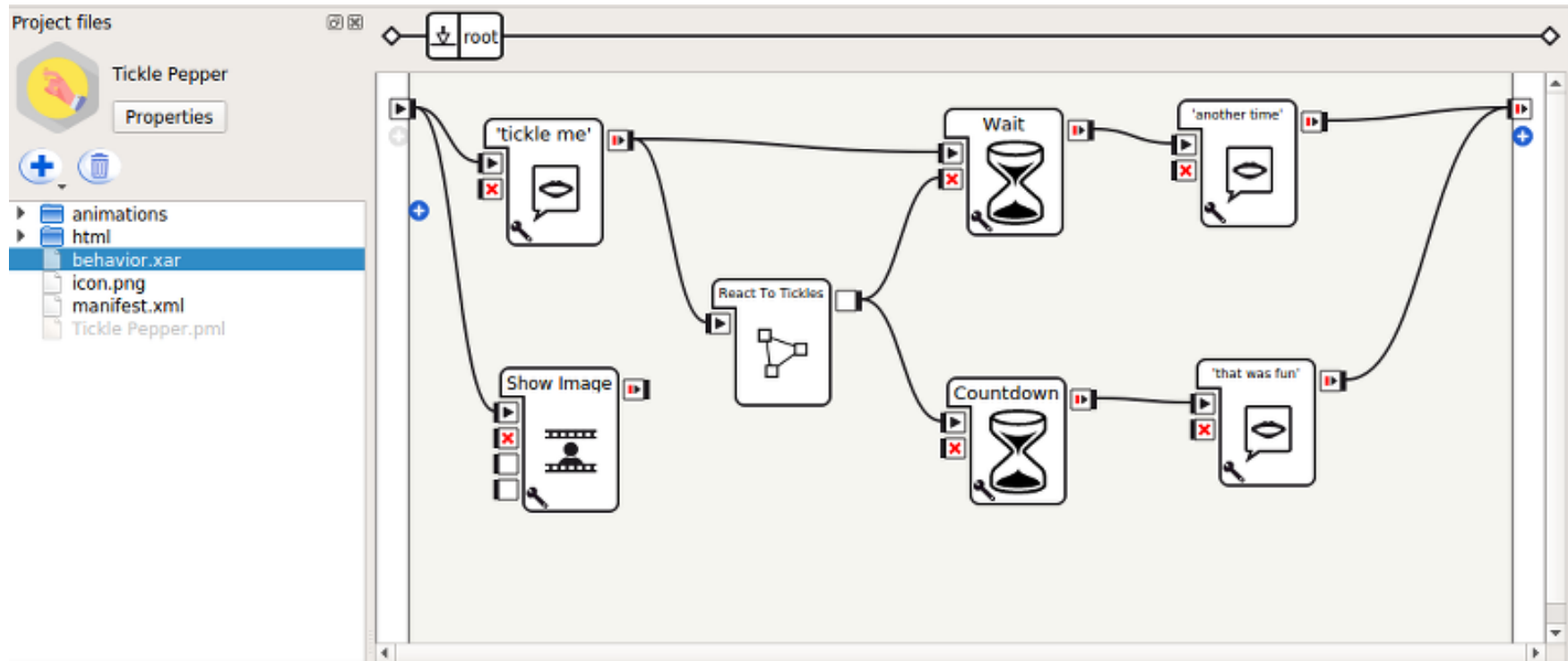


Box

- › Basic element
- › Types: Python, Flow diagram, Timeline, Dialog
- › Input-output connectors
- › Optional components



Exercise: Boxes



Exercise: Dialog

QiChat

Topic

topic: ~topic_name ()

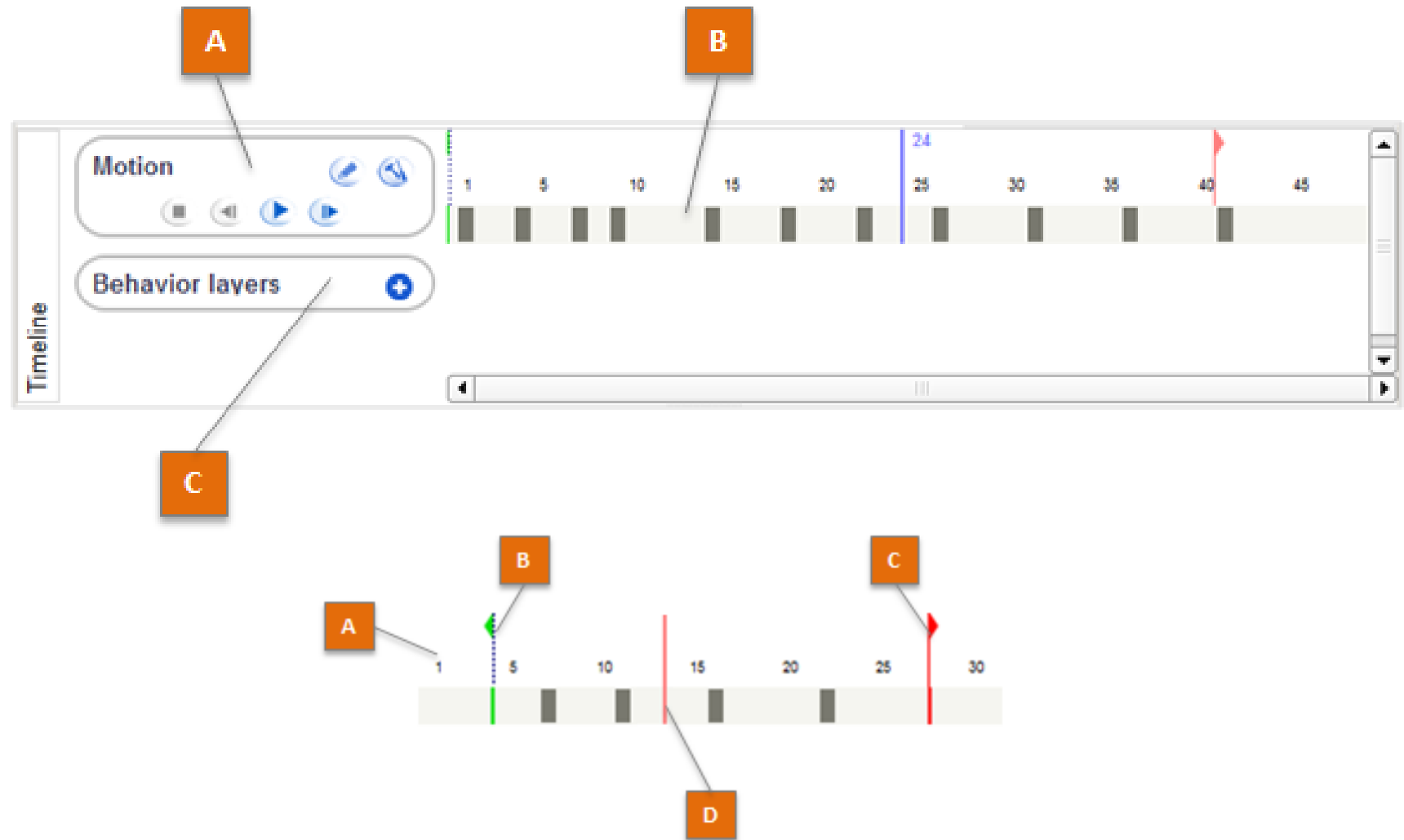
Rule

u: (human_input) robot_output

Concept

concept:(name) [word1 word2 "word3 word4"]

Exercise: Timeline



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