

To get there, together



CHRISTOF LUYTEN

Pepper, the humanoid robot

Summary

- Technical overview
- Hands-on
 - ▢ Python boxes
 - ▢ Dialog
 - ▢ Timeline

01

Technical overview



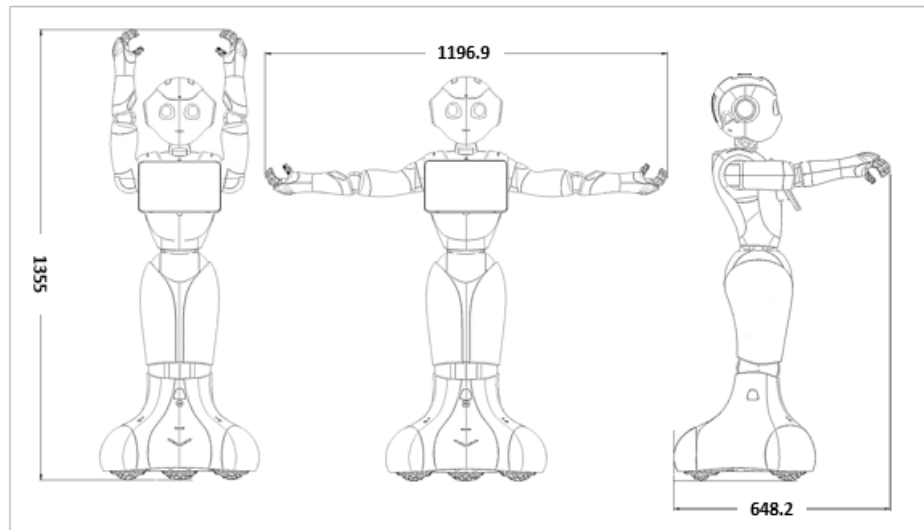
Humanoid robot

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



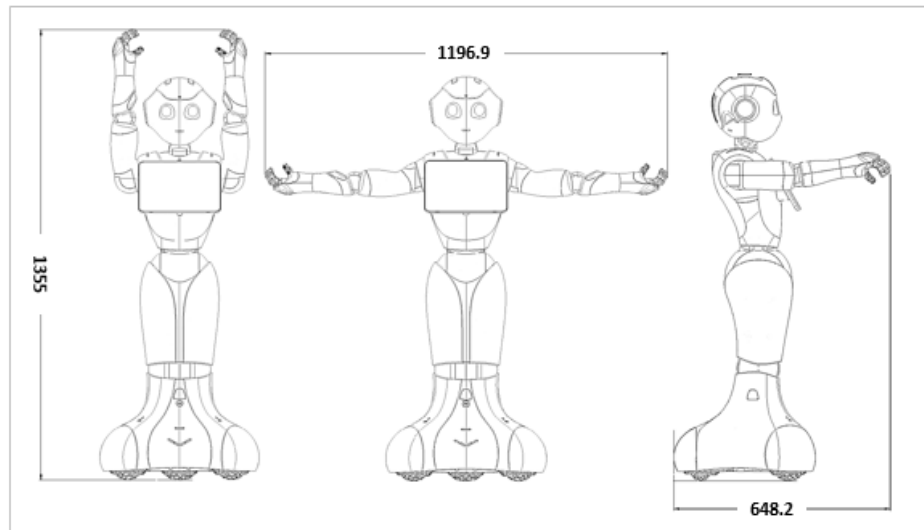
Hardware

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



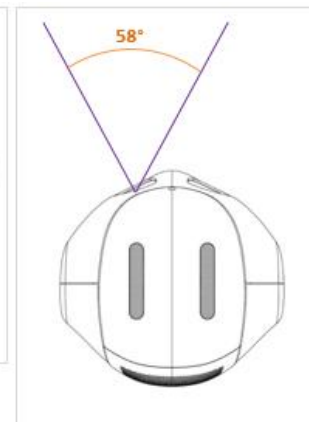
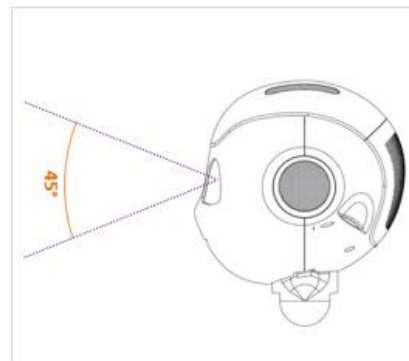
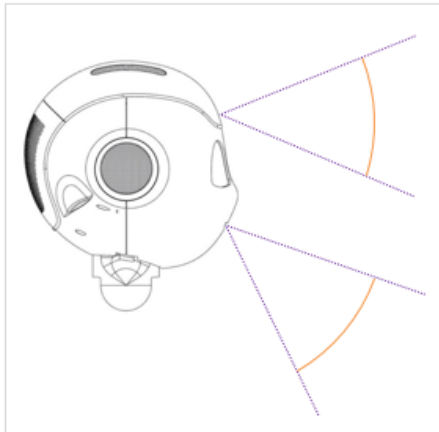
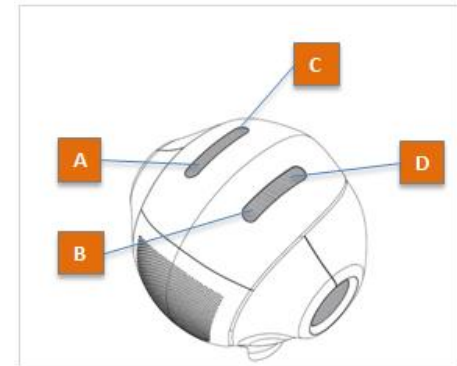
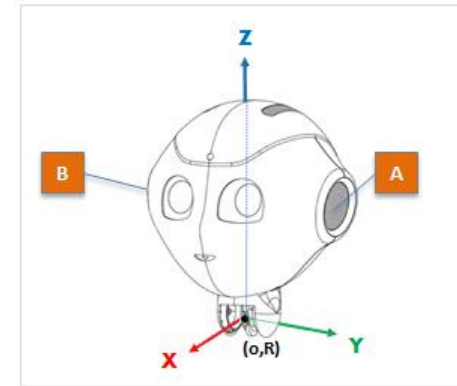
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- Tablet



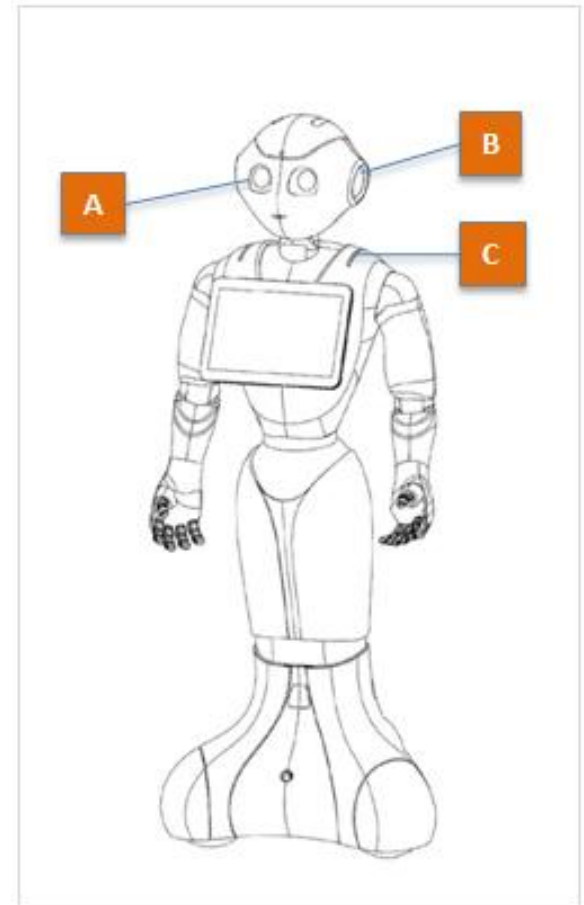
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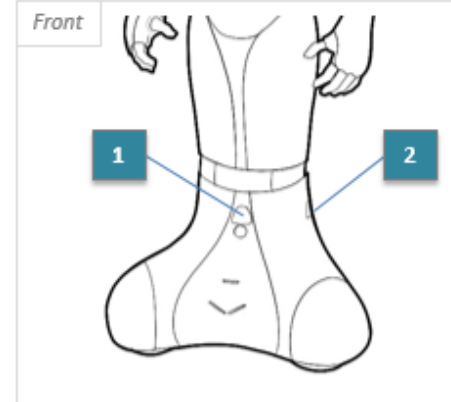
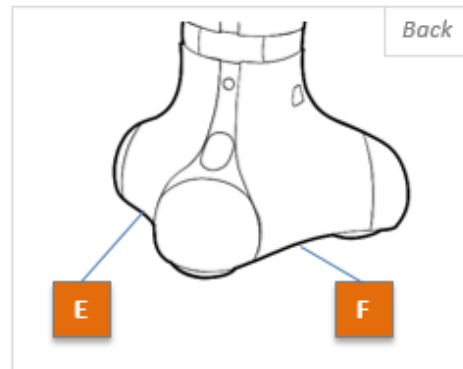
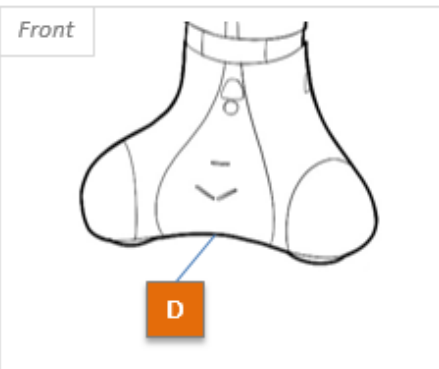
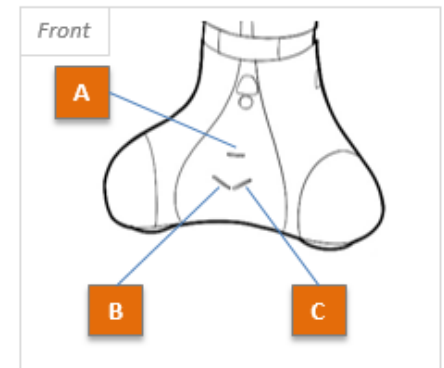
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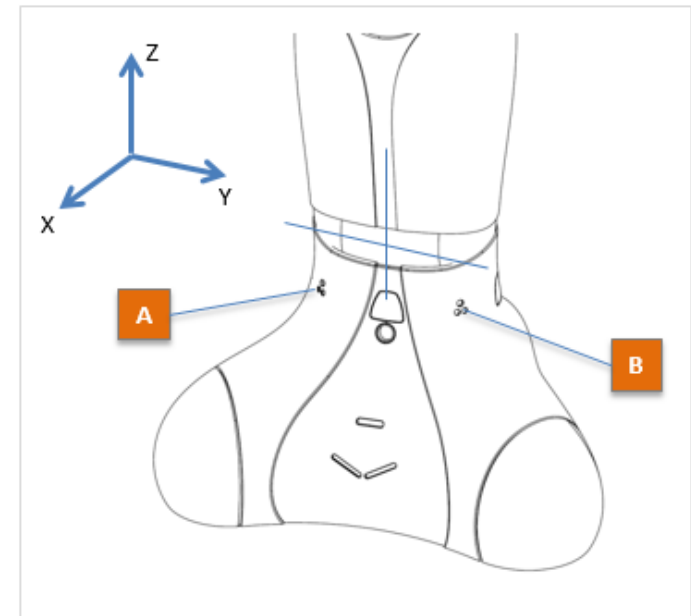
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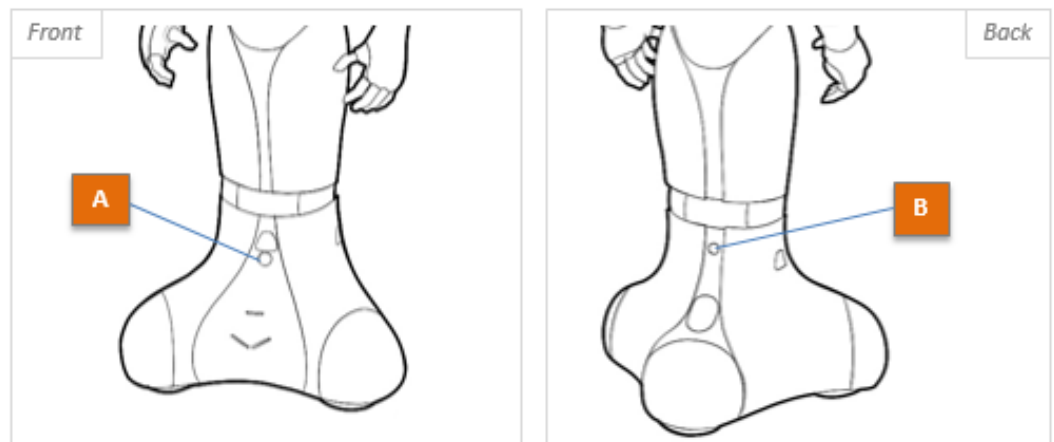
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- Laser
- Infra-red



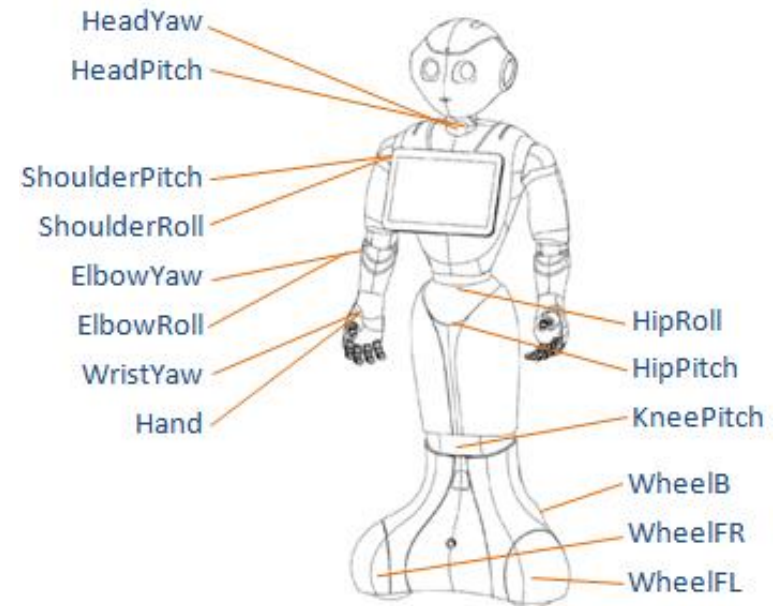
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- Laser
- Infra-red
- Sonar sensors



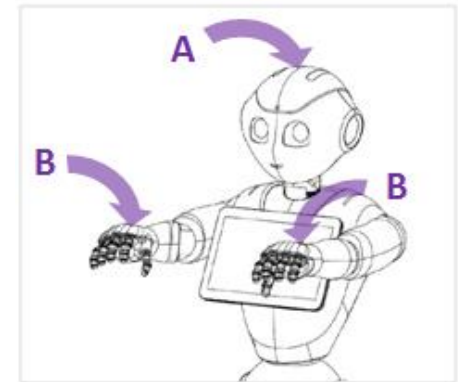
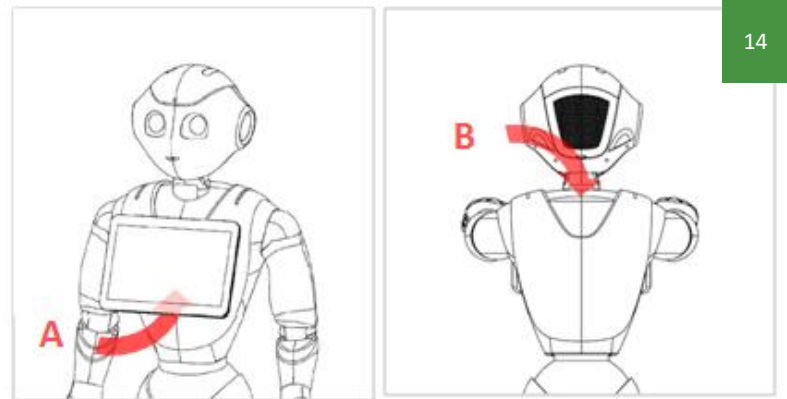
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- Motors



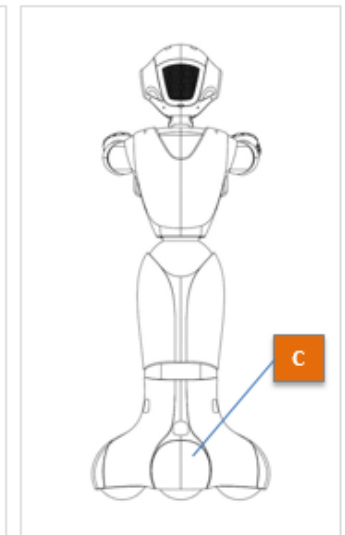
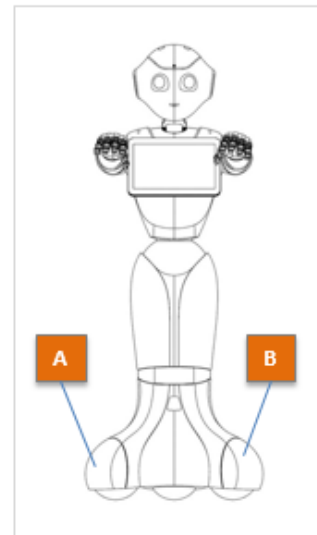
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- Tablet
- Loudspeakers, microphones, cameras
- LEDs
- Laser
- Infra-red
- Sonar sensors
- Motors
- Contact and tactile sensors



Front

Back



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.”

Use cases



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

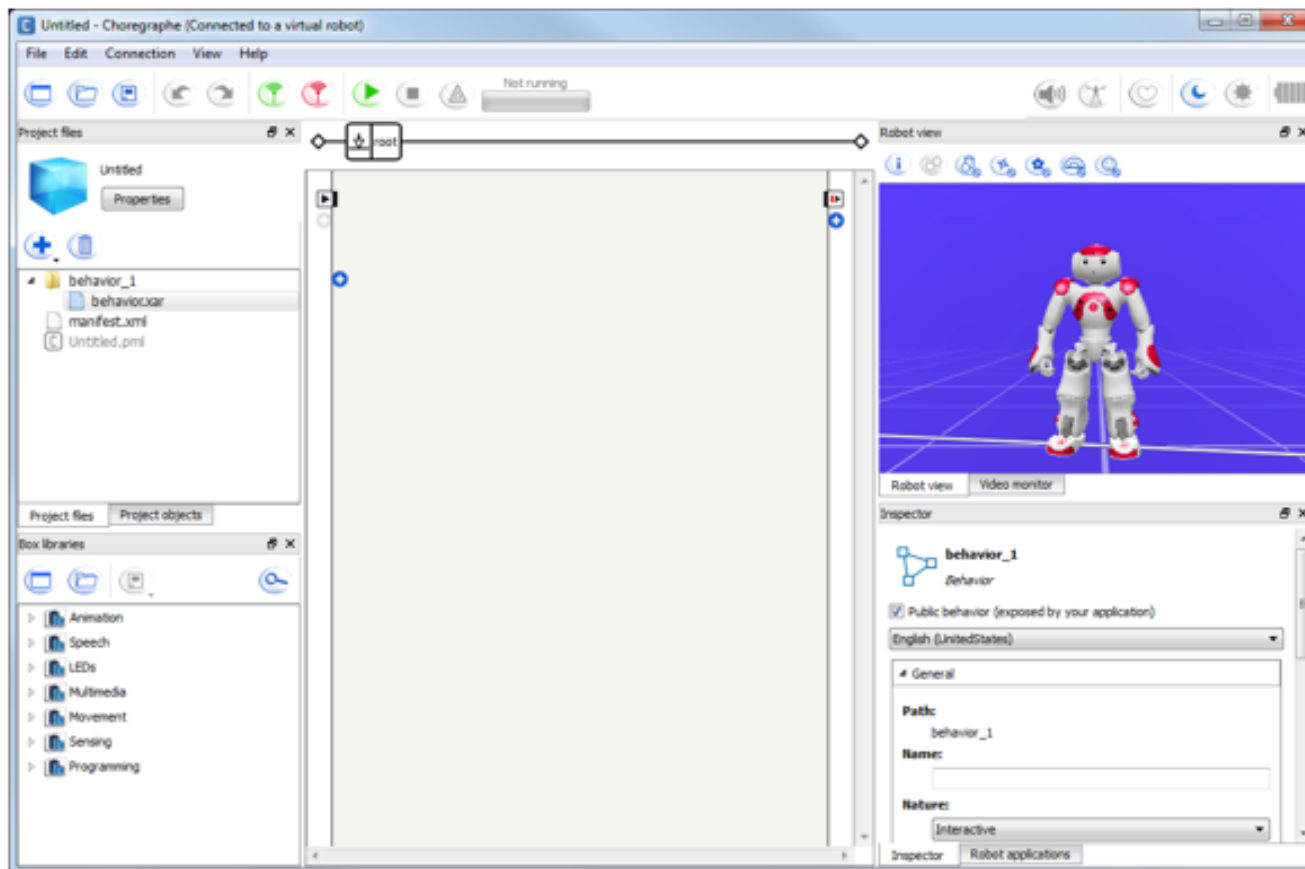
02

Hands-on



Software

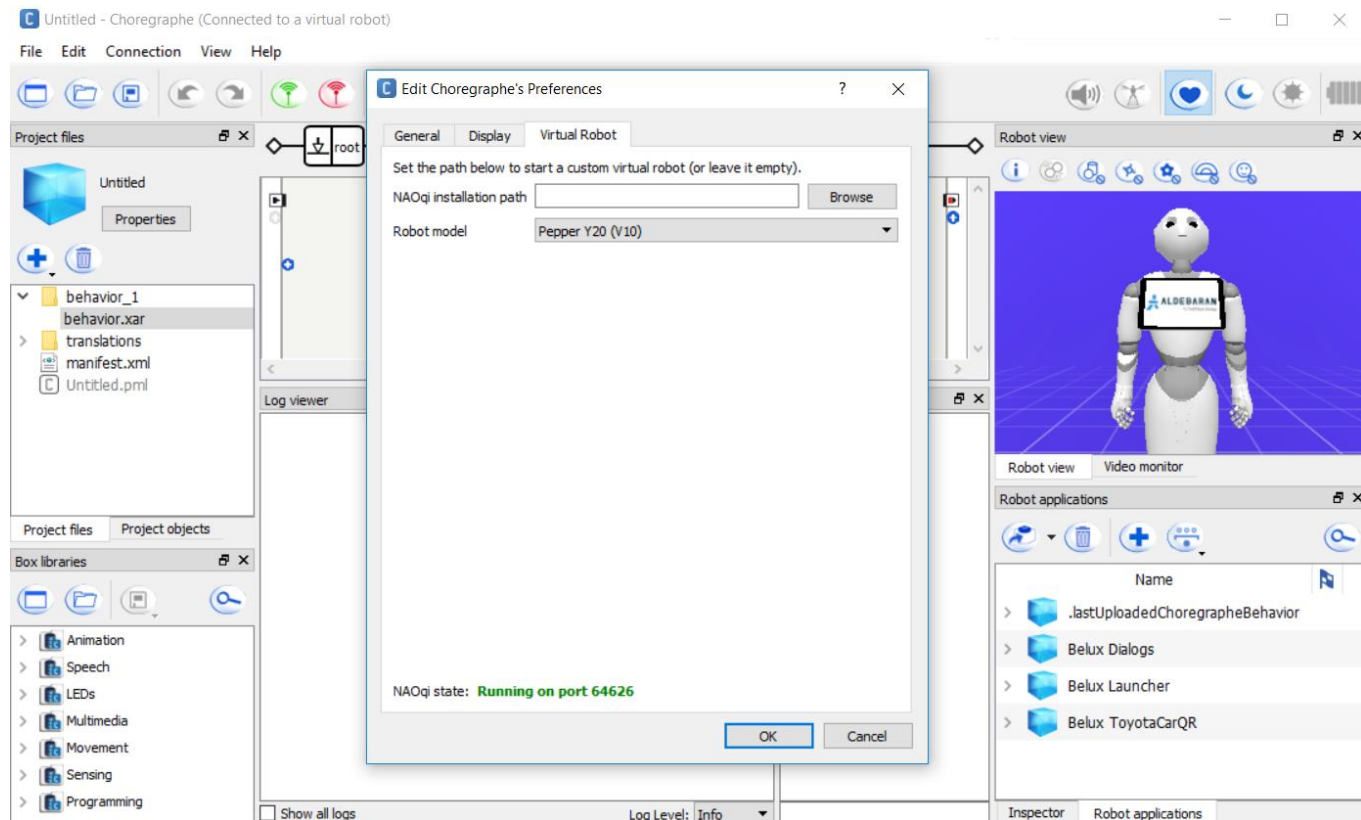
- NAOqi
- SDK's: Python, C++, Java, Javascript
- Choregraphe



Connect to a virtual robot

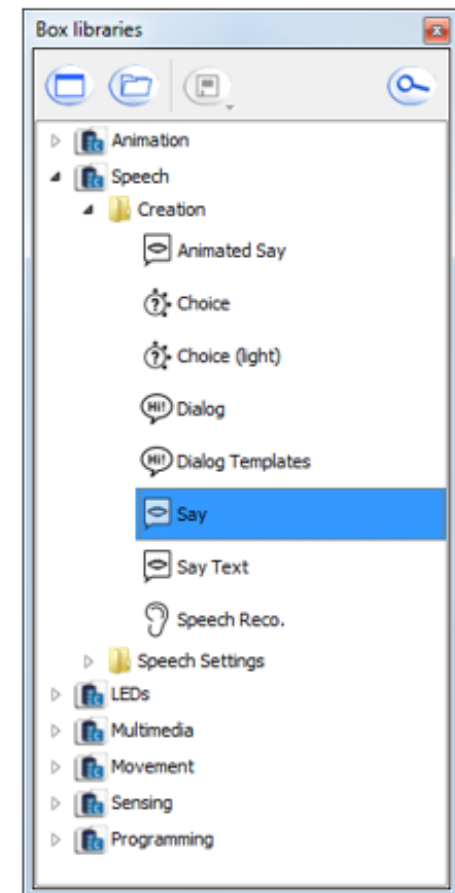
Change the robot to Pepper

- ▶ Edit
- ▶ Preferences
- ▶ Virtual Robot

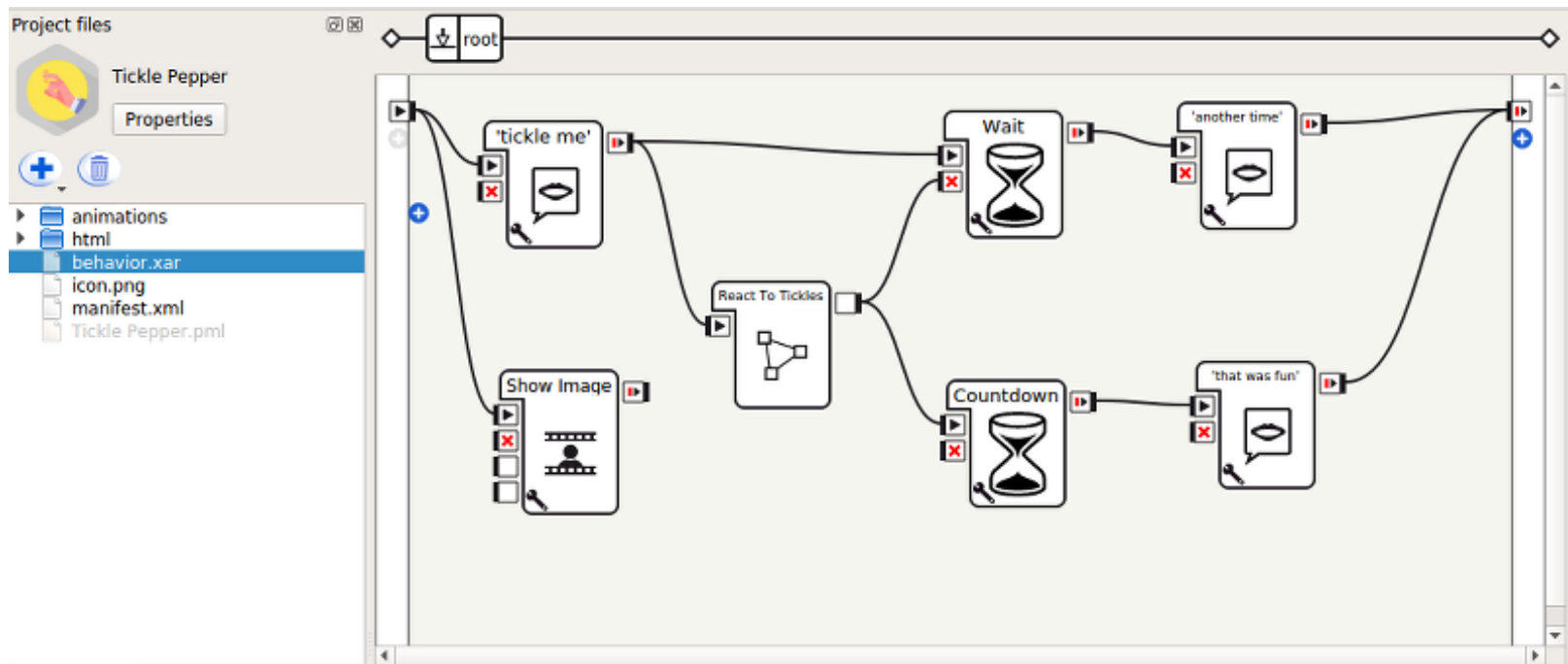


Box

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



Exercise: Boxes



Exercise: Dialog

QiChat

Topic

topic: ~topic_name ()

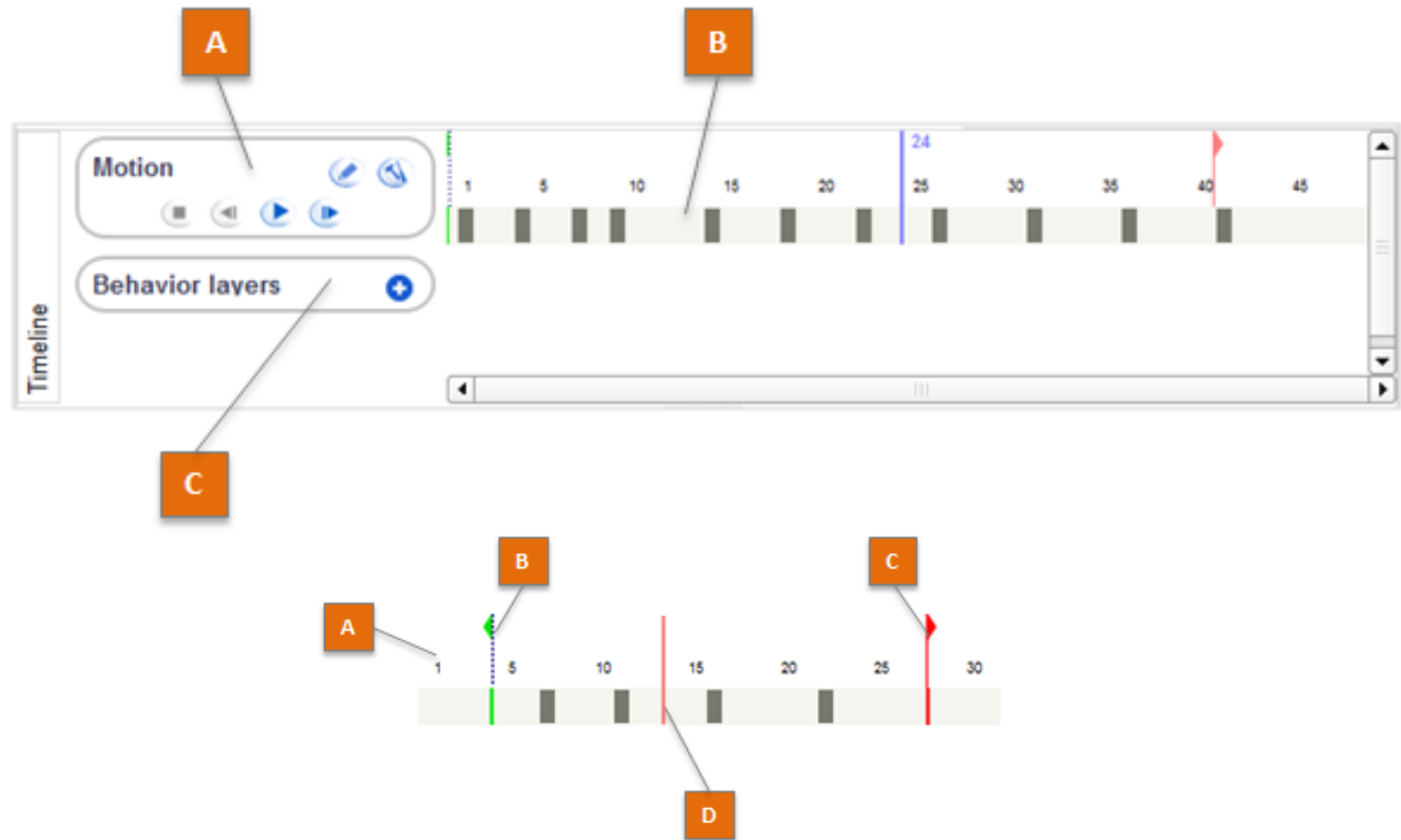
Rule

u: (human_input) robot_output

Concept

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

Exercise: Timeline





To get there, together



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