Helping autistic children via robot interaction

Group 6 Roxanne Boehlé Bo Drummen Jolijn Hesen Rachel Roumans Sietske Wijffels Fenna Wit



RECAP! How to improve the social skills of autistic children?

Problem:

- Experiencing difficulties with working together
- Lack of motor imitation results in difficulties to understand each other's behavior
- difficulties in recognizing facial expressions and emotions

Solution?:

- A robot and/or interactive game with facilitates easy learning

Deliverables

- Literature study
- Design of an interactive game



State of the art

- ZECA: displays facial expressions
- WikiTherapist: embodied interaction for improving social skills
- FACE: expresses emotional information
- Robot Bandit project: HRI in natural way, verbal









State of the art

- KASPAR: predictable and repetitive communication
- Kismet: basic visual and auditory social cues
- Leka: uses expressions, sound, light to interact
- Zeno: expressive face, focused on emotions









Deliverables

- Literature study
 - What is already investigated/developed?
 - Potential?!
- Our own game with Nao!!
 - Especially aimed at improving teamwork



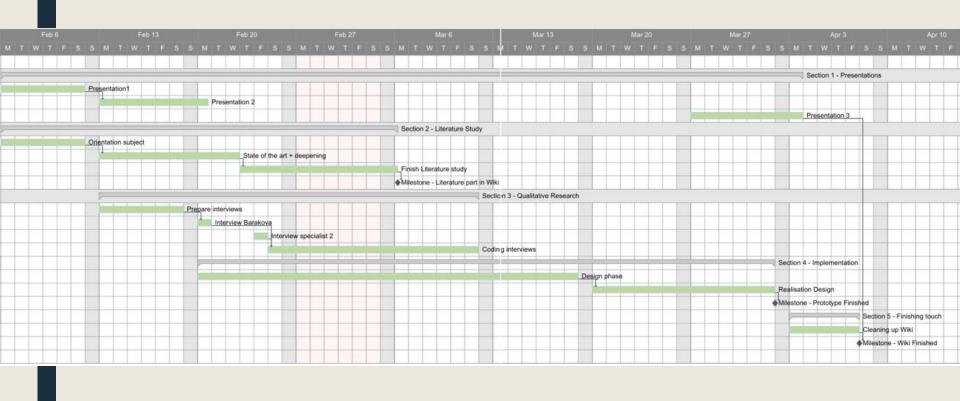
How to improve the social skills of autistic children by s(t)imulating teamwork?

- First simulate....
- ...Then stimulate



Planning & Milestones

| | At Risk | Task Name | Start Date | End Date |
|----|---------|-------------------------------------|---------------|----------|
| 1 | | | | |
| 2 | | Section 1 - Presentations | 02/06/17 | 04/03/17 |
| 3 | | Presentation1 | 02/06/17 | 02/11/17 |
| 4 | | Presentation 2 | 02/13/17 | 02/20/17 |
| 5 | 1 | Presentation 3 | 03/27/17 | 04/03/17 |
| 6 | | Section 2 - Literature Study | 02/06/17 | 03/06/17 |
| 7 | 2 | Orientation subject | 02/06/17 | 02/11/17 |
| 8 | 1 | State of the art + deepening | 02/13/17 | 02/22/17 |
| 9 | | Finish Literature study | 02/23/17 | 03/06/17 |
| 10 | | Milestone - Literature part in Wiki | 03/06/17 | 03/06/17 |
| 11 | | Section 3 - Qualitative Research | 02/13/17 | 03/11/17 |
| 12 | | Prepare interviews | 02/13/17 | 02/18/17 |
| 13 | 2 | Interview Barakova | 02/20/17 | 02/20/17 |
| 14 | | Interview specialist 2 | 02/24/17 | 02/24/17 |
| 15 | | Coding interviews | 02/25/17 | 03/11/17 |
| 16 | | Section 4 - Implementation | 02/20/17 | 04/01/17 |
| 17 | 1 | Design phase | 02/20/17 | 03/18/17 |
| 18 | | Realisation Design | 03/20/17 | 04/01/17 |
| 19 | 2 | Milestone - Prototype Finished | 04/01/17 | 04/01/17 |
| 20 | | Section 5 - Finishing touch | 04/03/17 | 04/07/17 |
| 21 | | Cleaning up Wiki | 04/03/17 | 04/07/17 |
| 22 | P | Milestone - Wiki Finished | 04/07/17 | 04/07/17 |



Questions??

