Project presentation

Presented by Alexander, Cristina, Lea and Mihaela

Our
DIGITAL STORY

Topic & Aim

- raising awareness for possible barriers or difficulties for people with seeing disabilities
- facilitation of helpful tools for managing traffic as a blind person
- creating barrier-free areas on a designed map

Target group

Considering that students might not be fully aware of the challenges faced by people with disabilities, while they may have some knowledge about making buildings universally accessible and tools like tactile paving for the visually impaired or ticking traffic lights, we believe it is crucial to address this topic.

In our project, students are encouraged to reflect on scenarios where traffic poses risks, especially for individuals with visual impairments, and to explore other potential obstacles such as reading menus in restaurants.

Social aspects

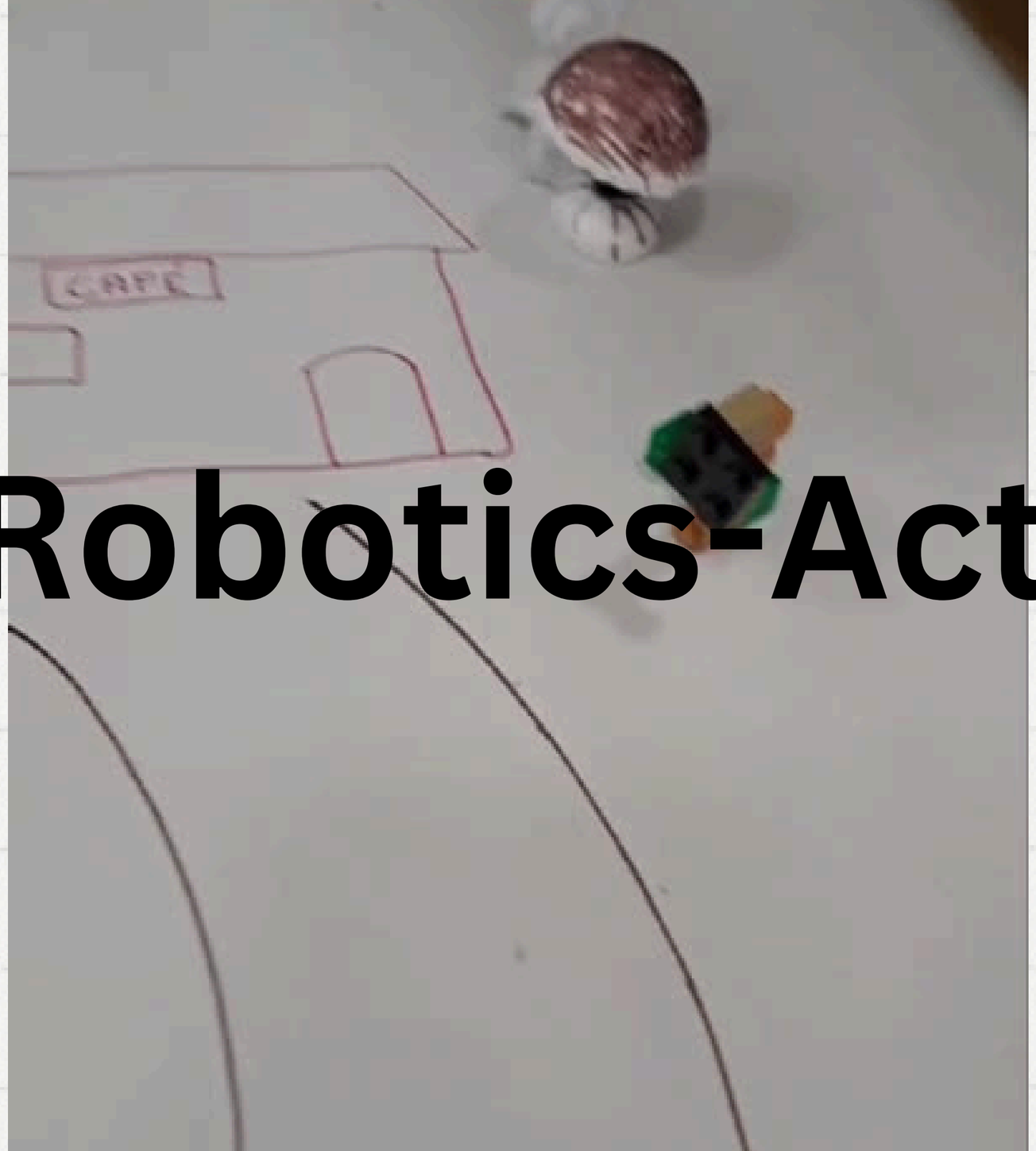
- planning, designing, presenting together as a team
- decision making processes
- different roles for students (dividing group work)
- high students’ participation and involvement

Solution

- design a map (e.g. of your school’s surroundings) with laser cutter or 3D printer
- add buildings, streets, crosswalks, parks and other facilities
- make the area accessible for people with seeing disabilities (ticking noises, signs in braille,...)
- move with Sphero Mini on your map and try out which ways you can go while thinking about obstacles

Sphero Mini

Sphero Mini is an ideal programmable robot for students of all ages and stages. Beginners can drive and play STEM-inspired games with Mini the Sphero Play App, and more experienced learners can program the Mini with Block Based Coding or JavaScript in the Sphero Edu App.



The Robotics-Activity

Difficulties

Originally we had a wood relief model planned.
The Sphero-Mini needed more space as expected and could not be programmed for more then 16 moves.

Challanges

The original plan of a wood map would require a lot of time. In a school, the project would have to cover several days or weeks. The resources would have to be available (large table of wood).

Strengths

The confrontation with robotic devices as well as the creative planning and designing is covered in this project. Also the social aspect is omnipresent.

Opportunities

Students gain a better understanding for the difficulties for blind people as they engage actively in the activity.

Connecttion to CE

Inspired by the participatory design model

Construction of a prototype that refers to a real problem of society by applying various digital devices.

Reflection of the difficulties that emerge by designing such a model

Attainment of design competences by students

Conclusion

- through the process of designing a barrier-free area for people with seeing disabilities, students encounter the different aspects and difficulties blind people encounter on a daily basis
- they reflect the difference between their designed map and the real world and its consequences
- students work in groups and can be creative while designing the map

Thank you for your attention!