



# Accessibility and Universal Design

## Standing aids for Students with disabilities



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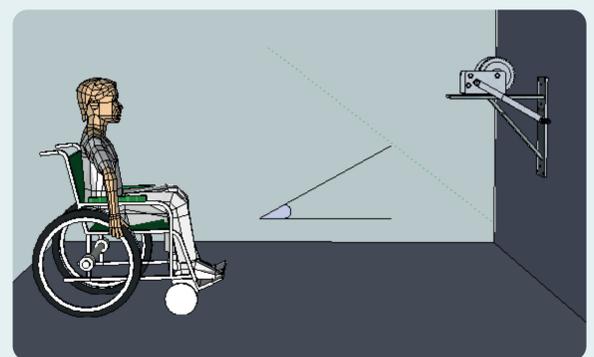
### Introduction

In the frame of Accessibility Chairs Department's actions, the objective of this project was to find a solution for two students of Vilanova: Dario and Sergi. These teenagers always need assistance to stand up, so they needed devices to make them more autonomous. The solutions selected must be adapted to each boy regarding his disability and needs. To achieve the goals of the project, the team had four months and no starting budget.

### Dario's Prototype



### Sergi's Prototype



**Who**  
**SERGI**  
- 17 years old  
- 60 kg weight  
- Student in la escuela el CIM of Vilanova

**Who**  
**DARIO**  
- 14 years old  
- Student in the Col.legi Públic Baix a Mar of Vilanova  
- 70 kg and 1.62 meters

**Why**  
- Diagnostic: young cerebral paralysis  
- Daily use of a bipedestador  
- Only stands up with the help of two people

**Why**  
- Diagnostic: spastic diplegia  
- Can stand up alone making huge efforts  
- Walk only with a metallic support

**How**  
- Research on existing devices / look for a new solution  
- Design and calculations  
- Purchasing materials  
- Sewing / assembling the prototype  
- Tests and improvements

**What**  
Mechanism consisted of a harness pulled by a manual winch attached to the wall.

**What**  
Elevator seat system adapted to the boy which consist of a pneumatic piston that works gradually.

### Conclusion

All the possible solutions to assist the students to stand up from their wheelchairs have been studied. The solutions selected improved the client's quality of life and made them more independent. The team expect that the the products developed can also benefit the parents, teachers and the boy's physiotherapists. The devices can always be improved according to the futures necessities of both students.

