006.Project Summary

006.P006-2023-2024-Automated Blinds Controller_S003_S005_S006

P006-S003-S005-S006-AutomatedBlindsController		
Team Members	Name:	Roles:
	S003 Matúš Baran	Idea manager, Head Engineer
	S005 Matúš Beharka	EA master, Administration manager
	S006 Pavol Belej	Team Leader, Lead Innovation scientist
Project resources		.stl files, EA project
Purpose	Ease the everyday living with automotive intelligent solution. Help people start the day feeling productively and well-rested.	
Individual Visions	S003 • Experience the process of innovation • Improve my systematic thinking through the development of our own project • Gain some skill with 3D printing	
	S005 • Get basic skill in using 3D printing • Deepen the aspect of teamwork with my colleagues • Create something useful	
	S006 • Experience the process of innovation • Deepen the aspect of teamwork with my colleagues • Create something useful	
Team Vision	Automate, make special and simplify activities related to everyday life. Raise awareness of small smart devices that make things easier.	
Team Mission	To create a device for automatic roll-up of blinds that can be timed, which will make it easier and more pleasant for people to get up in the morning every day.	
Strategy	1. Analysis of the issue, familiarization with similar existing solutions. 2. Proposal of a 3D model inspired by existing solutions. 3. Identification and procurement of necessary compatible components (engine, gears). 4. Creation of design diagrams that will be part of the documentation. 5. Assembly of a functional prototype. 6. Testing the resulting prototype. 7. In case of detection of deficiencies, we proceed to their repair and then retest the prototype.	
End Customer	Everyday normal person (10+)	

Expected Effort	4h / member / week	
Goals and Expectations	Created device prototype, necessary documentation / related project description in EA	
Solution Description	A device capable of fully or partially unrolling the blinds at a set time. The controller will receive the infrared signal. The device and the corresponding servo are powered by a battery.	
Project Roadmaps	**W07** Addressing the issues and motivating factors related to the project. Establishing the purpose and goals we aim to achieve. **W08** Analyzing existing solutions and identifying necessary external components. Device schematic. 1. GitHub - andynet/IoT_blinds **W09** The initial creation of models in the Enterprise Architect tool. **W10** Creating initial versions of 3D models, procuring external components. **W11** Compression and the creation of a prototype. **W12** Finalization of the Component diagrams and EA models.	
Reached Results	We effectively captured the solution from the systematic viewpoint while describing the desired requirements and expected behavior. Proposed design fulfills the initial idea of simplifying the everyday life.	
Experiences	Enterprise Architect, 3D modelling, System thinking through the 12Q concept.	
Positive experiences	We were able to execute the project starting from the business layer where we captured and designed the requirements that paved the path of the future development. We enriched our experience of working with Enterprise Architect and also with 3D modelling tools and 3D printing tools.	
Potential for improvements	Pay more attention to prototype design and improve the modelling skill in order to create more suitable 3D parts. Deepen the skills in microcomputers to be able to realize functional prototype.	
Inspirations	GitHub - andynet/IoT_blinds Automatic Window Roller Blinds | Arduino Project Hub (103) Pinterest	
Projected solution costs	Individual components cost: • Arduino Pro Micro - 9,50 eur,	

	• Motor Driver - 1,85 eur, • Infrared sensor - 1,20 eur, • Stepper Motor - 14,20 eur, • 3D print - expected ~2 eur (per material and service cost), Total cost: 28.75	