INSTITUT NATIONAL DES SCIENCES APPLIQUÉES TOULOUSE

Département de Génie Électrique & Informatique

Innovative Project

Design of an architecture for flight simulator with VR headset and dynamic seat

January 13, 2021

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Keywords: Flight Simulator; Dynamic Seat; VR Headset;

Abstract :

This paper provides ...

Contents

Introduction

Insert introduction here.

1 Objectives and specifications

1.1 Context

1.2 Solutions

1.3 Project schedule

As said before, we divided our project into several major tasks. In order to better organize our work, we created a Gantt diagram.

A Gantt diagram is a type of bar chart that illustrates a project schedule. This diagram lists the tasks to be performed on the vertical axis, and time intervals on the horizontal axis. The width of the horizontal bars in the graph shows the duration of each activity. The Gantt illustrates the start and finish dates of the terminal elements and summary elements of the project.

In a first step, we have defined two deadlines to be absolutely met:

- The components order, on Thursday, November 12. Because we need to plan for the reception of the components in order to have enough time to assemble our entire system.
- Then, the second deadline is at the end of January: the final oral presentation of our project.

In a second step, each of us defined the duration for each task, and for each sub-task, taking into account the deadlines and the overall workload. The duration of the tasks corresponds to the purple bars in the diagram.

1.4 Budgeting

During the first meetings, we defined with our tutors the budget allocated to the realization of the project. We started on a basis of 500€.

The major part of our budget was used for the acquisition of materials and components allowing the assembly of the controller and the dynamic seat.

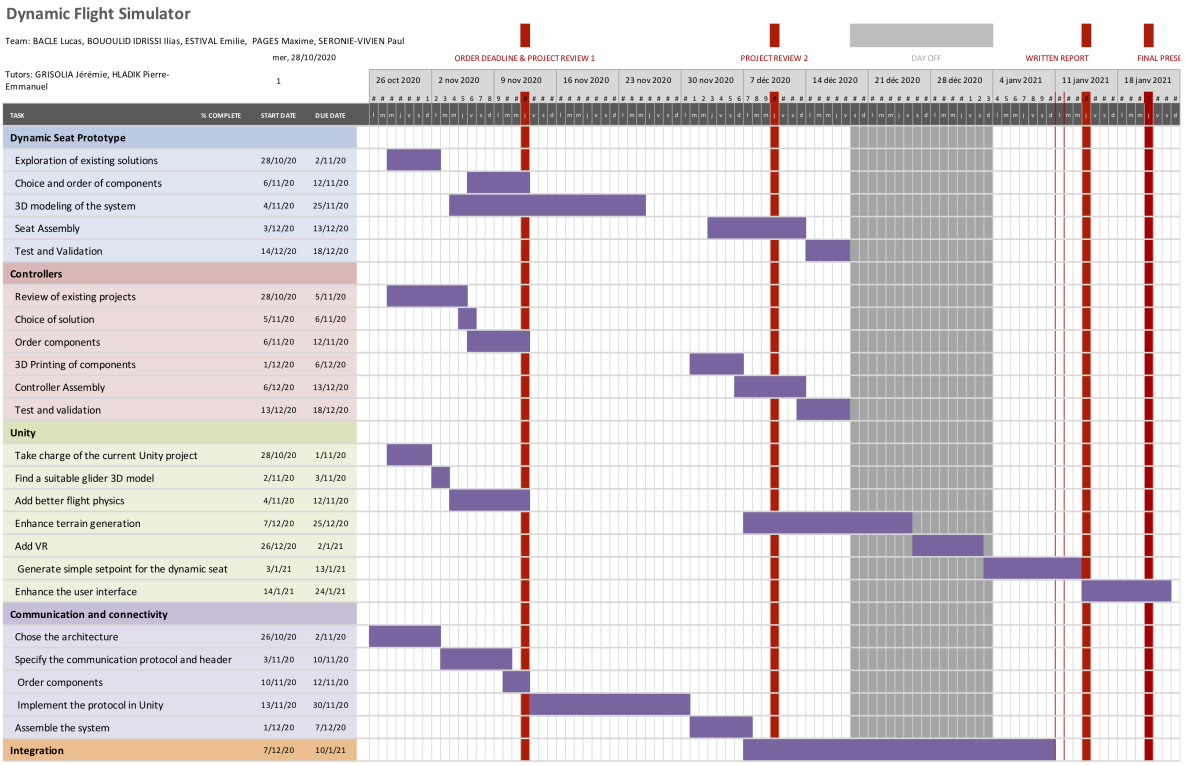

Figure 1: Gantt diagram

	Components	Shipping + Taxes	3D Printing	
	38,41	13,94	29,49	
	70,95	10,47		
	28,29	17,27		
	52,36	20,09		
	13,07	10,95		
TTL	203,08	61,77	29,49	**294,34**
				euros

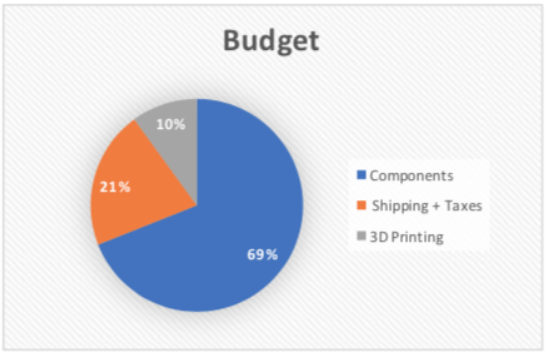

Figure 2: Budget

2 Design and production of the aircraft controller system

2.1 CAD

2.2 3D printing

2.3 Assembly

3 Prototyping and modelling of the dynamic seat

4 Improvement of the flight simulator software

4.1 Flight physics

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4.2 Terrain generation

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4.3 Communication

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5 Final assembly, integration and testing

5.1 Assembly

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5.2 Integration testing

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5.3 Performance evaluation

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Conclusion

In this paper, ...

References