FAMU-FSU College of Engineering
Department of Mechanical, Electrical, and Computer Engineering

Team 315
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Work Breakdown Structure

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Introduction

Work Breakdown Structure (WBS) document for the senior design group, team 315, building a drone simulator and flying an actual drone. The document outlines the tasks and deliverables for completing the project within the semester. The project is divided into major phases, including designing and developing the drone simulator software, testing and debugging the simulation, building the physical controller for the drone, and conducting test flights. Each phase is broken down into smaller tasks, such as design decomposition, risk analysis, and major targets. The WBS ensures that all team members have clear responsibilities, timelines, and resources, helping guide the project from the initial design stages to the final real-world drone flight.

Deliverable	Due Date	Task	Assignee	Completed
Project Charter	9/20/24	Develop attendance policy	All	Y
		Discuss communication	All	Y
		Define team roles	All	Y
		Write mission statement	All	Y
		Revise and edit document	All	Y
		Submit assignment	All	Y
Customer Needs and Requirements	10/2/24	Schedule meeting with sponsor	Jimmy Lu	Y
		Develop questions/attend meeting	All	Y
		Record/submit meeting minutes	Jackie Ou	Y
		Interpret Customer Needs	All	Y
		Revise and edit document	Cameron	Y
		Submit assignment	All	Y
Work Breakdown Structure	10/2/24	Write Introduction section	All	Y
		Breakdown table section	All	Y
		Write Summary section	All	Y
		Revise and edit document	Cameron Sayers	Y
		Submit document	Colby Hackett	Y
Functional	10/4/24	Determine main functions	Jonathan Tooby	Y

Decomposit ion				
		Construct system/subsystem hierarchy	Cameron Sayers	Y
		Incorporate functions into hierarchy	All	Y
		Write Introduction, Summary, References	Morgan Skinner	Y

		Revise and edit document	All	Y
		Submit document	Morgan Skinner	Y
Targets	10/9/ 2024	Research industry standards and list references	All	Y
		Determine metrics and assign ranking	Jimmy Lu	Y
		Assign targets to important metrics	Cameron Sayers	Y
		Create target/metrics table	Jackie Ou	Y
		Write Introduction, Summary, References	Colby Hackett	Y
		Revise and edit document	Jonathan Tooby	Y
		Submit document	Jimmy Lu	Y
Virtual Design Review I		Determine presentation structure	Jonathan Tooby, Colby Hackett	Y
		Create title and introduction slides	Jackie Ou	Y
		Create overview slide	Jackie Ou	Y
		Create data presentation slide	Colby Hackett, Jonathan Tooby	Y
		Create conclusion and question and answer	Colby Hackett, Jonathan Tooby	Y

		slides		
		Submit assignment	Jackie Ou	Y
		Attend presentation	All	Y
Concept Generation	10/25/24	Generate solutions 100 solutions	All	Y
		Select 5 medium fidelity concepts	All	Y
		Select 3 high fidelity concepts	All	Y
		Write discussion for report	All	Y
		Revise and edit document	Jackie Ou	Y
		Submit assignment	All	Y
Concept Selection	11/1/24	Create Pugh charts	Morgan Skinner	Y

		Quality	Jonathan Tooby	Y
		Create AHP	Colby Hackett & Jonathan Tooby	Y
		Discussion and final selection	All	Y
		Revise and edit document	Cameron Sayers	Y
		Submit assignment	Cameron Sayers	Y
Preliminary Detailed Design		Design Formulation	All	Y
		Create diagram	All	Y
		Overall Design Review	Jackie Ou	Y
		Submit Assignment	Jonathan Tooby	Y

Virtual Design Review II		Determine presentation structure	Jonathan Tooby, Colby Hackett	Y
		Create title and introduction slides	Colby Hackett, Jonathan Tooby	Y
		Create overview slide	Colby Hackett, Jonathan Tooby	Y
		Create data presentation slide	Colby Hackett, Jonathan Tooby	Y
		Create conclusion and question and answer slides	All	Y
		Submit assignment	Colby Hackett	Y
		Attend presentation	All	Y
Risk Analysis		Look for hazards associated with procedure	Cameron Sayers	Y
		Determine who will be exposed and range of possible exposure	Morgan Skinner	Y
		Define regulatory guidelines and decide control measures	Jimmy	Y
		Create plan to avoid risks	Jackie Ou	Y
		Have a plan in case of an emergency	Colby Hackett	Y
Bill of Materials		List and number all materials	Colby Hackett	Y
		Describe and measure materials	Colby Hackett	Y

		Determine quantity and cost of each material	Tooby	Y
		Record vendors and total project budget	Colby Hackett	Y
		Revise and edit document	JonatTooby	Y

		Submit assignment	Colby Hackett	Y
Detailed Design		Design Formulation	All	Y
		Revise and edit document	All	Y
		Submit assignment	All	Y

Summary

The Work Breakdown Structure (WBS) for the drone simulator and real-world flight project serves as a detailed roadmap to guide the team through the design, development, and testing phases. By clearly defining tasks, assigning responsibilities, and setting deadlines, the WBS ensures that the project remains organized and on track throughout the semester. It highlights the collaborative effort needed to successfully build the simulator, assemble the physical drone, and complete the flight tests, providing a structured approach to meet project goals efficiently.