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

Team 315
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Date: 12/4/24

Spring Project Plan

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Introduction

This document outlines our timeline and plan for the spring 2025 semester. With this document, we have projected due dates and deadlines for when we should have certain key aspects of our project developed and finalized. These milestones will help us stay organized, track our progress, and ensure that we allocate sufficient time for testing, revisions, and final deliverables. Our ultimate goal is to have the project fully completed and ready for presentation by Senior Design Day, where we will showcase our work to advisors, sponsors, and reviewers.

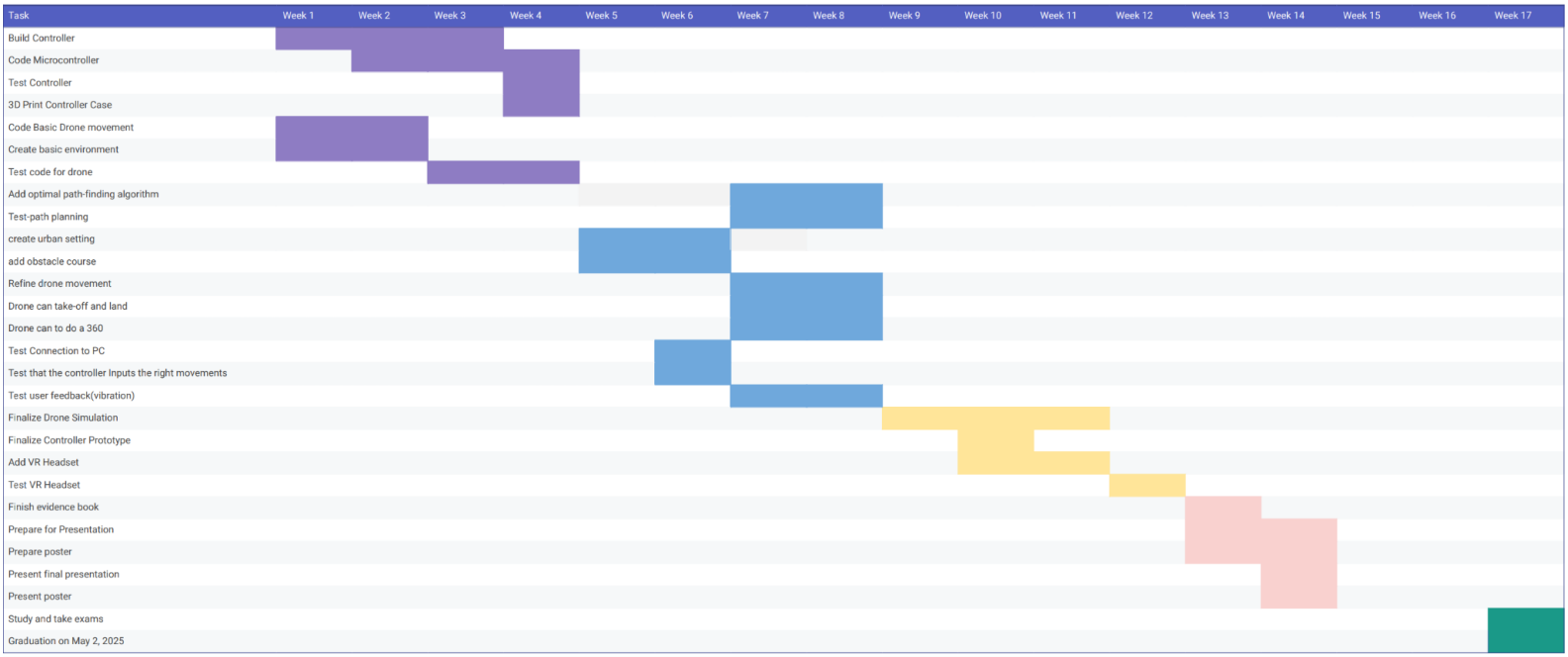
Our team has created a table outlining projected tasks alongside their corresponding due dates to provide a clear and structured overview of our timeline. Each date represents a milestone where specific aspects of the project should be completed, helping us maintain steady progress throughout the semester. This table is a visual guide to ensure accountability and alignment among team members as we work towards our final goal.

Spring Plan

Month	Milestone	Tasks
January	Prototype Controller	Build Controller
		Code Microcontroller
		Test Controller
		3D Print Controller Case
	Prototype Software	Code Basic Drone movement
		Create Basic Environment
		Test code for drone movement
February	AI Integration	Add optimal path-finding algorithm
		Test-Path planning
	Refine and detail the Environment	Create Urban setting
		Add obstacle course
	Test and Refine Simulation	Drone can move in all directions as a real drone can
		Code the drone able to complete take-off and land
		Code the drone to be able to do 360
	Test and Refine Controller	Test Connection to PC
		Test that the controller Inputs the right movements
		Test user feedback(vibration)

March	Final design	Finalize Drone Simulation
		Finalize Controller Prototype
		Add VR Headset
		Test VR Headset
April	Engineering Design Day	Finish evidence book
		Prepare for Presentation
		Prepare poster
		Present final presentation
		Present poster
May	Finals	Study and take exams
	Graduation	Graduation on May 2, 2025

Gantt Chart


Task
Week 1
Week 2
Week 3
Week 4
Week 5
Week 6
Week 7
Week 8
Week 9
Week 10
Week 11
Week 12
Week 13
Week 14
Week 15
Week 16
Week 17
Build Controller
Code Microcontroller
Test Controller
3D Print Controller Case
Code Basic Drone movement
Create basic environment
Test code for drone
Add optimal path-finding algorithm
Test-path planning
create urban setting
add obstacle course
Refine drone movement
Drone can take-off and land
Drone can to do a 360
Test Connection to PC
Test that the controller Inputs the right movements
Test user feedback(vibration)
Finalize Drone Simulation
Finalize Controller Prototype
Add VR Headset
Test VR Headset
Finish evidence book
Prepare for Presentation
Prepare poster
Present final presentation
Present poster
Study and take exams
Graduation on May 2, 2025

Assigned roles for spring task

Major Task	Specific	Member
Code and test drone movement in unity	Code drone Movement	Jackie, Morgan
	Add FPV	Jackie
	Add Drone model	Cameron
	Code keyboard, button, and joystick input	Jackie,Morgan
	Come up with realistic drag and flight mechanics values	Jonathan, Colby
AI Integration	Find an optimal path finding algorithm	Jackie,Jimmy,Morgan
	Build path finding algorithm	Jackie,Jimmy,Morgan
	Train and Test Path finding Algorithm	Jackie,Jimmy,Morgan
	Finalize Path Finding	Jackie,Jimmy,Morgan
	Find and build 3D object/assets	Cameron, Morgan

Build and refine environment in unity	Find/create textures for objects	Cameron, Morgan
	Build obstacle course	Cameron, Morgan
	Build urban setting	Cameron, Morgan
Integrate VR	Connect VR to simulation	Jimmy
	Test VR	Jimmy
Build and Test Controller	Cad design and 3d print controller case	Jonathan, Colby
	Code microcontroller for controller	Cameron, Jimmy
	Put together components of controller in the 3d printed case	Cameron, Colby
	Test Controller with Pc/simulation	Cameron
	Test Haptic feedback(vibration motor)	Jonathan, Colby
	Solder and hardwire components of controller	Cameron, Colby,
	Close controller casing	Jonathan, Colby
Documentation	Finish evidence book	Everyone
	Prepare for Presentation	Everyone
	Prepare poster	Everyone
	Present final presentation	Everyone
	Present poster	Everyone

Summary

In conclusion, this document provides a comprehensive timeline and plan outlining the critical steps required to complete our project by Senior Design Day. By adhering to the projected tasks and deadlines detailed in the table, our team aims to stay on track and deliver a polished final product. This structured approach ensures that we meet the expectations of our advisors, sponsors, and reviewers while demonstrating our ability to work collaboratively and efficiently.