



# ***MOVEMENT LAB***

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## Introduction

*First of all, thank you so much for supporting me and my channel!*

I created this documentation because the MovementLab is actually a lot more than just a Unity project with code that you can use for your own games – So please take yourself a few minutes to read through this, you're missing out on something otherwise :D

Basically, I want to give you the opportunity to learn how to code all the things contained in the project yourself! So, following you'll find a full 10-day learning-plan as well as advice on what to do if you're a complete beginner.

## Controls & Explanation

But first, here a list of everything contained in this project as well as explanations on keybinds etc.

### Sprinting - W,A,S,D

- The default way of ground movement. In a parkour game, I find it important that you don't have to press down any extra keys just to sprint

### Walking - LeftShift

- This could be used like in Valorant, you walk slower so enemies can't hear you

### Crouching - LeftControl

- If you don't press W,A,S or D and hold down LeftControl, you'll start to crouch

### (Double) Jumping - Space

- Press or hold down space to jump
- Press space mid-air to double jump

### Sliding - LeftControl

- If you hold down LeftControl while pressing W,A,S or D you'll start to slide

### Wallrunning - W + A,S

- In order to start wallrunning just hold down W while jumping onto a wall on your side. If the wall is on the left and you hold down W + A you'll do a diagonal wallrun (W + D for right side)
- Press space while wallrunning to perform a walljump

### Climbing - W

- To start climbing just hold down W while standing in front of a wall
- Press space while climbing to push yourself away from the wall and up in the air

## Dashing - E

- By holding down W,A,S,D you can freely choose in which direction you want to dash

## Swinging - LeftMouse

- Shoot a rope onto an object and swing through the air

## Grappling - RightMouse

- Shoot a rope onto an object, freeze mid-air for a short amount of time, then pull yourself towards the object hit

## Bouncing & Boosting

- Jump on bounce/boost pads for additional force

Almost every ability is a separate script on the player object, so you can learn and understand it step by step.

Variables like key binds and many others can be freely adjusted in the Unity inspector.

Once you've understood the code, feel free to change/add whatever you want.

## 10 Day Learning Plan!

Welcome to this learning plan, here you'll learn in just 10 Days everything you need to know in order to code your own advanced player movement controller.

### Requirements:

This plan does not require you to be an experienced game dev, but you do need to know the basics of C# and Unity, such as common variables, functions and Unity components.

In the section ["New to Coding – What Now?"](#) you'll find everything you need in preparation for this 10 Day Plan.

### How it works:

Every day is dedicated to one or two new movement mechanics. You'll get an overview of how this mechanic works and then a step-by-step guide on which code parts to look at understand (the code is fully commented). At the end you'll also find a few optional coding challenges you can complete to control if you really understood the code.

### Note:

You'll find the entire plan in a separate document included in this project file.

## New to Coding – What Now?

If you're still very new to coding and Unity and not yet understand the basic variables, functions and components Unity has to offer, you're going to have a hard time understanding my code, since I obviously can't explain all the basics in every script I comment.

But don't worry, you can learn all the basics by following along with 4 simple steps.

To start, just open the "New to coding" document included in this project file.

## Update Notes – Version 1.1

You downloaded Version 1.1 of the Movement Lab, on top of what was mentioned above, I also added:

### Vaulting

- Just walk / jump up to any wall and you'll vault over it, keeping your momentum

### Ledge Climbing

- Climb up to a ledge and look at it, you'll automaticall move towards it and hang in the air. Press space while hanging on a ledge to perform a ledge jump

### Sliding (Slopes)

- While sliding down slopes your slideTime is not limited and you gain momentum

Features of Version 1.1 are not yet included in the learning plan.

## Problems, Support & Feedback

If you encounter any problems with the project/code, just reach out to me over discord, I'll answer asap.

Also, if you used this project to learn how to code player movement, I would really appreciate if you gave me Feedback on how your learning experience was. This way I can further improve and optimize this project.

**My Discord Server:** <https://discord.com/invite/5S3bBBq>

*Again, thanks a lot for supporting me and best of luck on your GameDev journey!*

*Dave*