Multi-Platform Development

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Keuzemodule Multiplatform Development
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The Concept

The concept of the game is making the user play the same save game on different platforms in order to finish the game. For this project I only used Mobile and PC as platforms.

Before the player starts, he has to register an account which will be stored on an online database.
When he logs in, the Vector3 data linked to the account (if there is any) will be applied.
The player starts off the game with a limited amount of controls.
Each platform has its different set of controls, which are all needed to complete the game.
When the player is stuck and can't continue the game, he has to press the big SAVE button which stores the Vector3 data of the player to an online database.
The player continues to log in on another platform and using the newly gained controls to progress in the game.
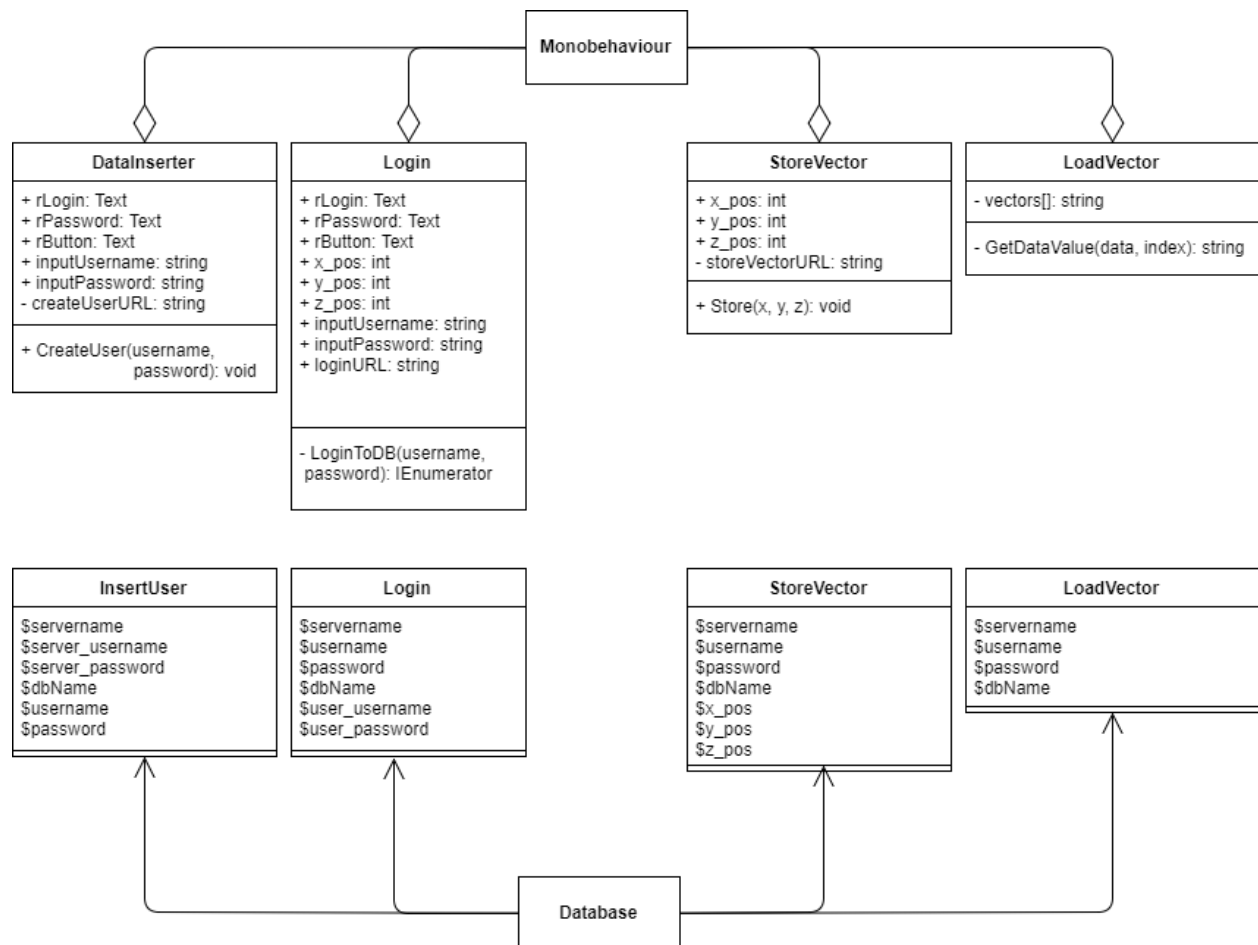
The Code

For this project I decided to make use of an online database.
Since it's my first time making use of databases, it caused me to put a lot of time in it, and fail a lot.
The scripts in Unity communicate with the PHP scripts stored on my database, making it able to request or insert data.
The script in Unity makes use of pre-processor directives to detect which platform it is on and sent the dedicated controls.

Monobehaviour

DataInserter
+ rLogin: Text
+ rPassword: Text
+ rButton: Text
+ inputUsername: string
+ inputPassword: string
- createUserURL: string

+ CreateUser(username, password): void

Login
+ rLogin: Text
+ rPassword: Text
+ rButton: Text
+ x_pos: int
+ y_pos: int
+ z_pos: int
+ inputUsername: string
+ inputPassword: string
+ loginURL: string

- LoginToDB(username, password): IEnumerator

StoreVector
+ x_pos: int
+ y_pos: int
+ z_pos: int
- storeVectorURL: string

+ Store(x, y, z): void

LoadVector
- vectors[]: string

- GetDataValue(data, index): string

InsertUser
$servername
$server_username
$server_password
$dbName
$username
$password

Login
$servername
$username
$password
$dbName
$user_username
$user_password

StoreVector
$servername
$username
$password
$dbName
$x_pos
$y_pos
$z_pos

LoadVector
$servername
$username
$password
$dbName

Database

Issues & Solutions

The first issue I stumbled upon was how to save the data in a way it could be reached from both platforms. The first thing I tried is exporting data to XML, and storing it somewhere online.
Since the XML should be linked to a personal account, and I had no way of doing that with XML I decided it would be better to store everything on a database.

When I got the login and registering system working, I started working on the Vector3 data.
I managed to send and receive the Vector3 data of a person, but not to link it to an account.
I figured it would be doable to link two tables to each other, linking the Vector3 data stored in a different table to the personal account table.
This however didn't seem to be the case, as I couldn't find a solution after a long time of searching.

I still haven't resolved this issue, but planning on doing so when there's more free time since I would like to re-use this solution in the future.