Pulsoid VRchat World Integration

Hello and welcome to the Pulsoid Vrchat World Integration, Developer Documentation

In this documentation we use P.V.W.I as an abbreviation for Pulsoid Vrchat World Integration

What Is P.V.W.I and what can it be used for?

P.V.W.I was made for the purpose of integrating the players heart rate data into the World side of VRChat allowing world creators to implement code and game features based around the players heart rate.
Some of the following are idea you could implement into VRChat Using P.V.W.I

1. Mood lighting based upon the average heart rate in the room
2. Develop a game that uses the players heart rate to determine the difficulty curve of the game
3. Develop a fitness game for players that will have extra data like heart rate to track the players progression.
4. Develop anything you like with the heart rate data, it is yours to toy with. Your imagination is the limit.

Within the world of Vrchat or twitch you've most likely already seen someone using Pulsoid tech to display their heart rate in a fun and entertaining way. Now why not include that inside of your games in Vrchat??

How Do i Implement P.V.W.I into my already made project?

01

INSTALL

Install the premade package supplied to you on our github
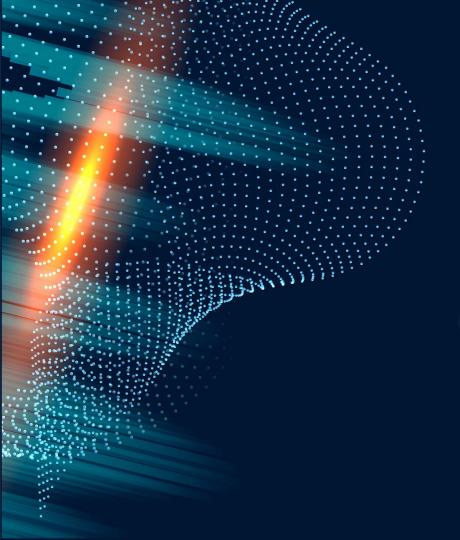
02

SETUP

Follow our documentation to set up the needed assets for P.V.W.I to work

03

INTEGRATE

Use the premade assets in the prefabs folder or learn to code your own later in this document

INSTALL & SETUP

Moving on from here we will talk about how to install and setup P.V.W.I

—Installation

Take a look at out github page and download the provided P.V.W.I.UnityPackage

From there you can open your VRChat world Project and open the P.V.W.I.UnityPackage file and it should install all the needed files in a folder called P.V.W.I

A pop up should appear asking for you to install Text Mesh Pro, install both TMP and the TMP addons

Once this is done you have installed the needed files for the P.V.W.I to work and we are ready to move on to the next step, the Setup

—Setup

Moving into the Setup of P.V.W.I we will need to head into the prefabs folder.

Inside the prefabs folder you will find all the prefabs we have provided you with.

You should be able to see a prefab called H.R.T (heart rate calculator)

If you are going to be adding on to P.V.W.I please keep in mind that the H.R.T only runs locally and is not networked. If you want to get everyone's Heart Rate you will ether need to make an array yourself calling to everyone in the world or just call to our the SDS.slots[].HR to get that slots Heart Rate (this dose use the script on the H-R.I.B prefab so you'll need to add it into the project as well. We will talk about this later in the documentation)

Now you will want to drag and drop this into your project to add it into the world, this will take the midi data coming in from the user and will decode it into the players heart rate so that we can use it later on.

You are now finished with the set up part of the documentation, let's move on.

What Prefabs have we supplied?

Inside of the prefabs folder you will find the following prefabs

- H.R.T (heart rate calculator)
- H.R-I.B
- H.R-A.L
- H-H.R.B Offset Holder
- H-H.R.B Spawner
- W-H.R.B (local only)

We will now go into detail about what each one is and how each one works.

All prefabs are set up automatically and can just be dragged into the scene without any need to edit them or set them up.

H.R-I.B (HEART RATE - INDICATION BOARD)

How Does It Work?

H.R-I.B is ran by the instance only all of the networking and code is sent through them.
When a player(s) join the instance the owner will look through an array of 64 slots and will allocate a slot to that player giving them ownership and turning the slot on for everyone so that everyone can see it.

What Does It Do?

H.R-I.B is a display board to show everyone's heart rate in the world instance.

H.R-A.L (HEART RATE - AMBIENT LIGHT)

How Does It Work?

H.R-A.L collected everyones heart rate by calling into the SDS script run on the H.R-I.B prefab, it called to get the slot update script on the first slot and get the heart rate from it by doing SDS.Slots[i].HR Slots holds the script inside of every slot and inside of that script that players Heart rate is stored. Once the script has gotten this it adds it number to a int and does it for every other Heart Rate that is over 0 then it divides the total by the amount of slots we pulled a Heart rate from And set a the color of all the lights inside of it as one of 4 colors depending on how high the average heart rate is

What Does It Do?

H.R-A.B sets the color of all the lights inside of it to a color that is determined by the average heart rate in the world instance.

(you can change the colors by clicking onto the H.R-A.L prefab and change the colors labeled one - four in the inspector.)

H-H.R.B Offset Holder (HEAD - HEART RATE BOARD)

How Does It Work?

H-H.R.B Offset Holder is very simple and has no code inside of it apart from the code inside of the child object that will move the H-H.R.B above the owning players head while showing their heart rate above their head by calling directly to the H.R.T (heart rate calculator) script to get the owning players heart rate, the player then syncs this variable with everyone in the instance and then proceeds to show it on the UI now above their head.

What Does It Do?

H-H.R.B Offset Holder is a simple prefab made to offset the position of the text UI inside of it that will display the owning player's heart rate above their head

H-H.R.B Spawner (HEAD - HEART RATE BOARD)

How Does It Work?

H-H.R.B Spawner works in the exact same same way that the H.R-I.B works, it's the same code just with some variables changed and what object it gives away changed. Everything else is the same. When a player loads in the owning player checks an array of 64 objects finds one that is not in use and gives it to the player then giving that player ownership of that object.

What Does It Do?

H-H.R.B Spawner is a prefab that is used to set every player a H-H.R.B it works in the same way that the H.R-I.B works..

W-H.R.B(local only)(WRIST - HEART RATE BOARD)

How Does It Work?

W-H.R.B works basically the same as the H-H.R.B however it is local only and instead of being over the player head it is attached to their wrist. Again it is the same code with some variables changed and without the networking, as it is local only you'll only ever need one in the instance.

What Does It Do?

W-H.R.B will only show up for the local player, it is attached to their wrist bone and will display their own heart rate to them.

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