

GNG 2101

Deliverable J

User Manual



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Abstract

During this summer 2020 semester in the GNG 2101 class, CoVirtual got assigned the production of a VR Workshop online by CEED. Our team has come a long way from the first client meeting to the final prototype. This hard work was shown in the completion and quality of each deliverable where the entire team gave ideas and input together to have the best solution as possible to the problem.

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Introduction

Problem

Due to COVID-19 pandemic and social distancing rules, CEED needs an online/virtual platform to provide their learners with a beginner VR workshop that is as interactive and realistic as their in-person sessions.

User Requirements

#	Requirement		Imp
1	The workshop	is interactive	5
2	The workshop	introduces the basics of Unity	5
3	The workshop	explains how to download Unity	3
4	The workshop	teaches scripting and programming in Unity	5
5	The workshop	is cost effective	3
6	The workshop	is time effective	2
7	The workshop	demonstrates the link between 3D design and VR equipment	3
8	The workshop	is tailored to the needs of beginners	5
9	The workshop	provides user-specific feedback	4
10	The workshop	provides an educational user experience	4

Table 1: User requirement table

Why CoVirtual?

- We've designed our website to provide an educational experience for users, focusing on a simple user interface
- Our tutorial is accessible to students of every level of expertise
- We're focused on providing online interactivity through live user feedback
- We promote online learning through the use of relevant quiz questions during the workshop

Instructions

This project was developed using Google Sites as a hosting platform. Individual widgets were researched by the CoVirtual team and embedded into the website during the prototype II working phase. The completed website can be accessed at sites.google.com/uottawa.ca/ceed-vr-workshop/

To complete the tutorial with the best degree of effectiveness, users must install Unity onto their device. Unity is available for Windows and Mac OS.

Users are invited to follow the natural progression of the website using the navigation in place. Here is the recommended sequence for accessing and navigating the website:

Home page > View/Add calendar > Press “Start Tutorial” > Start the video tutorial > Visit downloads page > Ask questions using live chat > Visit FAQ page > Complete tutorial

Instructions for individual features are outlined in the features section below.

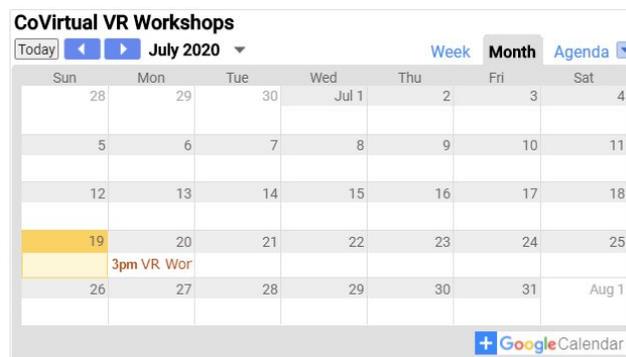
Features

The CoVirtual VR Workshop official website has many interactive features and widgets. This section will cover setup and use of the following features:

- Google Calendar Widget
- Video Tutorial
- Instructor Live Chat
- Coding Sandbox

Google Calendar Widget

This calendar widget, shown on the landing page of the CoVirtual website is implemented using Google Calendar.



CALENDAR

Add our CoVirtual VR Workshop calendar to get notifications about upcoming sessions!

Figure 1: Calendar Widget from CoVirtual Website

Instructor Use

Instructors can sign into the CoVirtual Google account with the following credentials:

email:	CoVirtualVR@gmail.com
password:	W2Gy2Xe6

Once signed in, visit <https://calendar.google.com/calendar/> to view and manage events. Any events scheduled/deleted from the **“CoVirtual VR Workshops”** calendar will be updated automatically on the website. Events added to any other calendar will not appear on the website.

For more instructions on how to create single or recurring events, please visit the [Google Support](#) page.

Learner Use

Learners can view the Calendar widget on the home page. The CoVirtual VR Workshops calendar can be added to a user's personal account by pressing the blue '+' icon (shown below) in the bottom right corner of the calendar widget.



Once added, any current and future events will be easily accessible from the user's personal gmail account. The current notification settings for anyone who adds the CoVirtual VR Workshops calendar are 2 days before, and 1 hour before the workshop begins.

Video Tutorial

The video tutorial widget, made with Articulate Storyline, is featured on the VR Tutorial subpage.



Figure 2: VR Tutorial Widget

Instructor Use

N/A → The tutorial is premade and ready to use for every workshop. The instructor's presence during live sessions will be explained in the Instructor Live Chat portion of this document.

Learner Use

Users will be able to navigate through the tutorial at their own pace by clicking the arrows and boxes that appear on screen. After completing the tutorial, users will be presented with a short quiz to assess their learning. If desired, this modular content can be accessed in another tab by clicking the "Open tutorial in new tab" button below the video tutorial.

Instructor Live Chat

The live chat, implemented with Padlet, can be seen under the video tutorial on the VR tutorial subpage. This is where learners and instructors can interact during live sessions for an interactive learning experience.

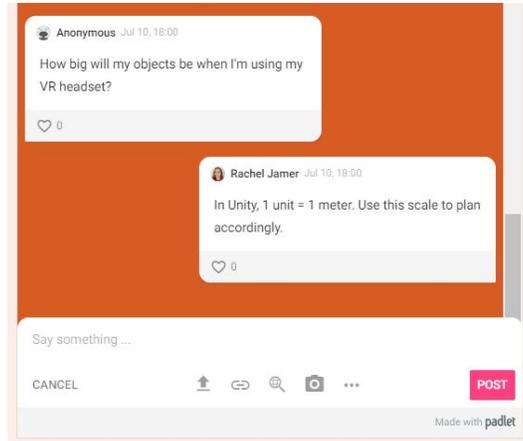


Figure 3: Live Chat Widget

Instructor Use

Instructors can sign in to Padlet with the following credentials by visiting padlet.com and clicking Log In→ Sign in with Google:

email:	CoVirtualVR@gmail.com
password:	W2Gy2Xe6

On the dashboard instructors will see one tile called “CoVirtual VR Workshop Q&A”. Accessing it will provide a complete backlog of the chat, updated as soon a learner asks a question. Learners and instructors alike can upload chats, images and more. CoVirtual recommends uploading screenshots of your computer to help users navigate Unity if necessary. Close monitoring of this chat through Padlet is what CoVirtual has defined as a “live chat” during scheduled sessions.

There is strict moderation and content filtering in place to prevent misuse of the live chat. Any user-uploaded chats or images must first be approved by the chat moderator (typically the instructor) before being seen by the rest of the tutorial participants. Profanity is automatically censored but be wary of offensive comments from users and be prepared to delete chats if necessary.

Any previous chats are not deleted until the instructor manually deletes them or uses the “clear all posts” button in Padlet. CoVirtual recommends wiping the contents of the chat after each session, but the instructor can choose to keep a select few questions and answers if desired.

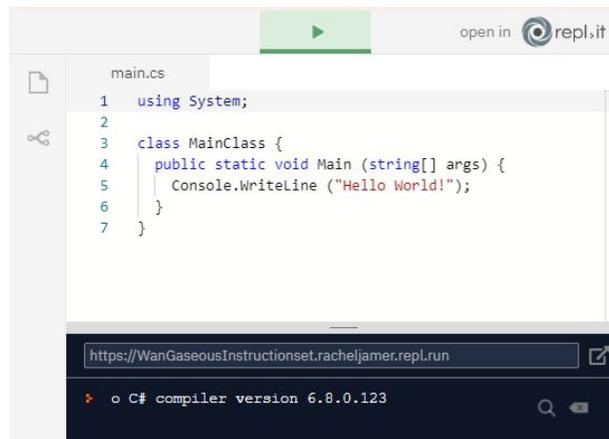
Learner Use

Users can access the padlet live chat in the widget on the VR tutorial subpage, or open it in a new tab if they so choose. Here they can type any questions they have about the tutorial as they progress and the instructor will be able to approve and answer questions swiftly. Users can also “like” other questions with the heart icon if desired.

By default, all questions asked in the chat are anonymous, unless users choose to create a padlet account and sign in.

Coding Sandbox

The Coding Sandbox, featured on the VR tutorial subpage, allows users to experiment using C# code in a simple code/console layout.



```
main.cs
1 using System;
2
3 class MainClass {
4     public static void Main (string[] args) {
5         Console.WriteLine ("Hello World!");
6     }
7 }
```

https://WanGaseousInstructionset.racheljamer.repl.run

o C# compiler version 6.8.0.123

Figure 4: Coding Sandbox Widget

Instructor Use

There is no upkeep required for the coding sandbox. It is automatically loaded with a simple Hello World code to demonstrate basic functionality. CoVirtual recommends using it to type, screenshot, and upload snippets of code users may be having trouble with if necessary.

Learner Use

Learners are encouraged to use the coding sandbox to test small portions of code. It is implemented for the convenience of keeping the tutorial in one window. Users can also use the sandbox to type, screenshot, and upload snippets of code they are having trouble with for instructor/peer review.

Safety Guidelines

This website does not collect personal information from any users. As such there are no concerns about user privacy/online safety.

Content visible in the live chat is to be moderated strictly by the session instructor.

As with any online resource, users are encouraged to take frequent breaks from viewing the computer screen to reduce the risk of eye strain or other computer related health issues. CoVirtual recommends completing the tutorial following the [Pomodoro Method](#) for maximum productivity and learning retention. This technique allots for frequent breaks to avoid strain and in doing so provides a more enriching user experience.



Figure 5: Pomodoro Technique

Troubleshooting

Any issues with the website itself should follow the procedure outlined below until it is functional again:

1. Refresh the site
2. If unsuccessful, access the site from a Guest window
3. Restart your computer

If further problems are encountered, click the information button () in the bottom left corner of the website. Select “Contact” and explain the technical issue you are encountering. An email will be sent to the creators of the website, the CoVirtual team. Please reserve this feature for serious technical issues that cannot be resolved.

Project Files

Published Site

<https://sites.google.com/uottawa.ca/ceed-vr-workshop/home>

Link to Edit Website

<https://sites.google.com/d/1YDa0X7xwXLVIXICno5TEbsSQP8RQ26Kv/p/1V0Z3X1rPMQ2LF-wLvtbgjCyrebPVhOAs/edit>

Maker Repo Repository

<https://makerepo.com/covirtual-workshop>

Conclusion

From building this platform, our team has learned a lot about product development and project management. For example, the time constraints on most of the submissions for this project were difficult to overcome, but with good organization and a well updated project plan chart, it was easier for each member to accomplish the task they had to do on time. It was also important to follow the critical path of product development and be on time with each task to not fall behind on the time of the submission. We spent a lot of time on the final prototype, and spent a lot of effort iterating the user interface to make it as interactive and flexible as possible. For completion, CEED would have to revize and upgrade the tutorial itself in that section of the website to make sure each important aspect of the VR environment was taught to the user. It has been an interesting semester, and we thank CEED for the great experience provided to us.

Bibliography

Technologies used:

Padlet : <https://padlet.com/dashboard>

Repl.it: <https://repl.it/~>

Google Calendar: <calendar.google.com/calendar>

Articulate Storyline: <https://articulate.com/360/storyline>

Website hosting/creation: <sites.google.com>

Pomodoro Method:

medium.com/manager-mint/the-pomodoro-technique-a-productivity-guide-908c73619e9