



VICTORIA UNIVERSITY OF
WELLINGTON
TE HERENGA WAKA



Latin America

Centre of
Asia-Pacific Excellence

VIRTUAL MACHU PICCHU PUEBLO LEARNING TOOL SUPPORT FILES

INSTALLATION, USER CONTROLS, & MULTIPLAYER INSTRUCTIONS

Prepared to support the Virtual Machu Picchu Pueblo Learning Tool developed by Victoria University of Wellington (VUW) with funding from the Latin America Centre of Asia-Pacific Excellence (LatAm CAPE)

Welcome to the information file about user controls and multiplayer mode

This file provides information about downloading, installing and opening the Application.
It also lists all the user commands and app functions as well as detailed information about how to use the multiplayer mode when Internet is available.

| Contents | Page Number |
|-------------------------------------------------------------|-------------|
| Downloading and Installing the Application | 2 |
| Opening the Application and User Controls | 4 |
| Setting up and using the Multiplayer Mode | 7 |
| Detailed Information about Multiplayer Mode | 9 |

Minimum Requirements

Note: most mid-range Windows-based computers and better can play the Application

Operating system:

- Windows

CPU:

- Greater than 2GHz clock speed
- Multi-core

Memory:

- At least 8GB of RAM

GPU (Graphics):

- At least 2GB of video memory
- Released after 2013
- Suitable for 3D applications

Hard drive Space:

- At least 4GB of available space

Input:

- Keyboard and Mouse

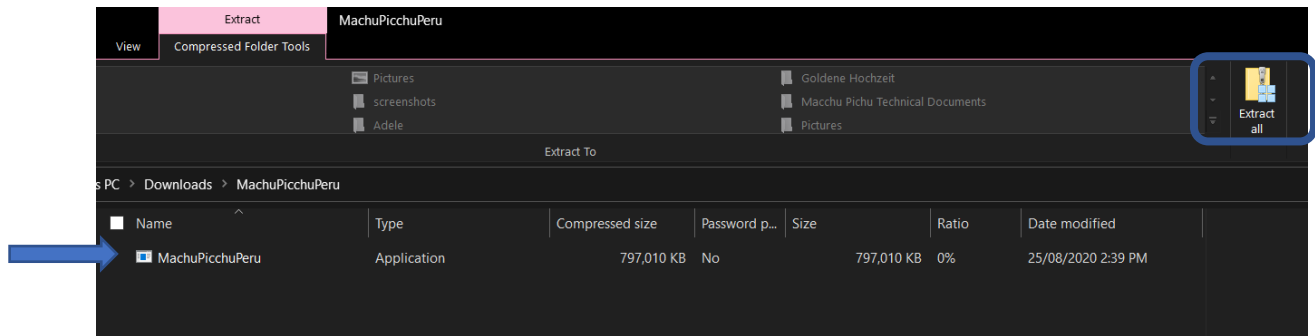
Internet Connection:

- Not required for single player mode
- Required for multiplayer mode

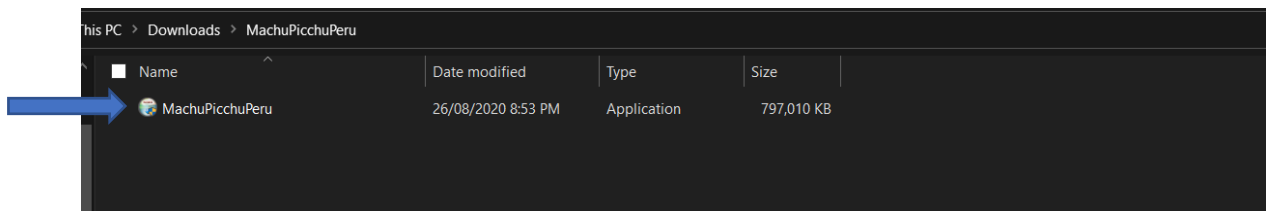
The Virtual Machu Picchu Pueblo Learning Tool was developed by a cross-disciplinary team from Victoria University of Wellington, Aotearoa/New Zealand: Dr Christian Schott, Project Leader (Tourism Management Program, School of Management), Dr Andrea Milligan (Faculty of Education), and Dr Stephen Marshall and Johnny Flutey (Centre for Academic Development)

DOWNLOADING AND INSTALLING THE APPLICATION

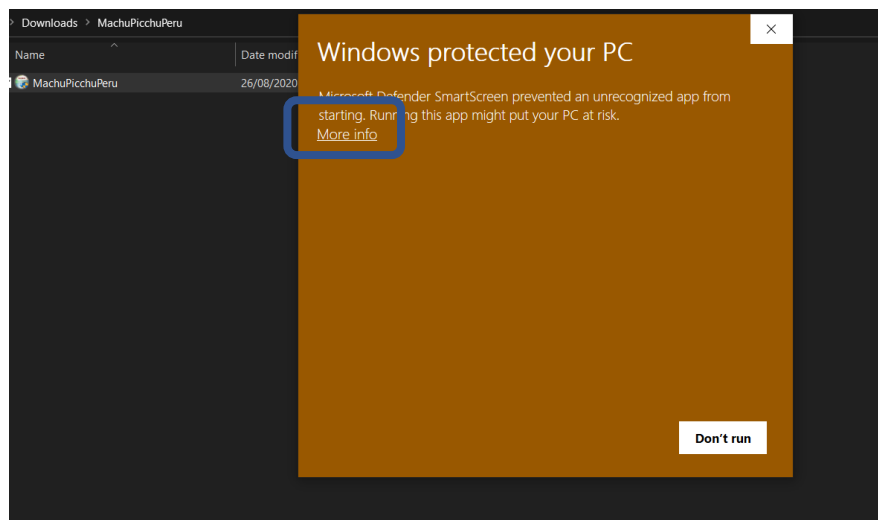
1. After downloading the file 'MachuPicchuPeru.zip', 'unzip' it by double left clicking 'extract all'. Make sure that you unzip the files to a folder that you can easily find.



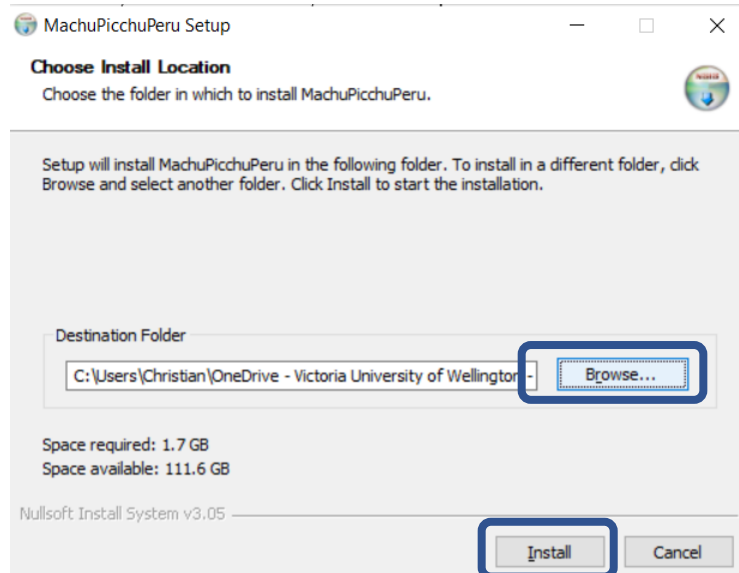
2. Once the unzip process has completed, double left click the application itself to extract the learning tool files



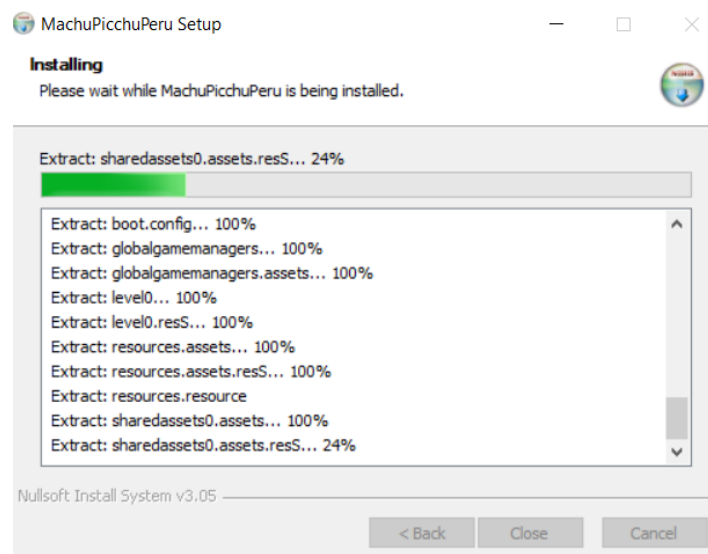
3. You may be asked whether you are sure about opening it, because it is from an 'unknown publisher'. Click 'yes', 'run' or 'run anyway' (the VUW project team are the publisher and the software is virus free); if your security notification looks like the one below, you need to click 'more info' first



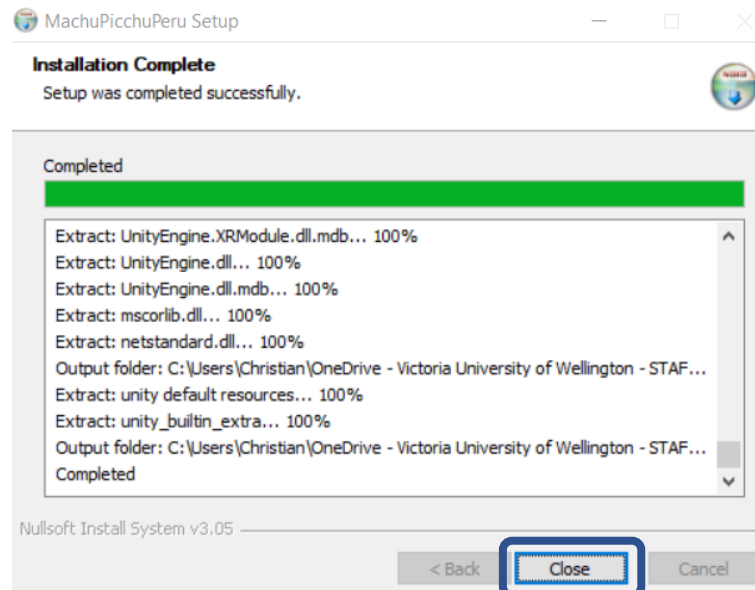
4. Select where you want the application to be installed on your computer and then press install. Make sure that you select a folder that is easy for you to find on a day to day basis.



5. Wait for the application to be installed on your computer – this can take about five minutes.

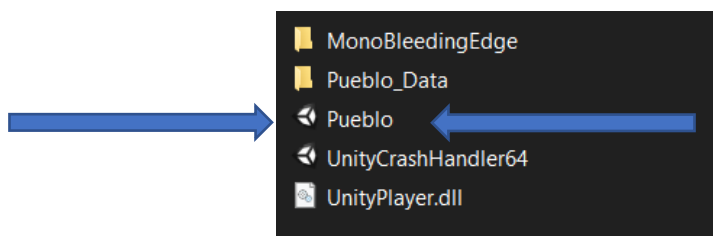


- Once the installation is complete click 'close'.



OPENING THE APPLICATION AND USER CONTROLS

- Go to the folder where you installed the application and open the folder 'MachuPicchuPeru'. To start the learning tool double left click on the file entitled 'Pueblo'; ignore all other files.



- After the three introduction screens you will arrive in (virtual) Machu Picchu Pueblo, in the place where you would likely disembark the train from Cusco.



9. To move around you need to use the following keys:

W: move forward

S: move backward

A: move left

D: move right

Mouse: change direction avatar is facing.

Note: you need to stop moving before you can change avatar's direction with mouse.



10. Additional Controls, see the 'hot keys' on left bottom

ESC: exit the application as well as exit windows inside the application

K: setup or join multiplayer mode

P: pause videos

U: screenshot

N: teleport to town from mountain

M: teleport to mountain from town

G: graphics options for your computer

H: hide hotkeys



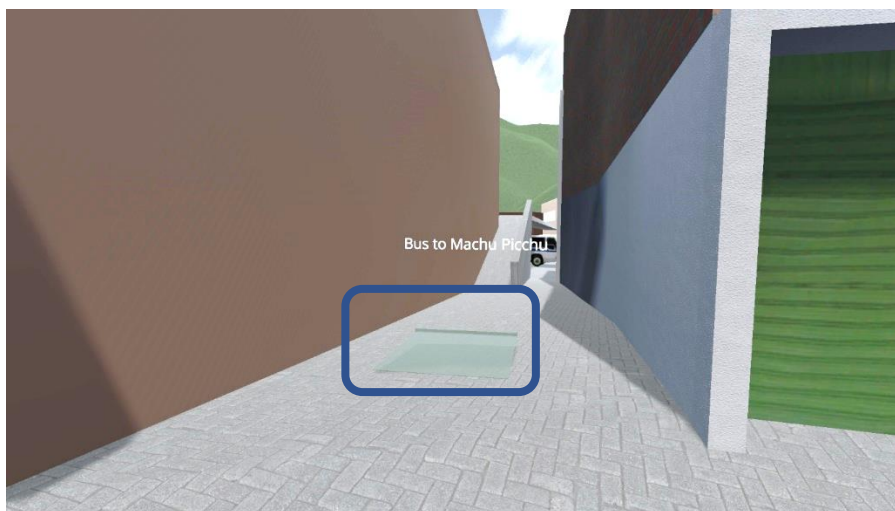
11. Using the videos

To activate a video, you need to step onto the green platform. The video of the stakeholder will start automatically.



12. Visiting Machu Picchu citadel (archaeological site)

To visit the citadel on the mountain, you can either step on to the green platform where the tourist busses line up, or press M

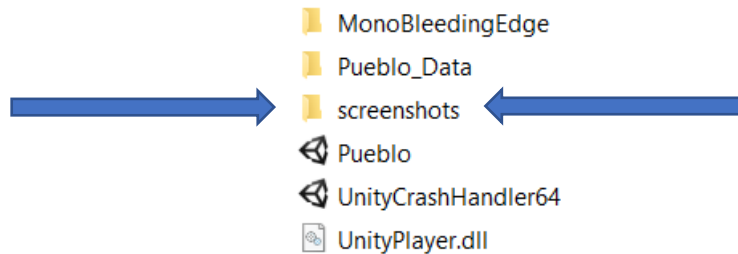


13. Returning to Machu Picchu Pueblo

To return to Machu Picchu Pueblo from the mountain, you can either step on to the green platform where the tourist busses line up, or press N.

14. Taking pictures

To take 'pictures' (screen shots) in the Learning Tool, use the 'U' key. The pictures you take will be stored in the 'screenshots' folder of the Application.



SETTING UP AND USING THE MULTIPLAYER MODE

Note: Due to license restrictions **only 100 students can use the multiplayer function** at any one time. During busy times this may mean that the multiplayer function is not available, and students will stay in single player mode.

For multiplayer mode the software will need permission to access the Internet. On a home computer this can be done through the prompt that should appear when the software is run. On a school computer this will need to be setup by an administrator.

15. Once the software is running, press 'K' to open the Multiplayer menu
16. Before joining or starting multiplayer mode, students must select an avatar and enter a nickname for their avatar. Once a name and avatar are selected, click the 'Connect to Server' button.



17. The multiplayer menu offers four options



Create Game – Allows any student to create a new multiplayer session, with between 2 and 10 students. The new session can be left available for anyone to join or hidden from others in which case students wanting to join need to enter the game name in ‘join private game’ option below.

Join Public Game – Any game that has been created and set to ‘Public’ will show up in the public game menu. To join one of these games, click the game name you wish to join.

Join Private Game – Any game created with the ‘Public’ option unticked will not show up in the public game menu. These private games can be joined by typing in the name of the private game, which you need to obtain from the person who created it.

Drop from Server – This button will disconnect you from the multiplayer server. You can continue using the application in single player mode or change your avatar and nickname and re-join a multiplayer game (provided that you have Internet connection).



Once you have joined a game, you will be presented with a screen outlining the number of students in the game and whether it is public or private.



The 'Leave Game' button, allows students to leave their current game and create or join another. The 'Disconnect' button will return students to single player mode.

All full-screen menus can be hidden by pressing the 'Esc' key.

DETAILED INFORMATION ABOUT MULTIPLAYER MODE

Photon (PUN) – Multiplayer

Exit Games Inc. (USA)

Exit Games Inc. is a Delaware corporation, registered number 479845 - 96
121 SW Salmon ST STE 1100, Portland, Oregon 97204

Exit Games GmbH (Germany)

Hongkongstraße 7, 20457 Hamburg
registered number HRB 85991
VAT number DE230141331
CEO Christof Wegmann
Phone: +49/40/413596-0

Machu Picchu Peru Included Service

The software has been configured to use a pre-existing PUN subscription. The service allows for 100 concurrent users and will expire in July 2025.

Software permissions for multiplayer mode

To utilise the multiplayer functionality of the software, the operating system will need to be set to allow Internet connections. On a Windows home computer, a prompt should appear when running the software for the first time. For school or professional settings, a systems administrator will likely need to add the permission instead.

Firewall Ports

The Photon (PUN) service requires the following ports to be open:

| Port Number | Protocol | Purpose |
|---------------|----------|---------------------------------------------|
| 843 | TCP | Flash / Unity Policy |
| 4530 | TCP | Client to Master Server (TCP) |
| 4531 | TCP | Client to Game Server (TCP) |
| 4533 | TCP | Client to Nameserver (TCP) |
| 5055 or 27001 | UDP | Client to Master Server (UDP) |
| 5056 or 27002 | UDP | Client to Game Server (UDP) |
| 5058 or 27000 | UDP | Client to Nameserver (UDP) |
| 6060 | TCP | Client to Master Server (rHTTP) |
| 6061 | TCP | Client to Game Server (rHTTP) |
| 6063 | TCP | Client to Nameserver (rHTTP) |
| 9090 | TCP | Client to Master Server (WebSockets) |
| 9091 | TCP | Client to Game Server (WebSockets) |
| 9093 | TCP | Client to Nameserver (WebSockets) |
| 19090 | TCP | Client to Master Server (Secure WebSockets) |
| 19091 | TCP | Client to Game Server (Secure WebSockets) |
| 19093 | TCP | Client to Nameserver (Secure WebSockets) |

Source: <https://doc.photonengine.com/en-us/pun/current/connection-and-authentication/tcp-and-udp-port-numbers>