

# Virtual Reality and Interactions Laboratory Access Application Form

Linköping University is providing access to advanced Virtual Reality equipment to be used by researchers and students. This is done through the Virtual Reality and Interactions laboratory located at floor 5 in Kopparhammaren 6, Campus Norrköping. This is the same building as the Norrköping Visualization Center.

To gain access to the laboratory it is required that the person follows the accompanying rules, that regulates the usage of the premises and equipment, among other things. The access may be limited if these rules are not followed.

I hereby certify that

- I have read and understood the rules described in the appended page
- I will follow the rules when using the laboratory premises and equipment
- I will be cautious with the equipment

Full name		
Swedish personnummer	Username (LiU-ID)	Attest
Signature, place and date		

## Virtual Reality and Interactions Laboratory Rules

1. Access to the VR laboratory may be revoked if these rules are not followed, or if the trust is in any other way misused.
2. These rules and associated access apply to the VR laboratory only. No access to connected areas are implicitly granted by allowing access to the laboratory.
3. Keep the lab clean. Do not bring food or beverages to the lab. Remove the trash when you leave.
4. Make sure the doors are closed and locked when you leave. The risk of theft is low since most equipment does not interface to ordinary PCs. However, there is always a risk of vandalism and careless use by unauthorized people.
5. If you lose your personal key card, report this immediately to Campus security.
6. Friends and relatives are welcome to visit the lab in company with authorized people and under their supervision and responsibility. Keep in mind, though, that they have not read these rules and do not know how to use and handle the equipment. Be extra careful when bringing children into the lab, they can be very fast!

## Equipment

7. Be careful with the equipment. Some equipment is fragile and very expensive.
8. If you happen to break anything or if you discover that anything is broken, please let us know as soon as possible. The sooner we know, the sooner we can repair and/or replace the broken pieces.
9. If the equipment does not work as expected, please contact the personnel. The sooner we know, the sooner can we fix any problems.
10. Never change system settings, such as display resolution or update rate, or GPU acceleration alternatives except by following written instructions. If anything seems off, contact the personnel.
11. Always leave the computers turned on and never change or disconnect cables.

## Stereo Glasses

12. Handle stereo glasses with care. The LCD surface is fragile and easily scratched.
13. Turn off the glasses when not used, for example by folding them. Otherwise, the batteries located inside the glasses will not last for very long.

## VR Workbench

14. Avoid touching the screen. Damage or even fingerprints on the surface will reduce the image quality.
15. Turn off (press standby on the TV/monitor) when you leave the lab unless you hand the equipment over to another user.
16. Do not change settings of the screen or unplug the connected computer.
17. Unwind the cables to the tracking sensors carefully before and after each use. A weak spot is where the cable enters the sensor.

18. Do not drop the tracking sensors, especially not onto hard surfaces. There are sensitive electronic gyros inside the tracking sensors (head tracker and wand).
19. Glasses, head tracking and wand should be placed in their designated spaces when not in use.

## Haptic Devices

20. The haptic device has a limited range. When you reach the limit of its range, both in position and rotation, stop applying force and torque.
21. The haptic device can move by itself and thereby damage joints and adjacent equipment if not handled properly. Make sure that someone is holding the pen whenever a program is communicating with the device.
22. The Premium 3.0 devices are equipped with a safety switch that activates the feedback only when the handle is firmly held. Make sure that feedback is constantly activated by firmly holding the handle at all time during haptic interaction. Activating feedback during interaction may damage the equipment.
23. The haptic device does not handle infinite forces. When it shuts off due to too high force, just wait. It will restore itself.
24. The motors in a haptic device will heat up, especially during long, heavy duty work. The driver will turn down the feedback magnitude when it estimates that the temperature is too high. It is important to let the motors cool down when this happens.

## Head Mounted Display

25. The HMD systems are not designed for heavy use, so handle them with care.
26. The HMD will cover your vision so it is important that you carefully check
  - that all cables are untangled and can move freely, and
  - that you are clear of obstacles and do not step on cables or fall over furniture or other equipment while working in the virtual environment.
27. Follow the instructions when adjusting the HMD.

## Camera-based Tracking

28. Be careful not to tip over, displace or damage any of the cameras mounted or placed in the area.
29. Never disconnect camera TP cables; some cameras' hardware will be destroyed by doing so.