

BRINGING THE CONVENTIONAL SENSORY LABORATORY INTO VIRTUAL REALITY (VR) FOR FOOD SENSORY EVALUATION.

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ONLINE POSTER



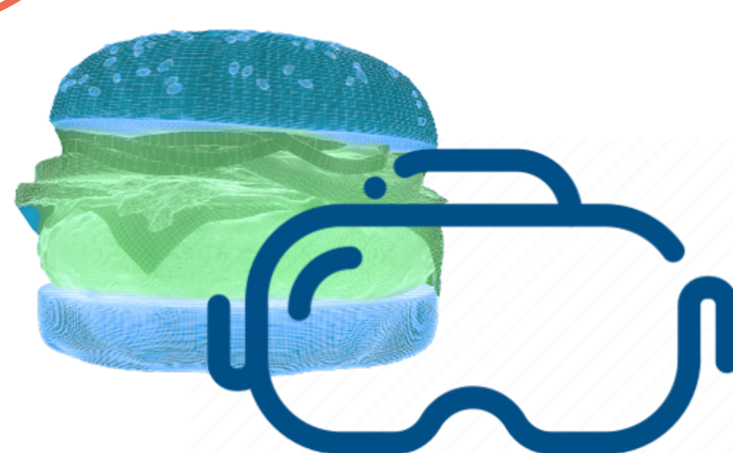
BACKGROUND

Sensory science is an intriguing and unique field of study, and VR has **risen in popularity in food-related studies**.

Traditional consumer testing has the **drawback of lacking construct validity and user participation in perception formation** due to isolated booth environments. VR is a new way to **replicate various environments**, and it has the **potential to bring up endless possibilities** for food and consumer behaviour research.



RESEARCH AIM

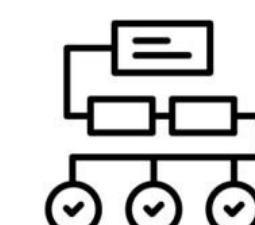


The aim of the research is to **create a virtual sensory lab for food sensory evaluation**.

The idea is to **incorporate the traditional sensory laboratory into virtual reality** and to see what differences there are, as well as **how VR affects consumer responses**, particularly in sensory analysis.



Virtual reality (VR) sensory laboratory is an **upcoming future** for food sensory evaluation.



METHODOLOGY



A virtual sensory lab had been designed using **Unreal Engine (UE) 4.27.2**, which is compatible with HTC Vive Pro and Leap Motion Controller (LMC).

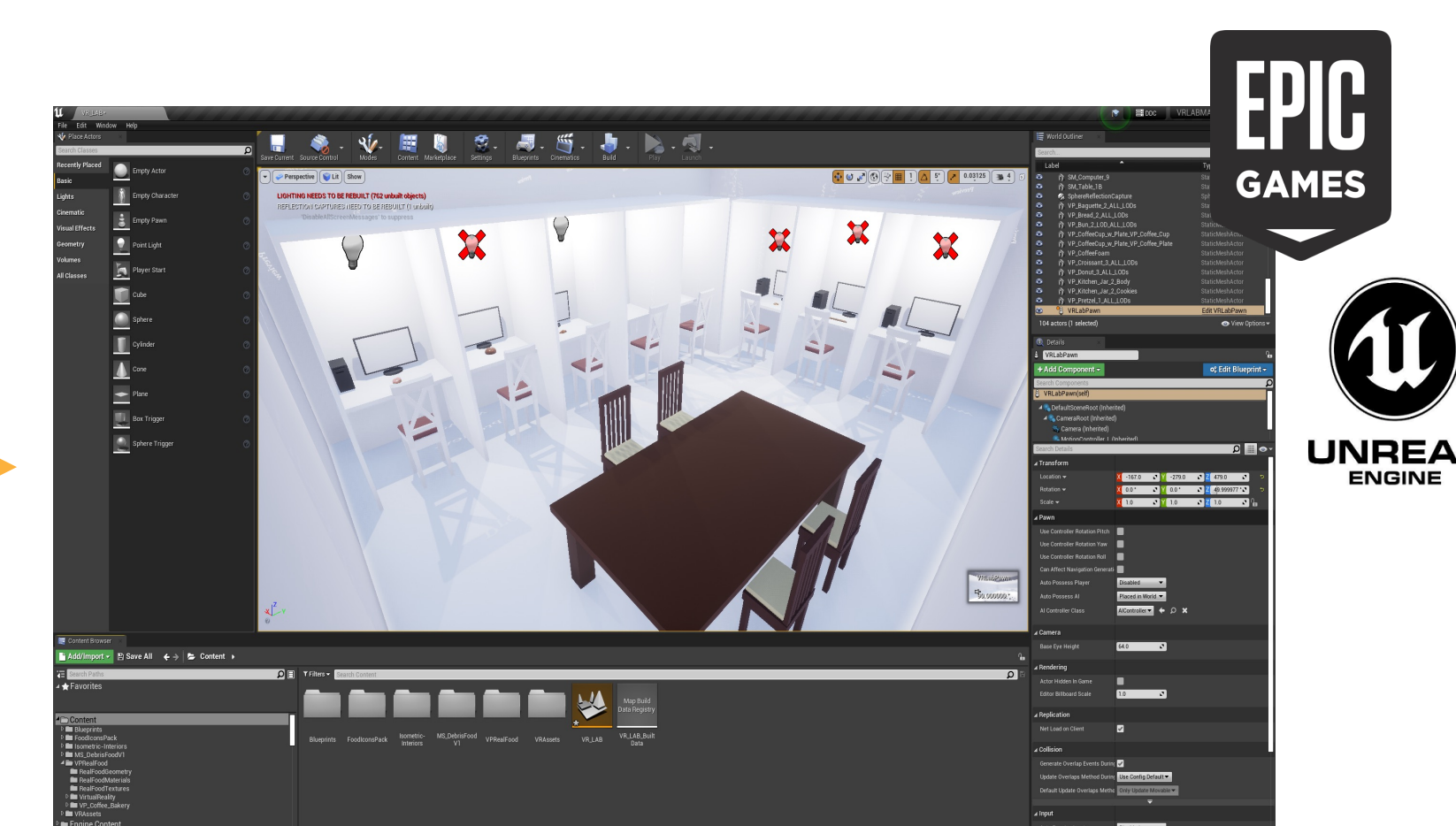


Figure 1: Unreal Engine (UE) version 4.27.2 software owned by Epic Games.

LEAP
MOTION

Figure 3: Leap Motion Controller (LMC) run by Ultraleap Gemini (Version 5) Software.

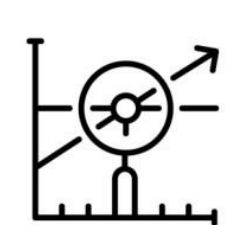
VR HEADSET

VIVE
htc



Figure 2: HTC Vive Pro VR headset operated by SteamVR Software.

VR ENGINE/
SOFTWARE



RESULTS

The software for the virtualised sensory lab had been developed and tested. **This VR sensory lab will be use in the upcoming planned study activities.**



Figure 4: The virtualised sensory lab overview of sensory booths and a discussion table based on ISO standard using UE.



Figure 5: The view of individual booth.



Figure 6: The first person point of view in the sensory booth.

The environment is designed to be as **identical as possible** to the Hungarian University of Agriculture and Life Sciences' (MATE) sensory booth system, which was established in **accordance with ISO 8589**.



CONCLUSIONS

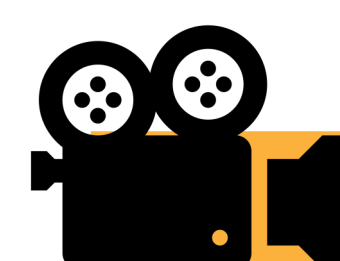
Virtual lab is a preliminary study which can be used as a sensory evaluation tool.

New data mining methods will be used to analyse the gathered variables in order to establish the correlations between VR and sensory evaluation.



HOW CAN YOU HELP?

Are you also working with **VR or Sensory Science**? Let us know about your research and what you think of this study?



See the virtual sensory lab in action



<https://youtu.be/OSP7i-H0tQU>

The addition of LMC to VR **enables for the tracking of hand and finger movements in space** without the use of a VR controller, which is **beneficial for consumer-product engagement**.

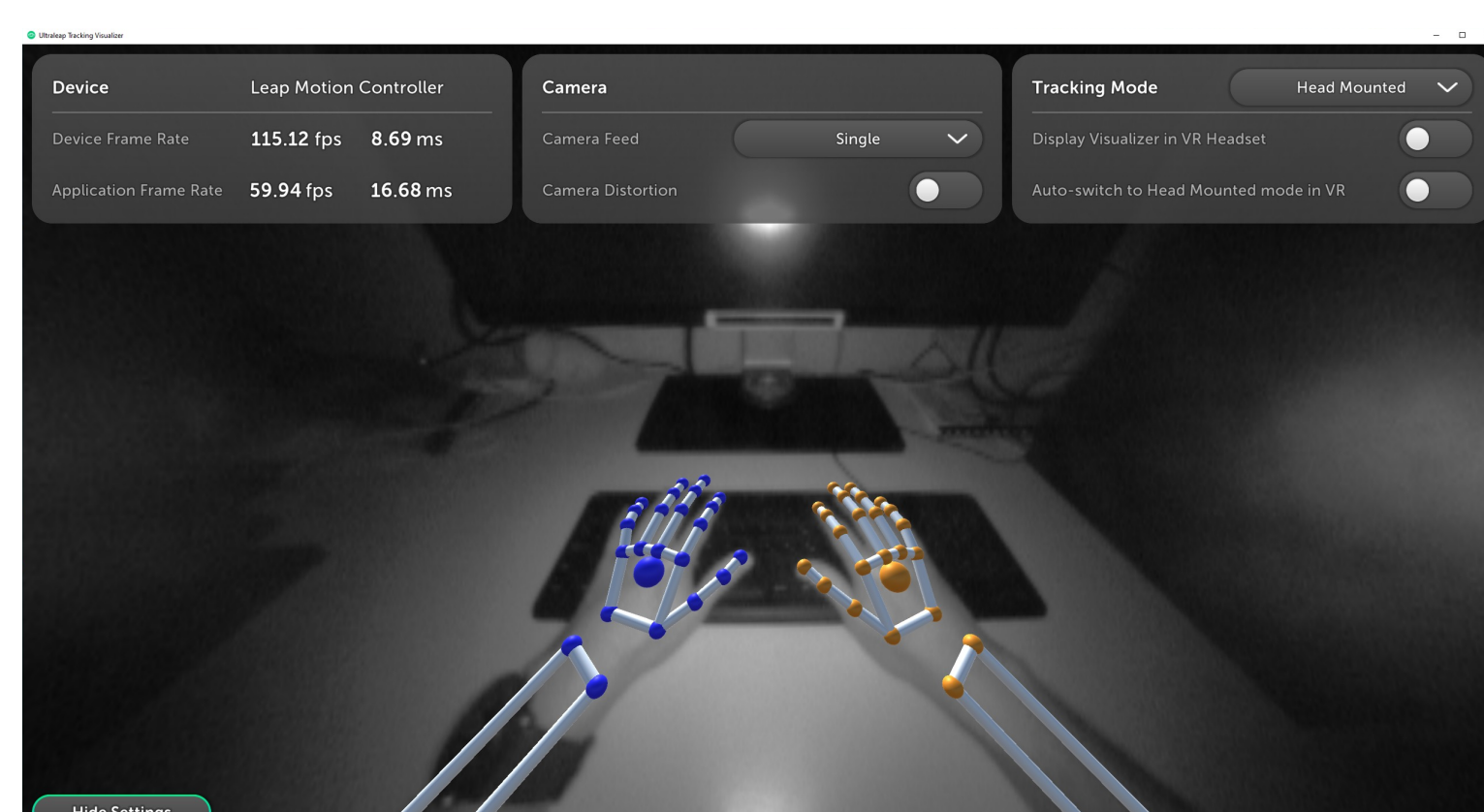


Figure 7: The Ultraleap Gemini software on hand tracking and finger movement using LMC.