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The development of educational 3D virtual interactive learning environments for art, design & architecture

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# **3D virtual interactive learning environments for art, design & architecture**

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University of Huddersfield



# multi player gaming and educational gaming

“As multiplayer game platforms become increasingly powerful and lifelike, they will inevitably be used for more than storytelling and entertainment.

In the future, virtual worlds platforms will be adopted for commerce, for education, for professional, military, and vocational training, for medical consultation and psychotherapy, and even for social and economic experimentation to test how social norms develop.

Although most virtual worlds today are currently an outgrowth of the gaming industry, they will become much more than that in time.”

Balkin, Jack.

"Virtual Liberty: Freedom to Design and Freedom to Play in Virtual Worlds." *Virginia Law Review*, 2005

"Virtually all college students have had experience with games.

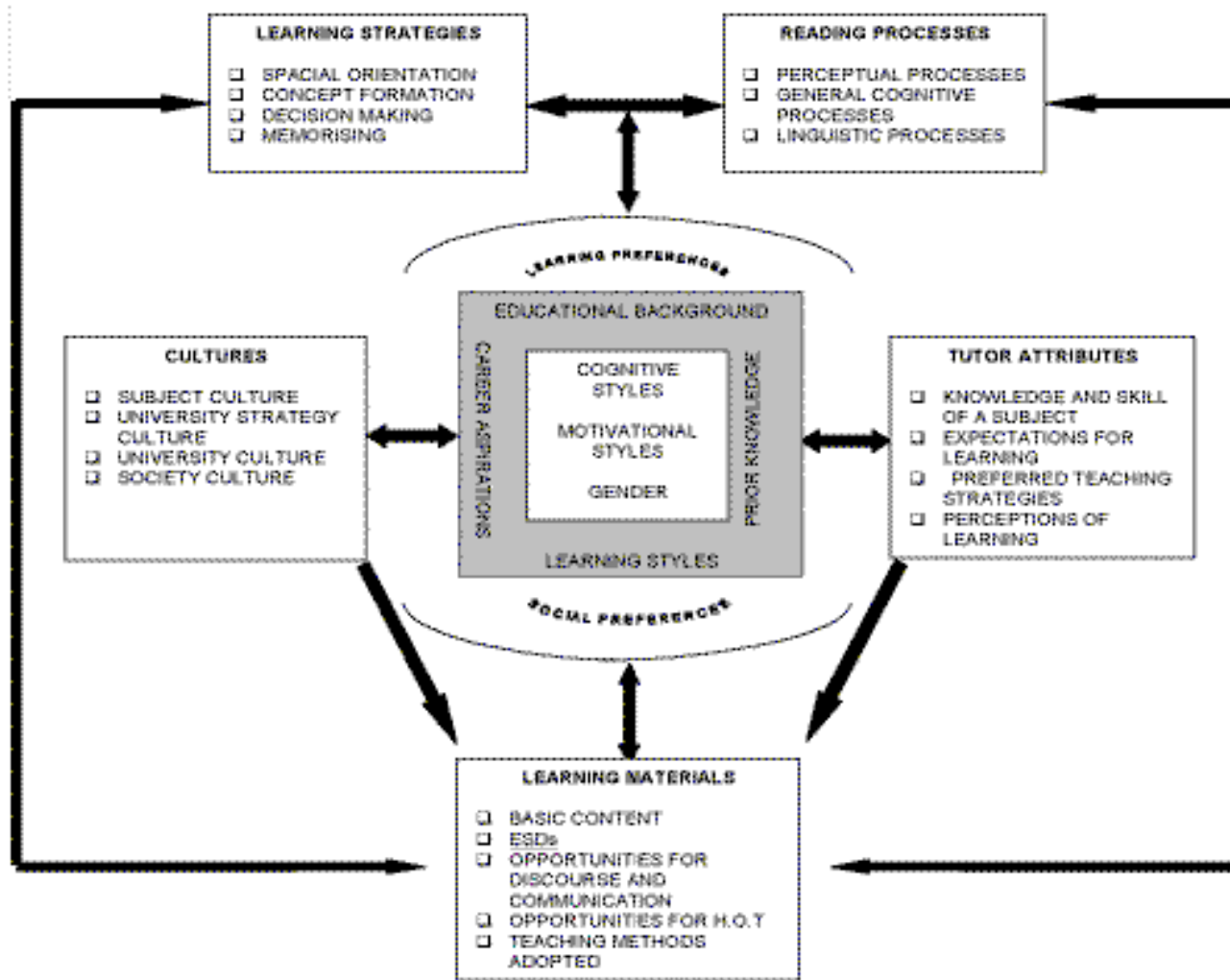
Games represent active, immersive learning environments where users integrate information to solve a problem.

Learning in this manner incorporates discovery, analysis, interpretation, and performance as well as physical and mental activity.

An increasing number of colleges and universities are exploring the use of games to enhance learning.”

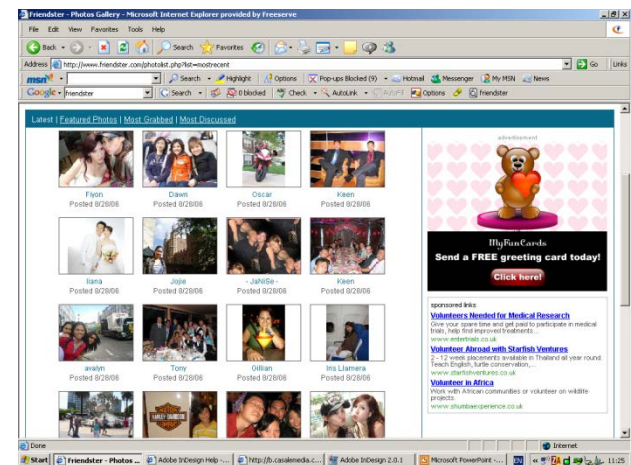
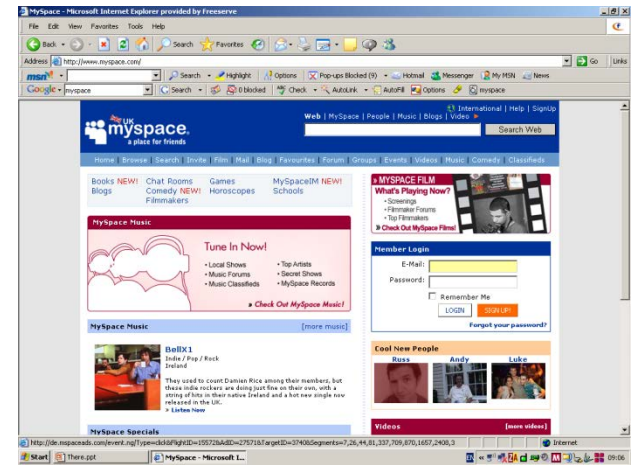
**(<http://www.educause.edu/Games/1008>)**

# Educational learning theories and game play



# Social networking/ Computing

- Instant messaging: MSM
- Image/sound/movies and 2D graphics
- Hi5, Flickr, Coroflot, Facebook, Friendster, Youtube, Dodgeball, ....

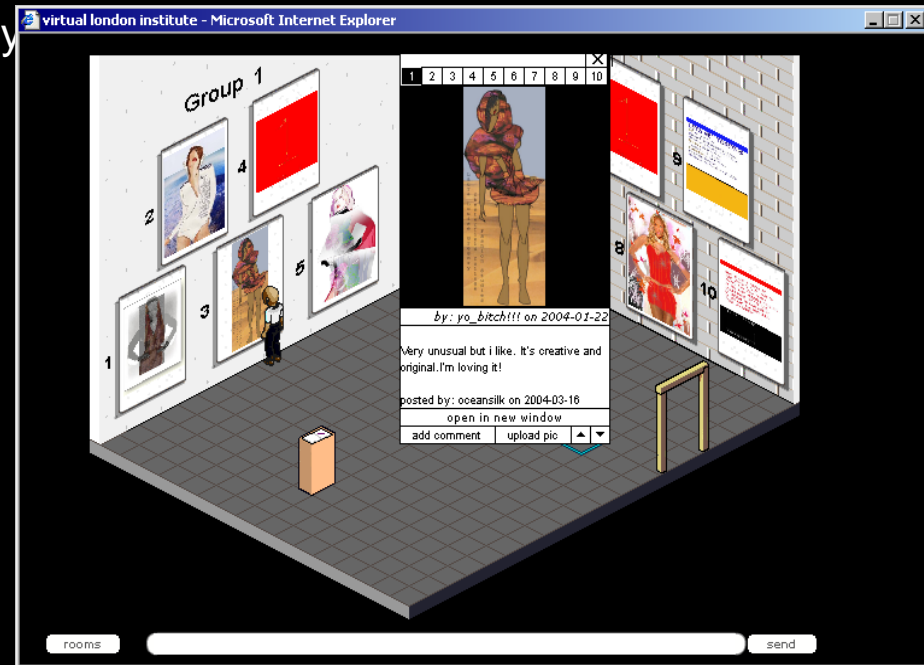




# 2004: Collaborative

## FE CoVE Virtual Fashion project.

Andrew Taylor CoVE Researcher worked collaboratively with LCF & Chesterfield academics for 1 year in online real time studio space / gallery and Exhibited collection at Rootstein Hopkins Space at LCF.

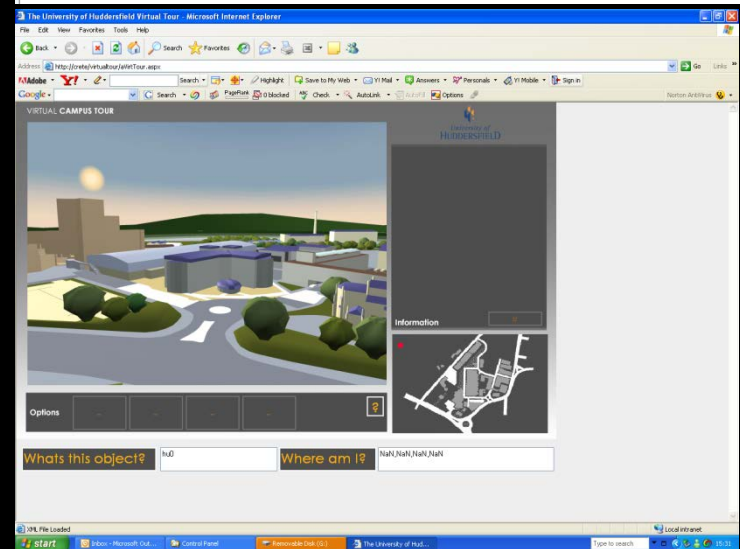
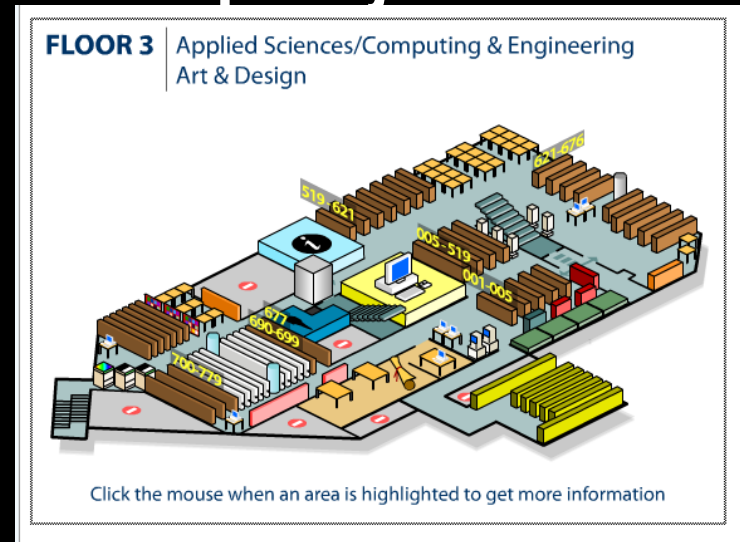


# University of Huddersfield

## Online 2D/3D/ R&D projects

- [www.Laser 3D.co.uk](http://www.Laser3D.co.uk): scanning research and development
- [www.Huddersfield3D.co.uk](http://www.Huddersfield3D.co.uk): extensive student portfolio, links and tutorials
- [www.Yahoogroups](http://www.Yahoogroups): 3D student communication and discussion board
- Hi5 profile: past/present student social staying in touch
- Library virtual map: finding location in learning centre
- Multimedia/VR Simulation of Canal side East
- Virtual 3D campus Map walk through

<http://crete/virtualtour/aVirtTour.aspx>

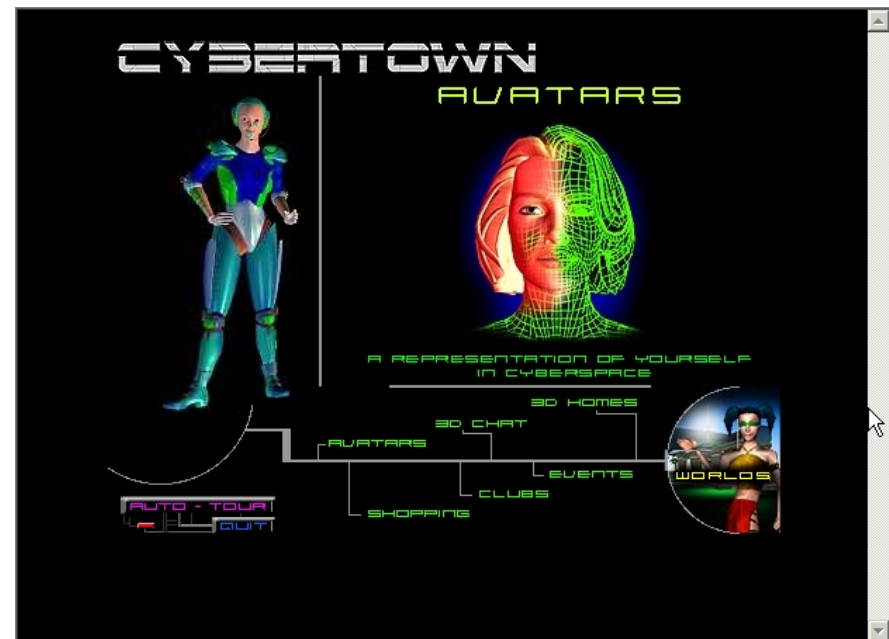
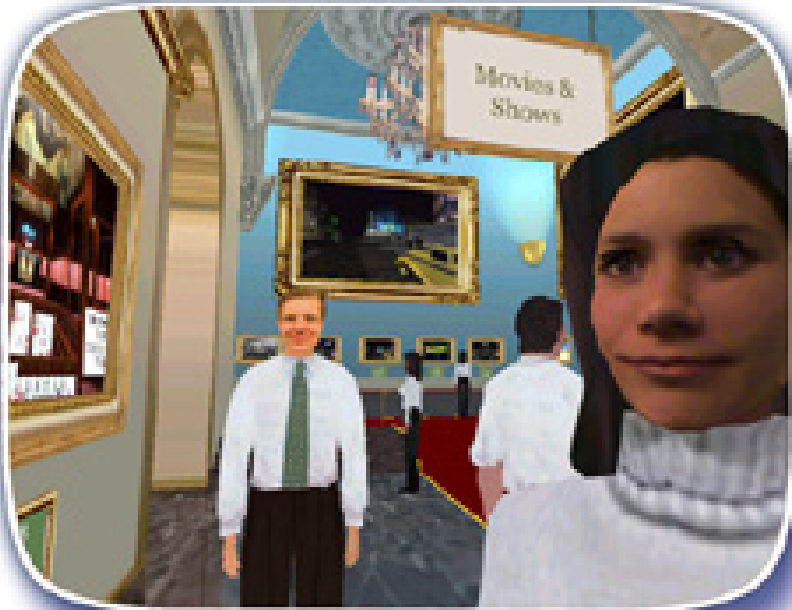




# NANYANG Virtual Campus is a shared virtual world of the real campus of Nanyang Technological University in Singapore



# Avatars: are Virtual characters



# Multi Player Virtual Worlds

- **1. Infinite Shared Space:** the virtual world allows many users to participate at once.
- **2. 3D Graphical User Interface:** the virtual world depicts space as in real world as a highly interactive immersive 3D environments.
- **3. Immediacy:** all interaction takes place in real time.
- **4. Interactivity:** the world allows users to alter, develop, build, or submit customized content.
- **5. Continuous:** the virtual world's existence continues regardless of whether individual users are logged in.
- **6. Socialisation/Community:** the world allows and encourages the formation of in-world social groups like friends, clubs, schools, neighbours, housemates, neighborhoods, employment, etc.





# 3D Interactive multiplayer environments social integration





# Educational use of the Sims



# 3D interactive economics - Virtual High street Fashion brand product placement in www.there.com



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# Second Life.com

- What is it ?
- How many users ?
- What happens in Second Life ?
- How can you become a resident ?

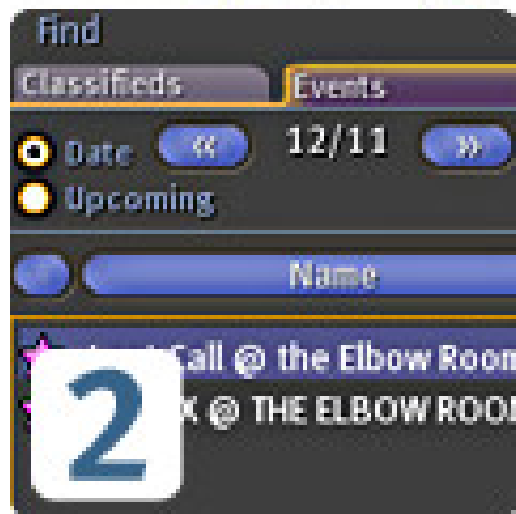
# Making your character



# Second life: lifestyles



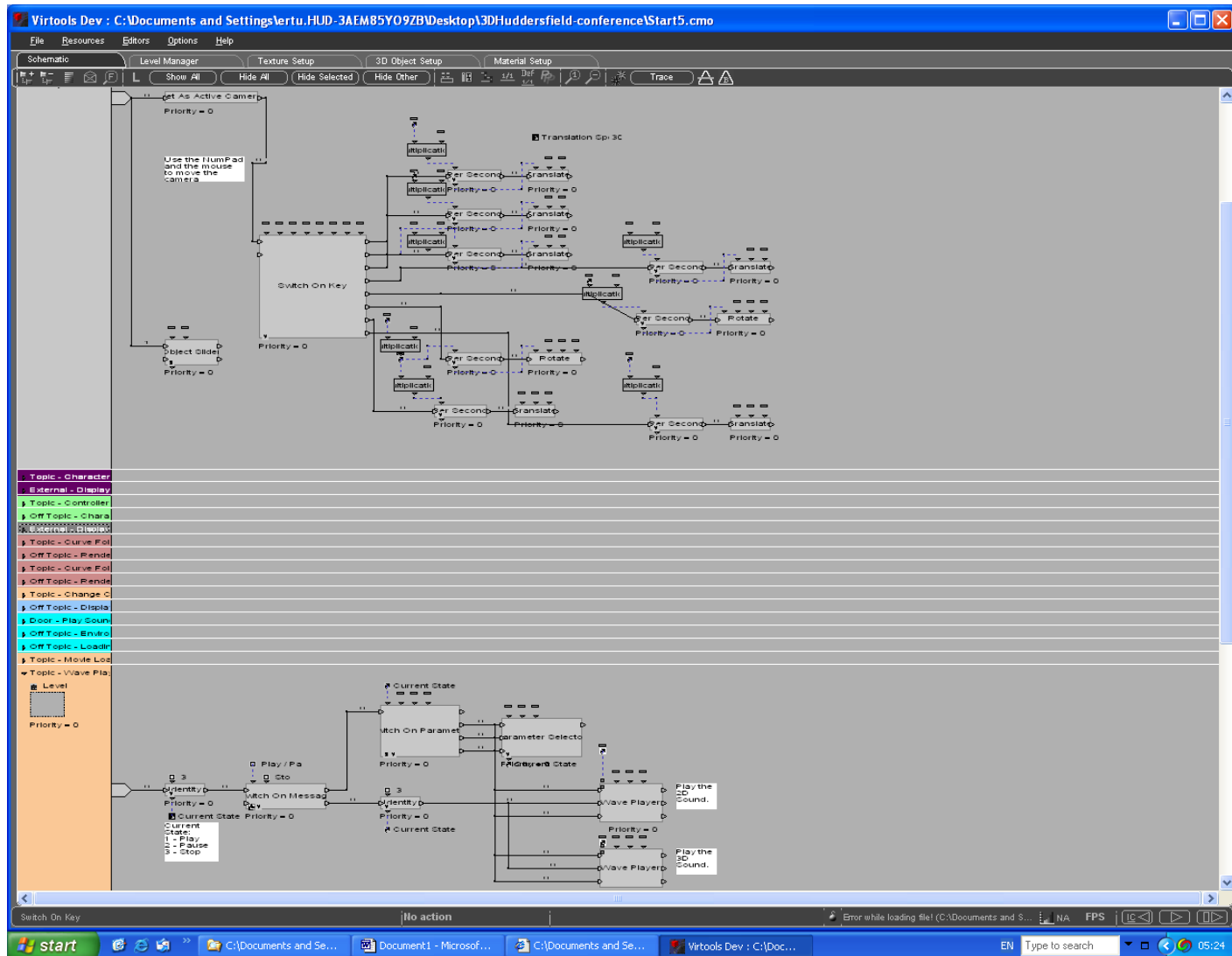
# Second life: lifestyles



# Virtual School of Art & Design in the University of Huddersfield Virtual World ?



# Behind the scenes: Virtools programming





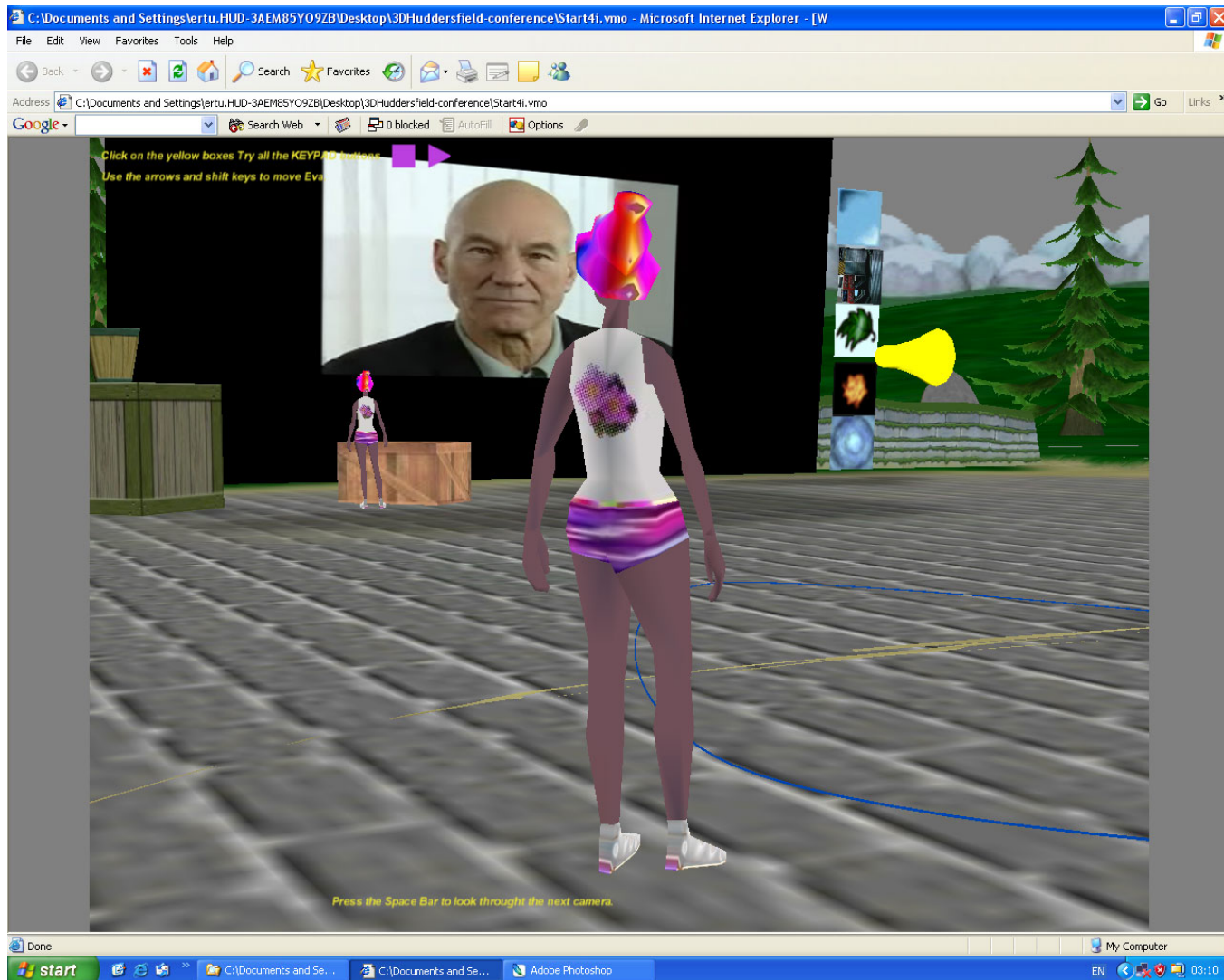
Click on the yellow boxes Try all the KEYPAD buttons

Use the arrows and shift keys to move Eva.



Press the Space Bar to look throught the next camera.

# Avatar Eva watches Patrick Stewart talking to everyone



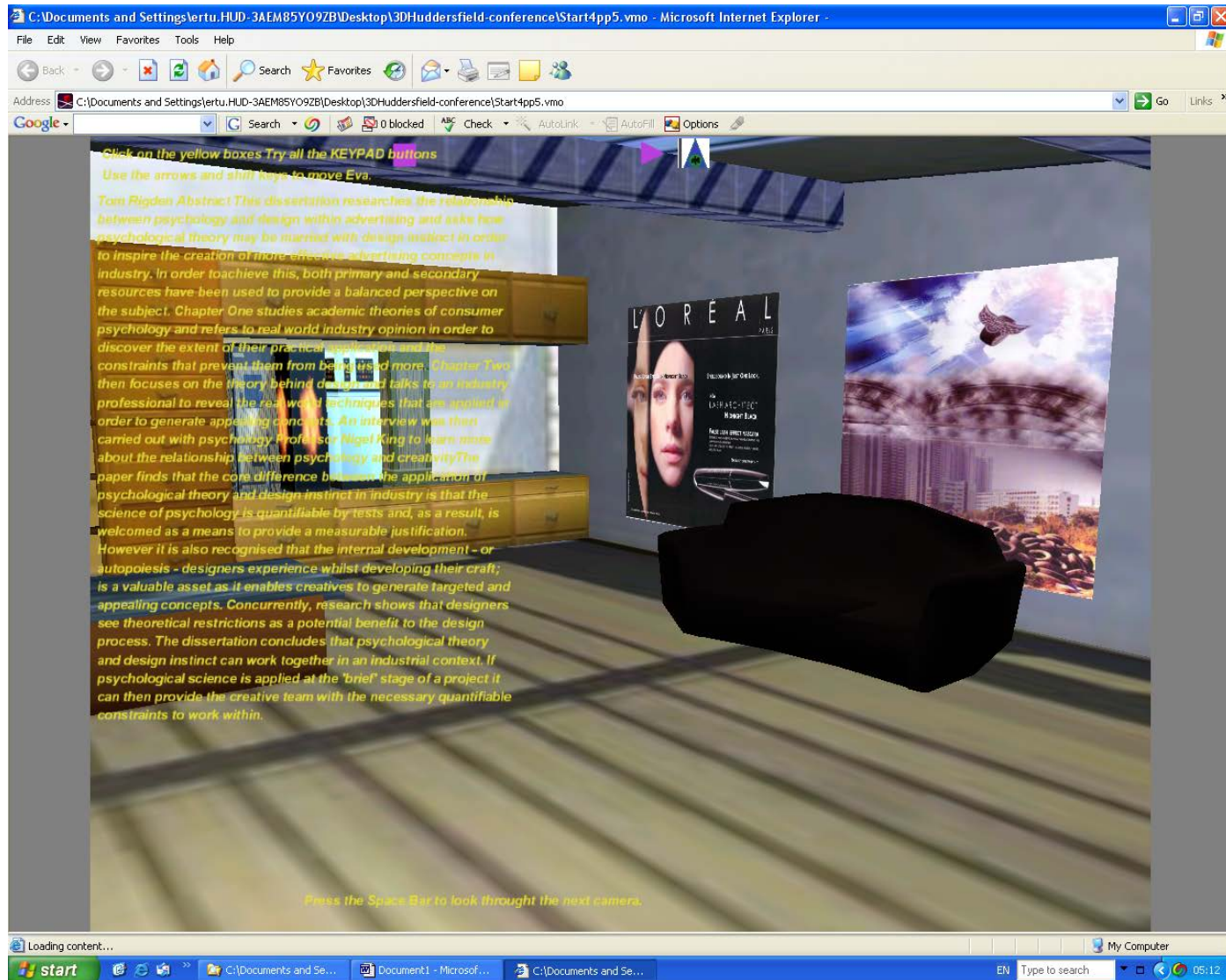


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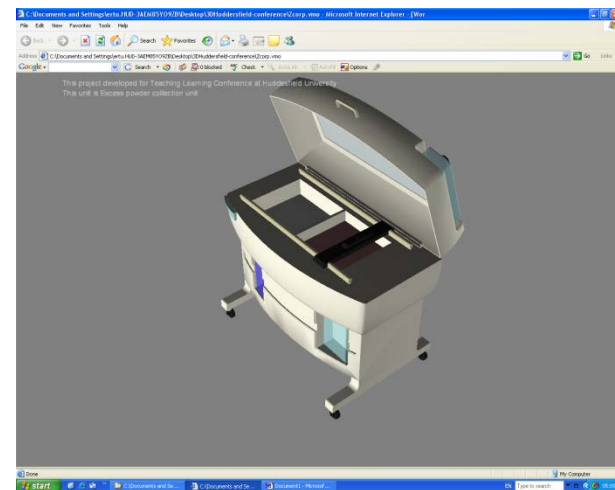
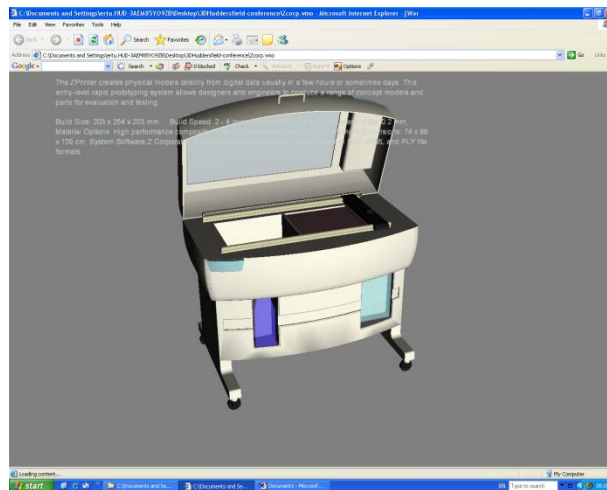
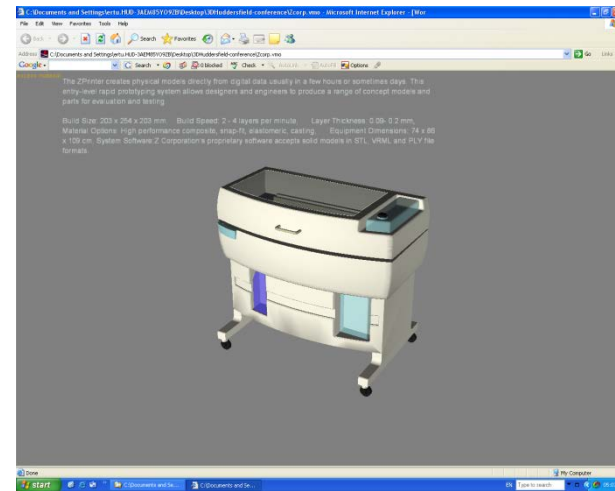
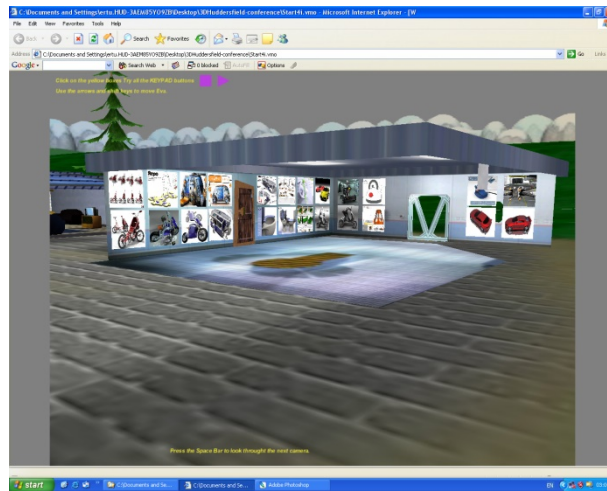
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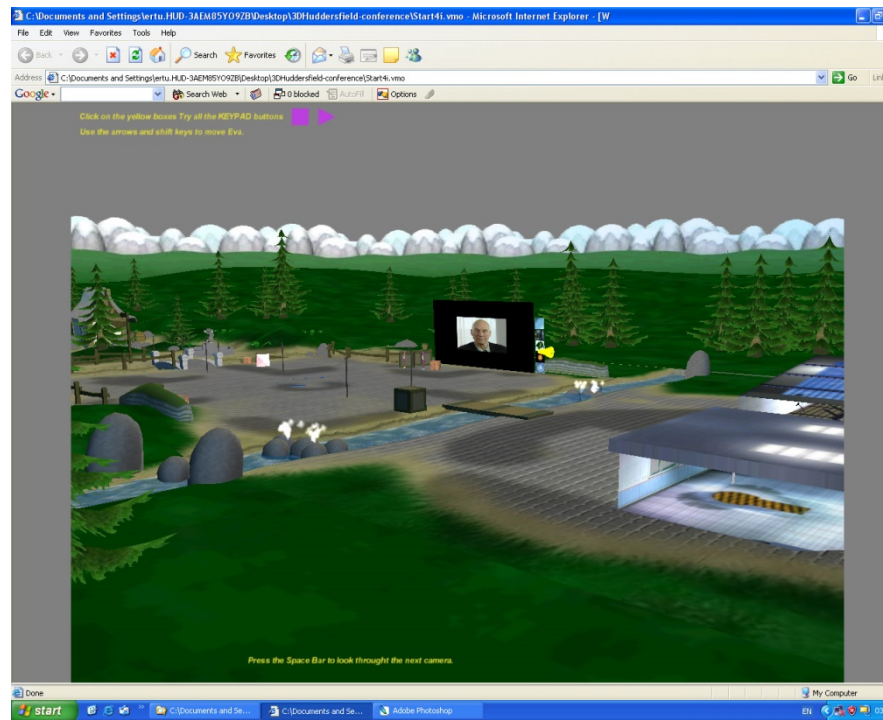
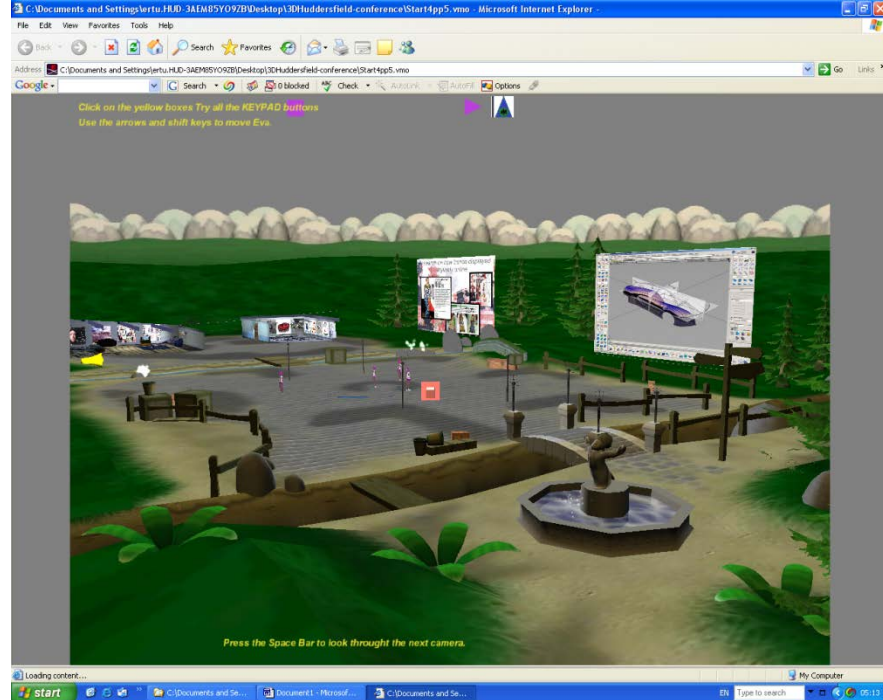
# Bookshelves contain links to dissertation abstracts





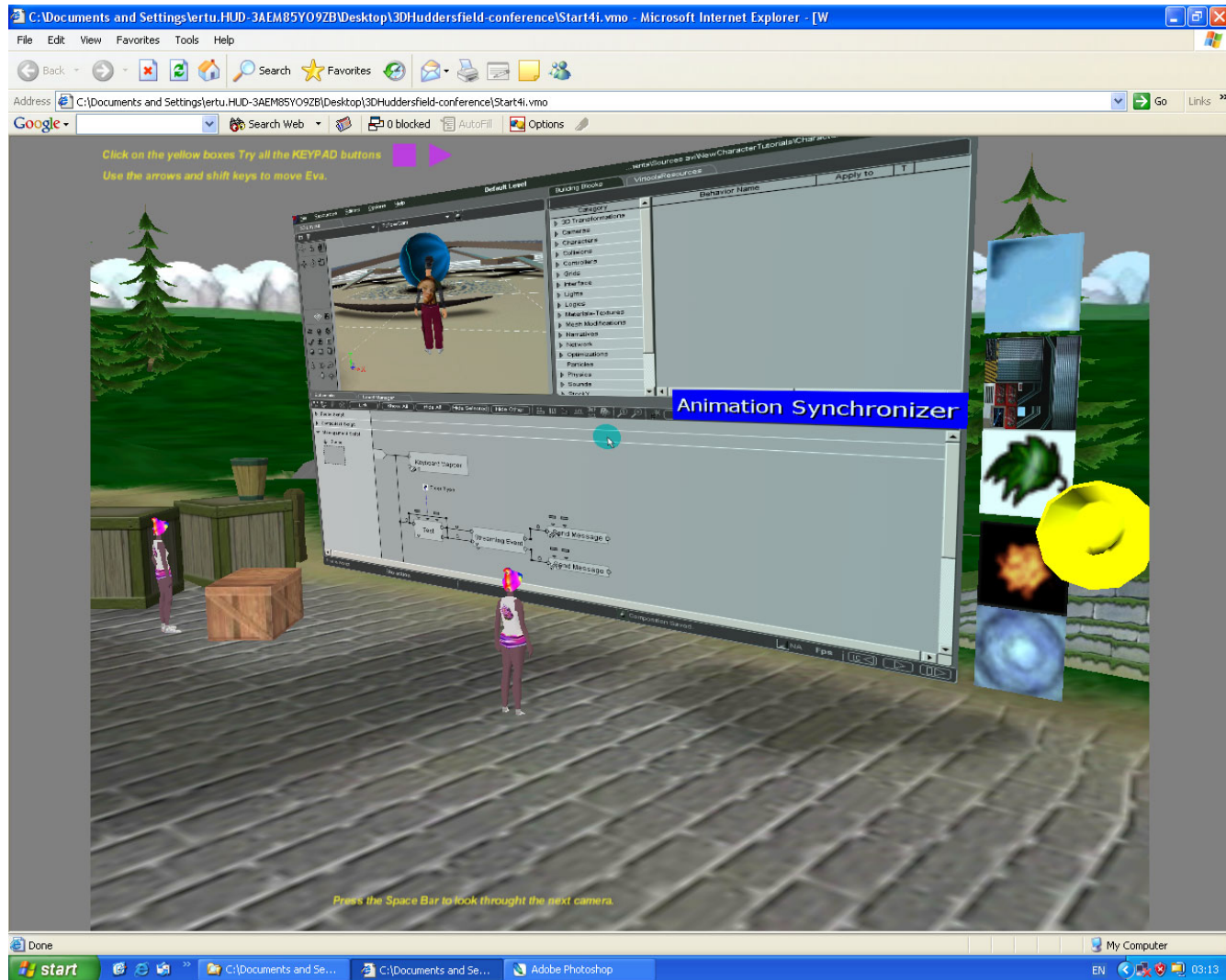
# Interactive RP machine student learning Simulation



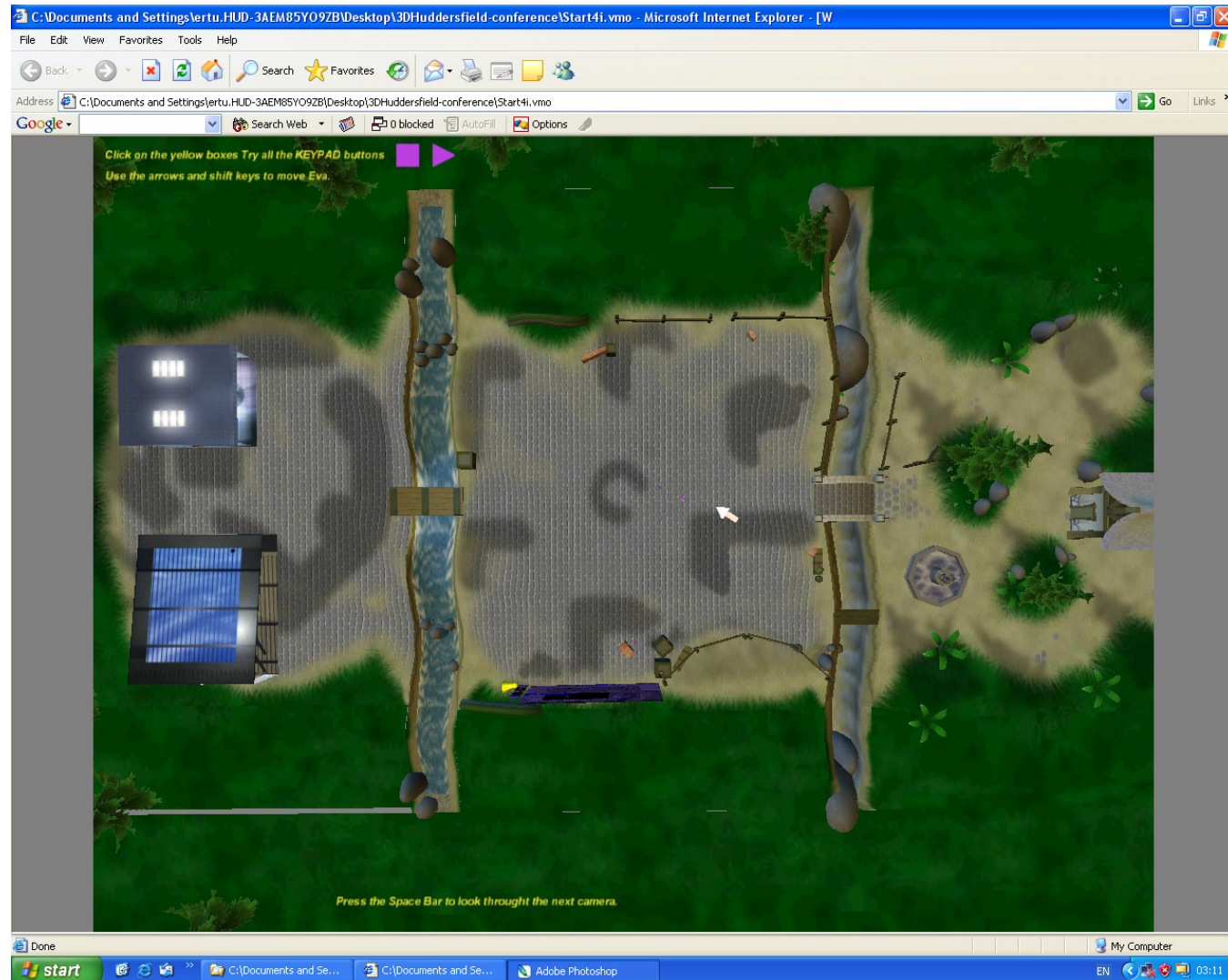




# Avatar Eva watching a learning tutorial on a large screen in the virtual shorehead carpark



# Map camera view for checking your location



# Interactive feedback learning through play

- Play is learning through experience!
- We welcome your views/ideas/ questions