



# Research Highlights

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Universidad de los Andes, COL

2018

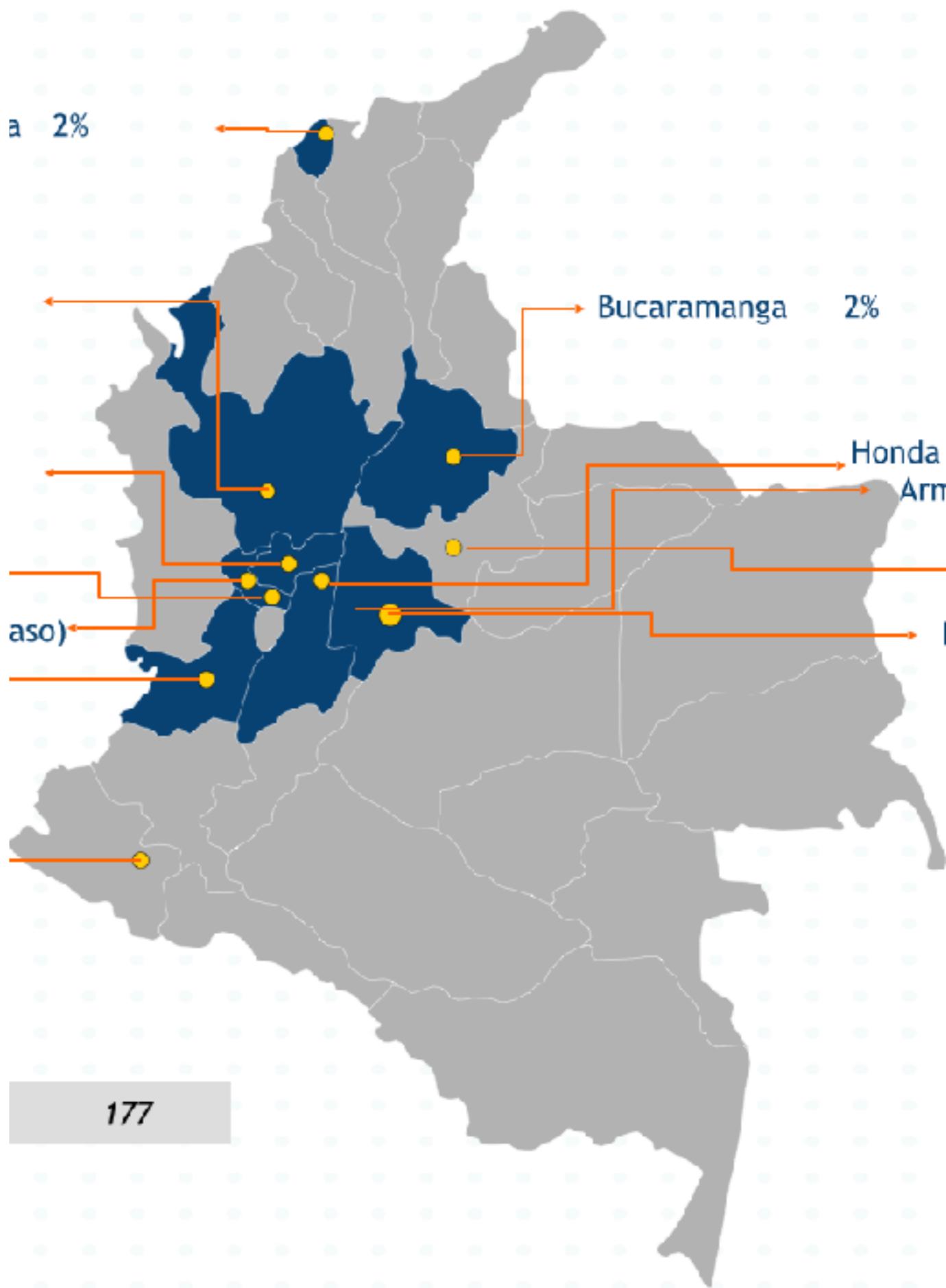
# Contents

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- Context
- Motivation
- Some Research Highlights
  - Cybersickness, Gold Museum, Software Architectures
- Actions for the video game Industry in Colombia
  - DAVID, Device, MONO, EGAMES, Jump Camp, Coursera
- Current directions



# Context





Universidad de los Andes, Colombia

# Motivation

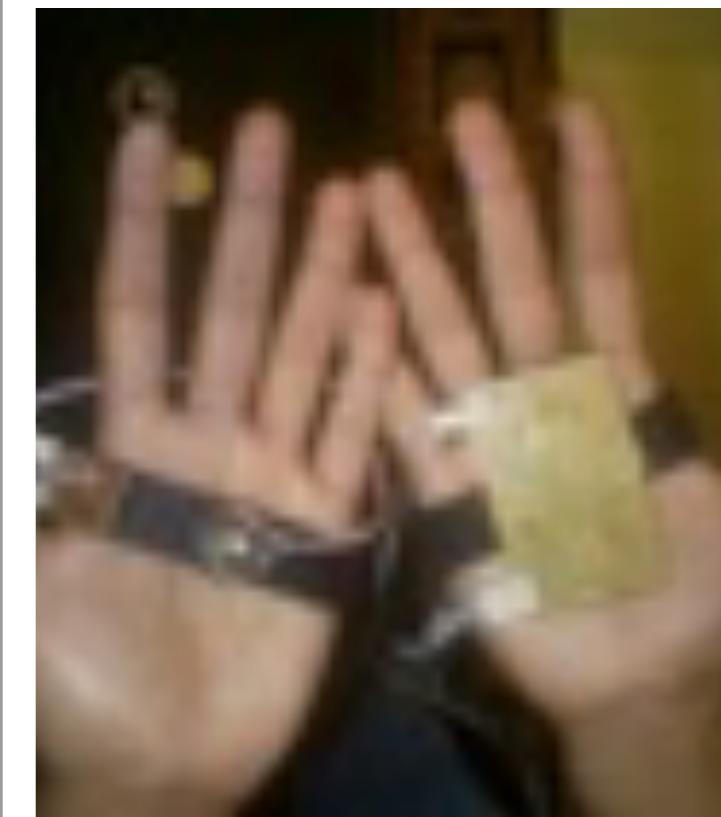
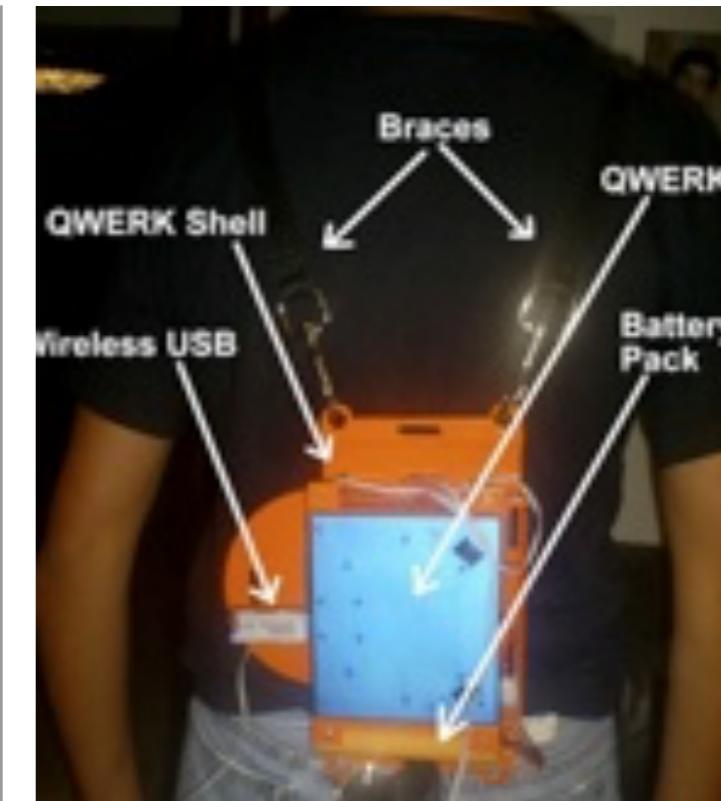
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- I've been working in Virtual Reality (VR) for 20 years
- I'm interested in using VR in new tasks, relevant to our context in Colombia
- An excellent way to learn how to do VR is to develop video games
- I'm also interested in Videogame Development, as an industrial field very similar to VR





2006-: Colivri



MSc Projects: Novel Interfaces

# An Installation in the Gold Museum

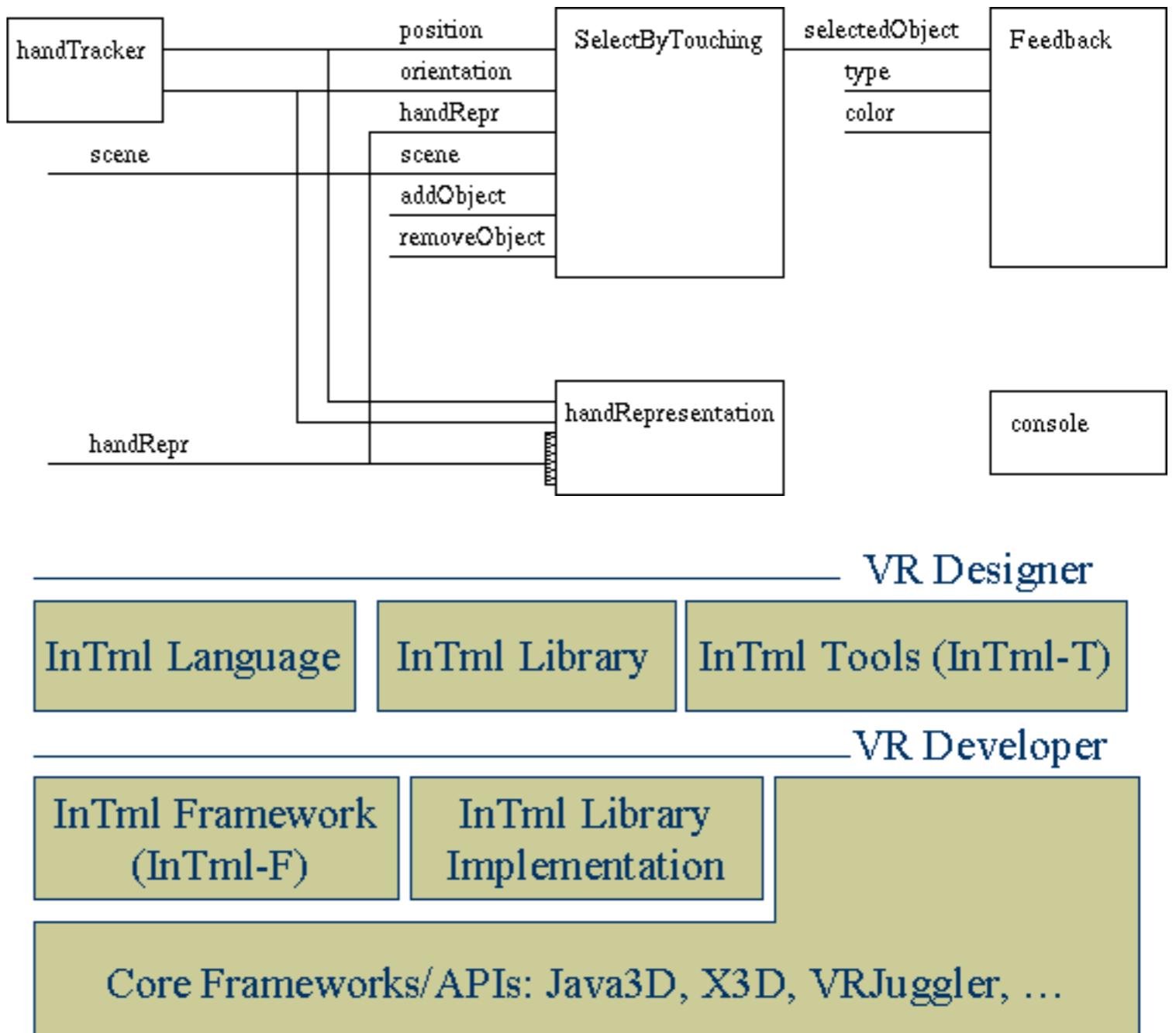
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- See, hear and touch artifacts from the Gold Museum in Bogota
- 3 exhibitions: fully immersive, PC (stand-alone), and web
- [http://  
imagine.uniandes.edu.co/  
MuseoOro/](http://imagine.uniandes.edu.co/MuseoOro/)



# Software Architectures for VR

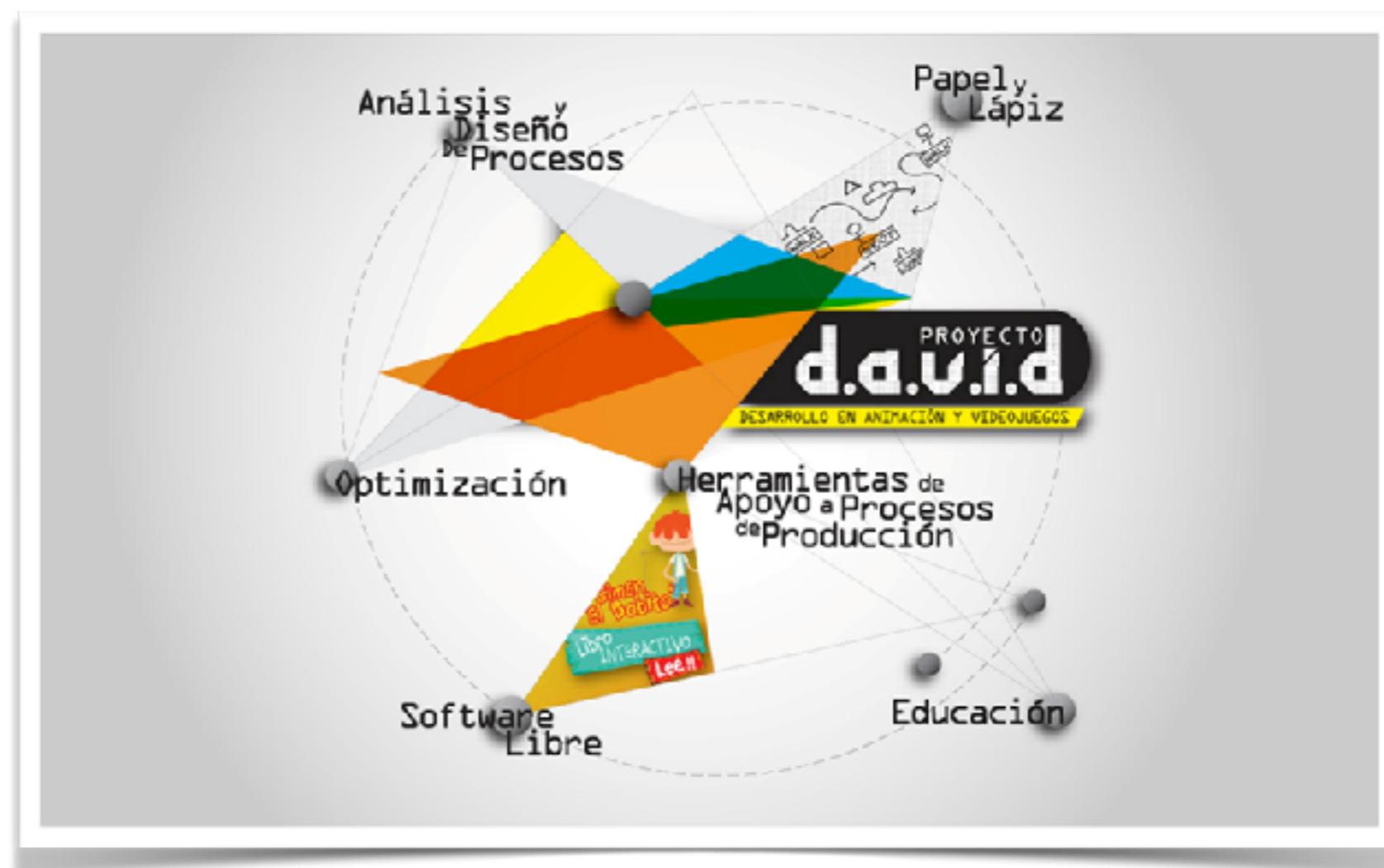
- An abstraction to represent retargetable VR applications
- Possible changes:
  - input and output devices
  - number of threads
  - implementation stack



# The DAVID Project

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- A 4-year effort to push the animation and video games industries in Colombia
- 4 research groups, 4 companies, 6 lines of work
- Content development
  - Education
  - Open Source Sw
  - Animation
  - Internationalization
  - Tools for Production
  - Optimization



# Device

- Do you want to develop video games, but you don't know how?
  - Internet based gathering
  - Learning experience
  - Like a Game Jam, in a month

**BIENVENIDOS A DE.VI.C.E**



El evento de **Desarrollo de Videojuegos Creativo y Experimental** ya está preparado?

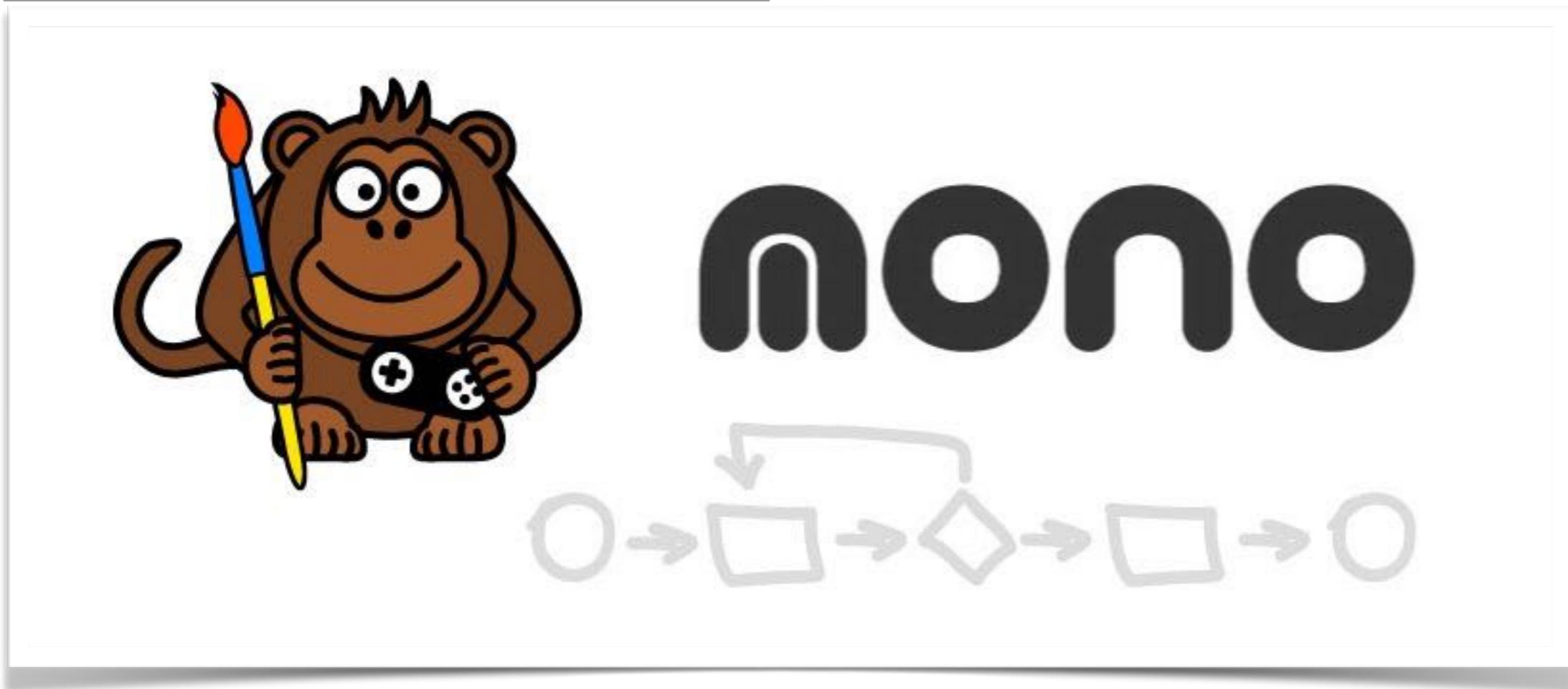
Empezamos un nuevo evento en Marzo. **DEVICE MARZO – ABRIL 2015**

Si vives en **Colombia** y te interesan los videojuegos y quieras aprender sabes hacerlo y quieras una oportunidad para dar a conocer tus ideas y el sitio ideal!

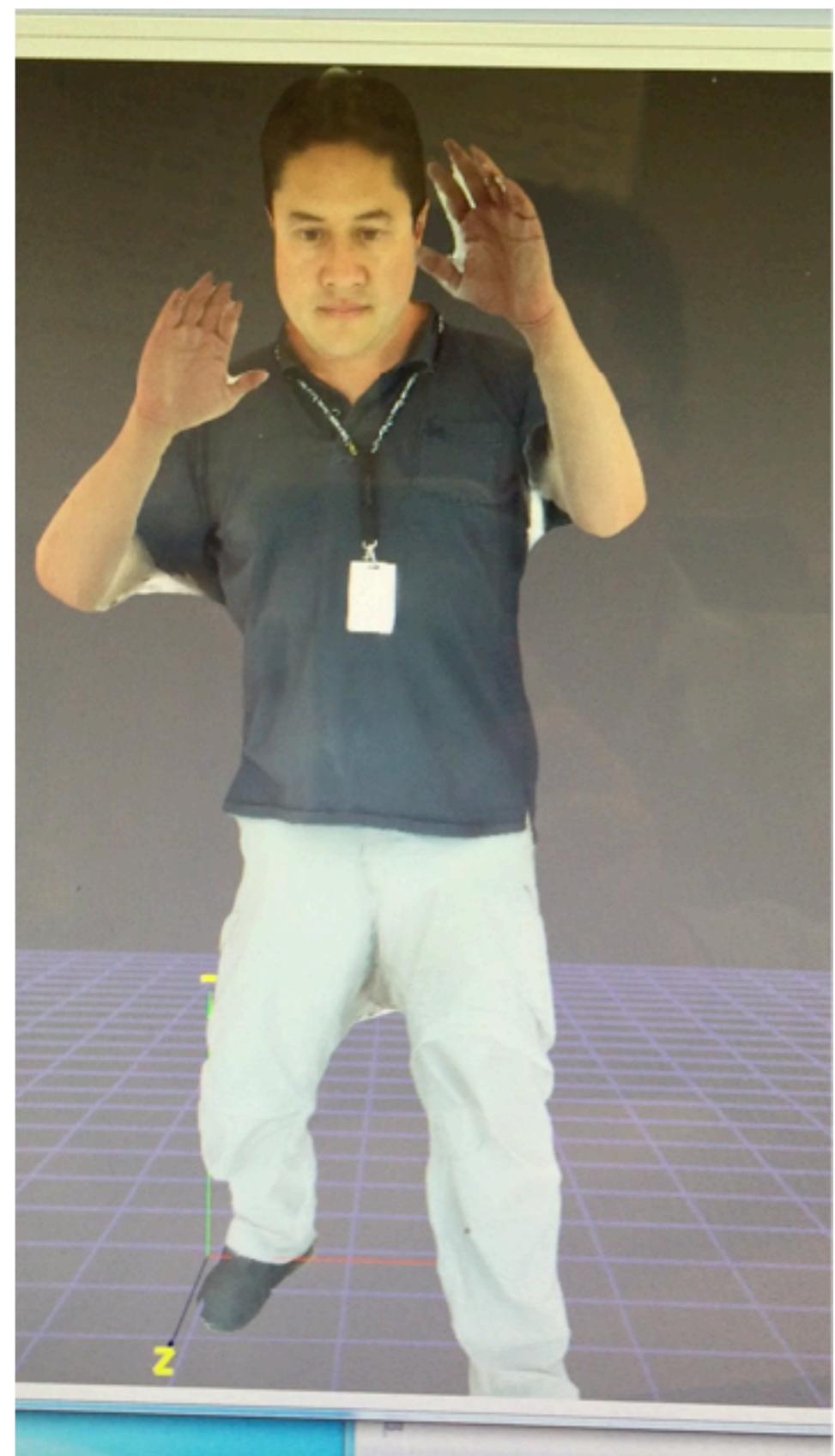
**Las inscripciones para el evento Device 2014 – Noviembre se abrirá de Noviembre.**

Revisa estos links con información importante antes de empezar:

# Mono



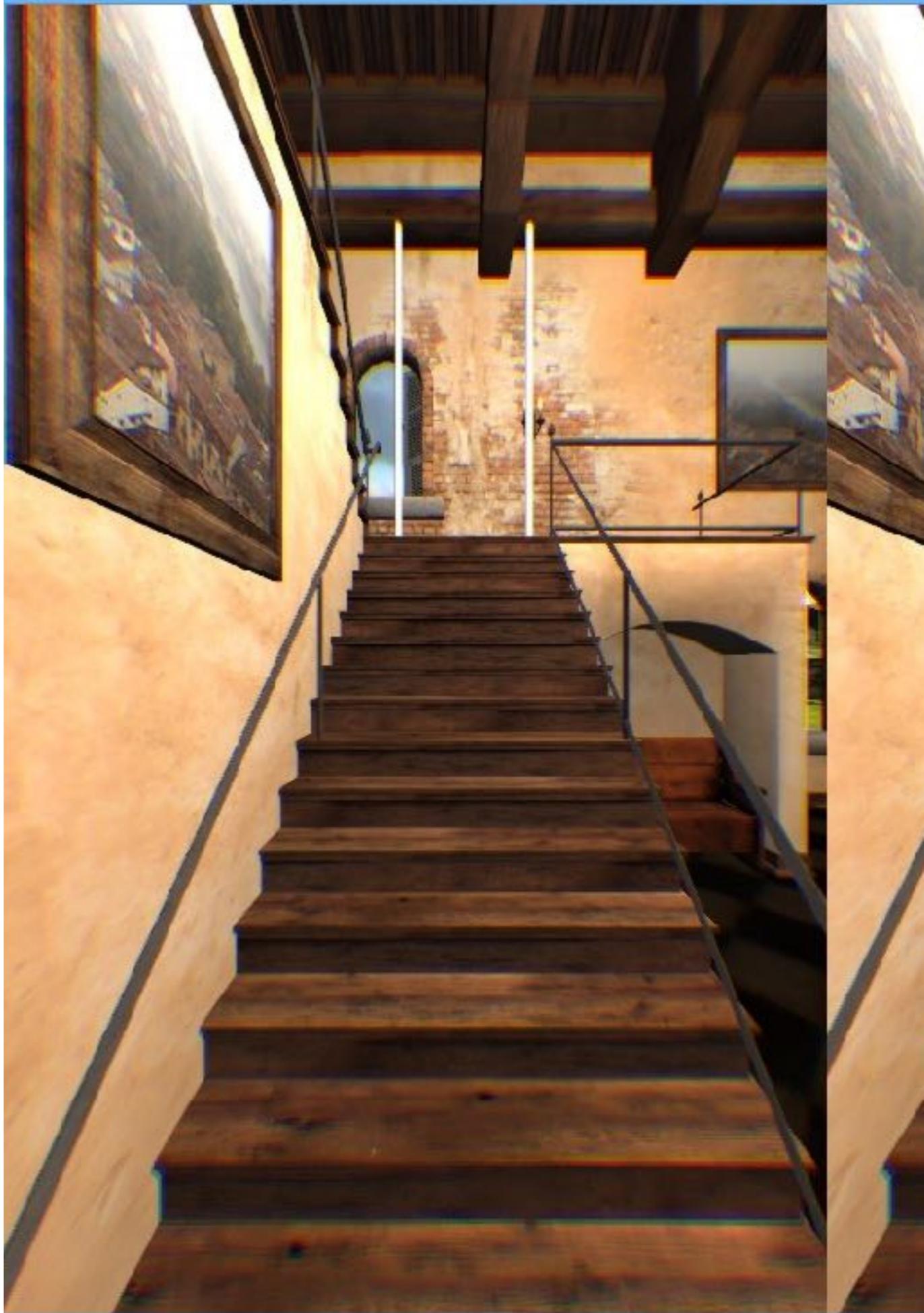
- A tool for planning and production control of digital content
- Web based
- Support for clusters of companies
- Includes tools for the optimization of a production plan



Ideas at ICT (2)

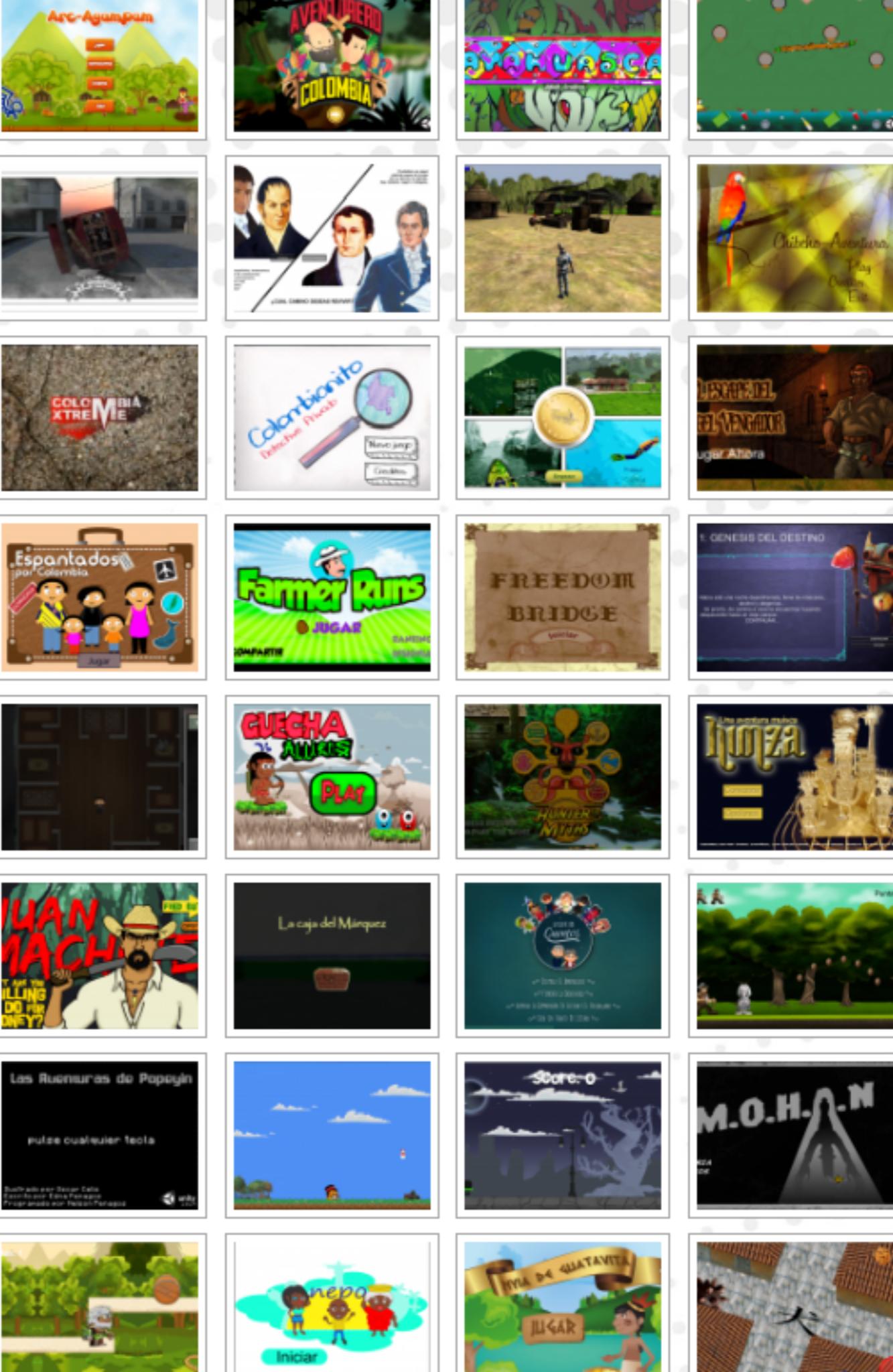
# Cybersickness and the Oculus Rift

- How to ameliorate cybersickness in HMD based VR?
- One hint: Reduce unnecessary virtual movements
- One solution: Add an invisible ramp on top of stairs, in order to reduce the user's sudden changes due to stairs
- <http://dx.doi.org/10.1109/3DUI.2014.6798841>



# Jump Camp

- Government funded program, for education in video game development
- 120 hours of education
- 1800 participants, 548 full certificates
- Almost 100 short games developed
- An extended experience at GDC for 10 selected participants



Sobre este Programa  
Especializado

Cursos

Tarifa

Creadores

Preguntas Frecuentes

## Programa Especializado - Desarrollo y Diseño de Videojuegos

Desde €44

Inscribirse

Comienza el 2 de



Conviértete en un  
Desarrollador de  
Videojuegos

Desarrollo y Diseño de Videojuegos Specialization, Universidad de los Andes

### Sobre este Programa Especializado

En este programa aprenderás a diseñar y a crear videojuegos en 2D y 3D y conocerás el mercado donde se moverán tus productos cuando estén acabados. Dominarás los principios del diseño y la arquitectura de los videojuegos, gestión de assets, animación, y pruebas o testing. Adquirirás una visión práctica sobre la industria del videojuego, y examinarás estrategias efectivas de desarrollo de videojuegos. También explorarás temas avanzados como la inteligencia artificial y la optimización de videojuegos. En el programa usarás el motor de videojuegos Unity y desarrollarás hasta tres prototipos de videojuegos.

# Coursera's Program



# Panel: Lessons from IEEE Virtual Reality

**Doug Bowman, PhD**

Professor. Virginia Tech, USA

**Anthony Steed, PhD**

Professor. University College London, UK

**Evan Suma, PhD**

Research Assistant Professor. University of Southern California

**Pablo Figueira, PhD**

Associate Professor. Universidad de los Andes, Colombia

VIRTUAL REALITY DEVELOPERS CONFERENCE March 14–15, 2016 · Expo: March 16–18, 2016 #VRDC16



Sabbatical: VRDC 2016

## Semestre 2018-1



## Datos

|           |                |  |
|-----------|----------------|--|
| Profesor  | Pablo Fígueroa | pfigueroa AT uniandes.edu.co   |
| Sección   | 01             | Martes y Jueves 3:30pm - 4:50pm, B401  |
| Créditos  | 3              | 3 horas de clase más 6 horas de trabajo extraclasses semanales                                   |
| Monitores |                | Juliana Gutierrez (j.gutierrez11), Eduardo Cabello (ea.cabello10), Luis Sandoval (la.sandoval51) |

## Pensamiento Computacional. Contenido

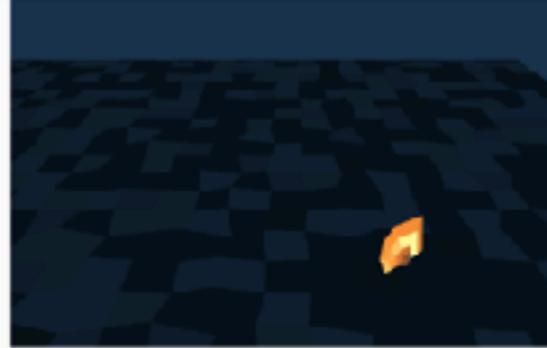
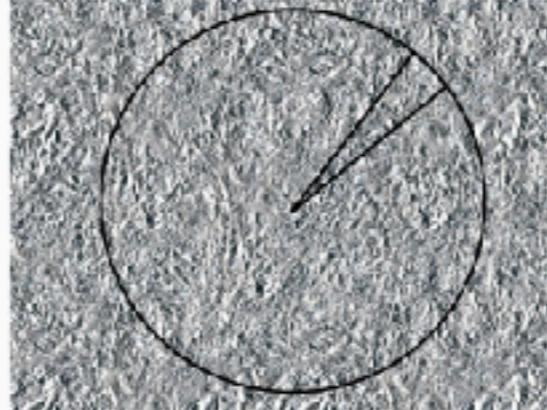
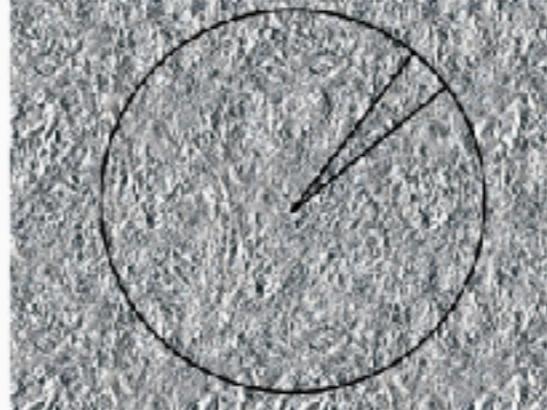
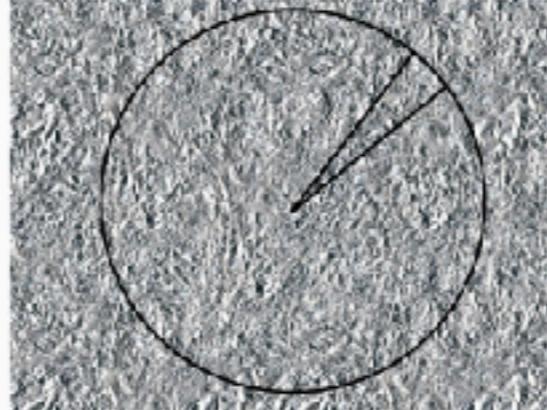
Por Pablo Fígueroa y Dario Correal

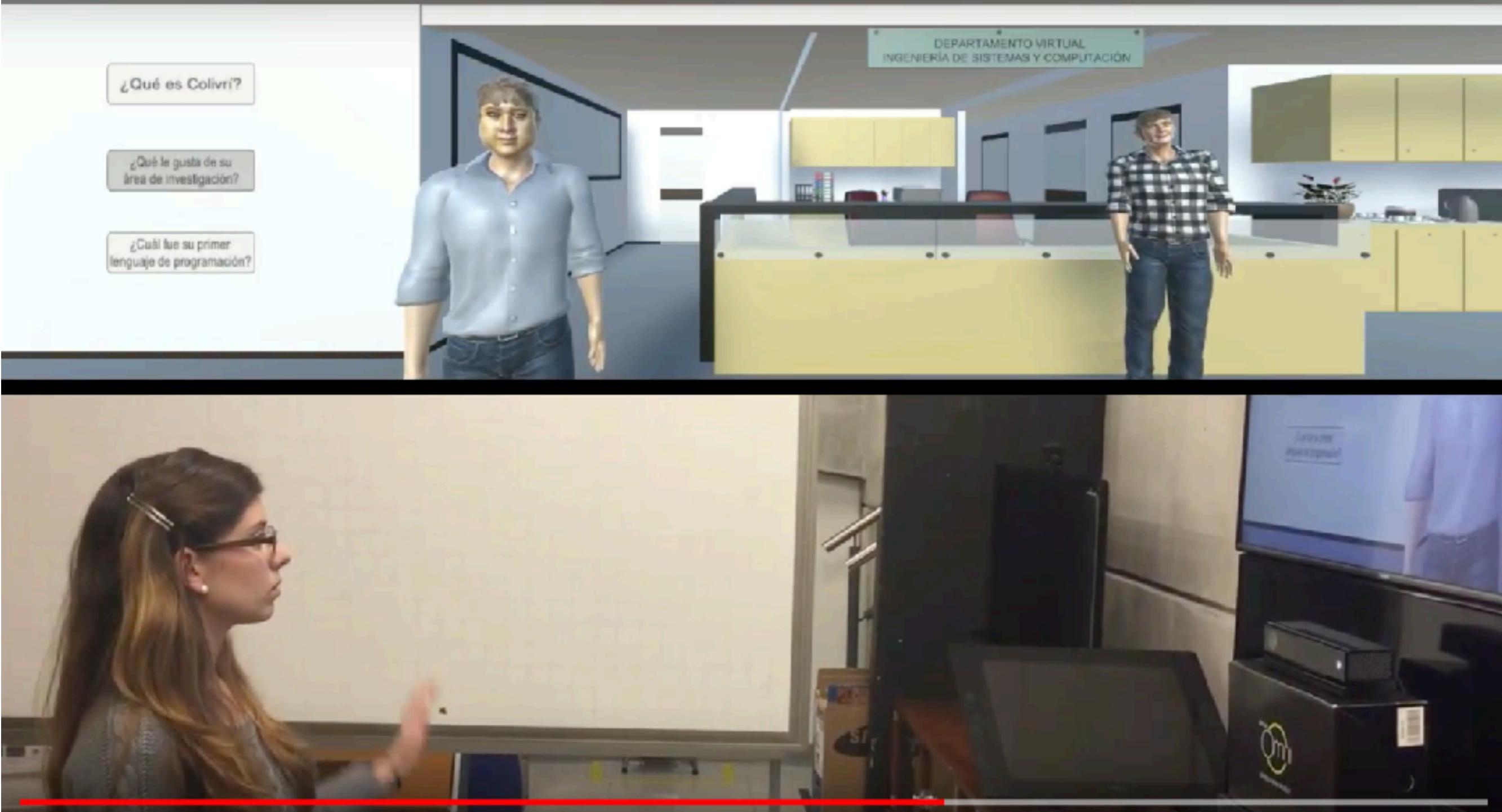
Se describe en este documento los temas y las actividades del curso en cuestión, junto con los tiempos estimados para cada una de las actividades.

## Semana 1: Introducción al curso y al pensamiento computacional

| Claase | T     | PM | Descripción  |
|--------|-------|----|--|
| 1      | 2h    | I  | Lectura del tema: Hansel y Gretel<br>Responder un cuestionario en línea (comprobación de lectura)                                  |
| 1      | 2h    | I  | Lectura del conflicto: <a href="#">El latón de Aquiles de Waze</a><br>Responder un cuestionario en línea (comprobación de lectura) |
| 1      | 0.5 h | C  | Refuerzo: Introducción al curso y su metodología de trabajo.   |

## Interesting Courses

|                                     |   |   |
|-------------------------------------|---|---|
| mación                              |    |    |
| tura                                |    |    |
| ninación                            |  |  |
| imbras                              |    |    |
| Blog de Leonardo Barenco (Código)   |    |    |
| Blog de Victor Garzón (Código)      |  |  |
| Blog de Antonio de la Vega (Código) |    |    |
| Blog de Johann González (Código)    |    |    |
| Blog de Victor Garzón (Código)      |  |  |
| Blog de Carlos González (Código)    |    |    |



Interesting Installations: 50 years

The screenshot shows the GameLab website's course page for 'Escuela de Verano Video Games for Social Impact'. The page features a dark background with a grid pattern and several glowing, translucent geometric shapes (triangles and rectangles) in pink, cyan, and green. The title 'Escuela de Verano' and 'Video Games for Social Impact' are prominently displayed in white text. Below the title, a descriptive text in Spanish explains the course's focus on designing and developing video games for social impact, mentioning the incorporation of cultural and social aspects from the region. Navigation arrows are visible on the left and right sides of the main content area.

## ¿Qué es el portafolio?

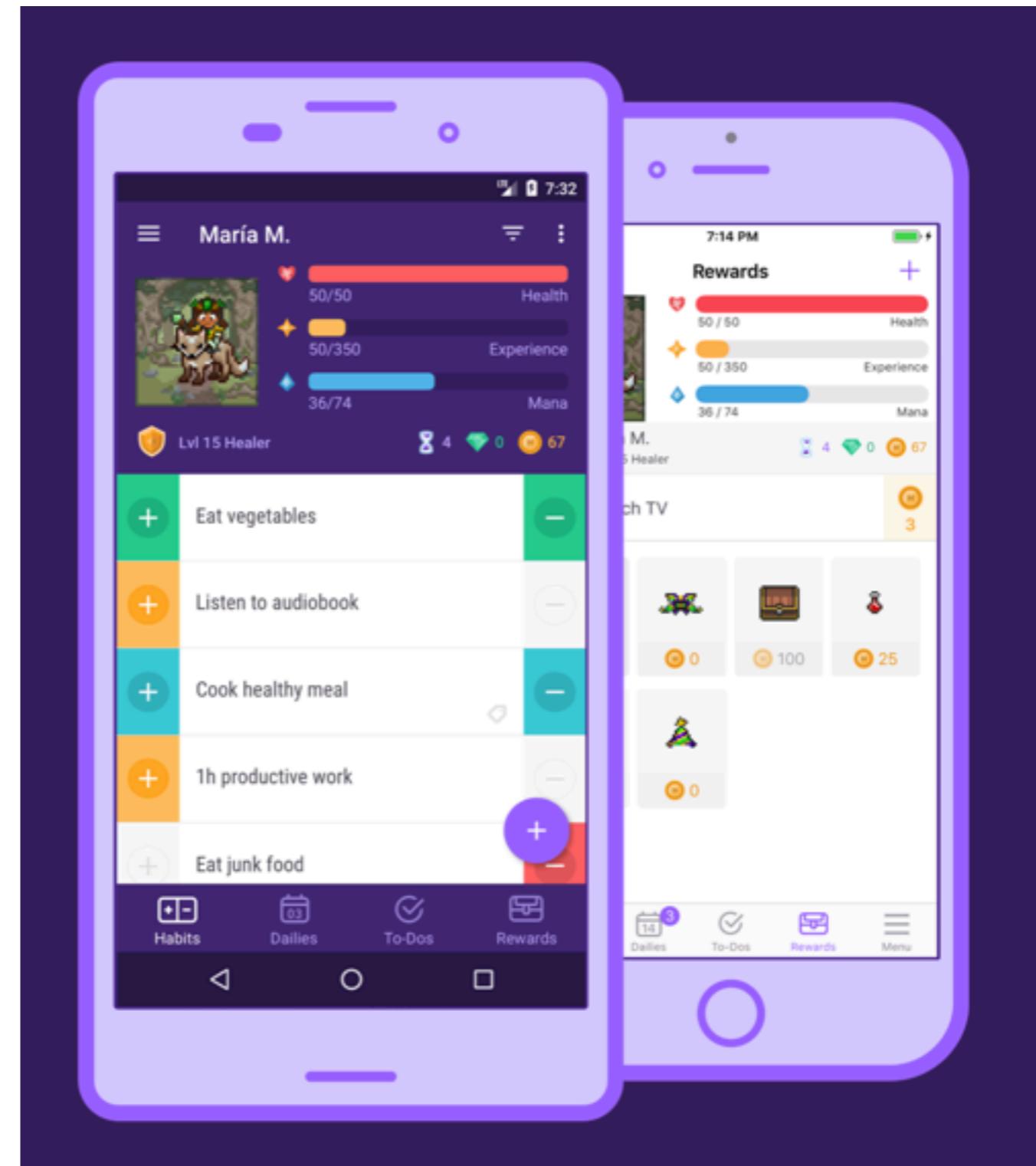
El portafolio en desarrollo de contenidos digitales y videojuegos desarrolla nuevos contenidos digitales, videos, juegos y actividades que muestran nuestra experiencia

The screenshot shows a user profile page for 'motorolaef31' on a platform called 'Juego por la Paz'. The profile includes a small colorful icon of three stylized human figures. The user's name is listed as 'motorolaef31'. Below the name are several dropdown menus for demographic information: 'Orientación Sexual' (set to 'Otro'), 'Sexo' (set to 'Masculino'), 'Raza' (set to 'Asiática'), 'Edad' (set to '18-30'), 'Partido Político' (set to 'Centro Democrático'), 'Religión' (set to 'Budismo'), 'Idioma' (set to 'Español'), and 'País' (set to 'Colombia'). At the bottom of the profile section is a blue button labeled 'Guardar'. Below the profile is a 'Regresar al Inicio' link. The overall theme of the interface is dark with blue and green accents.

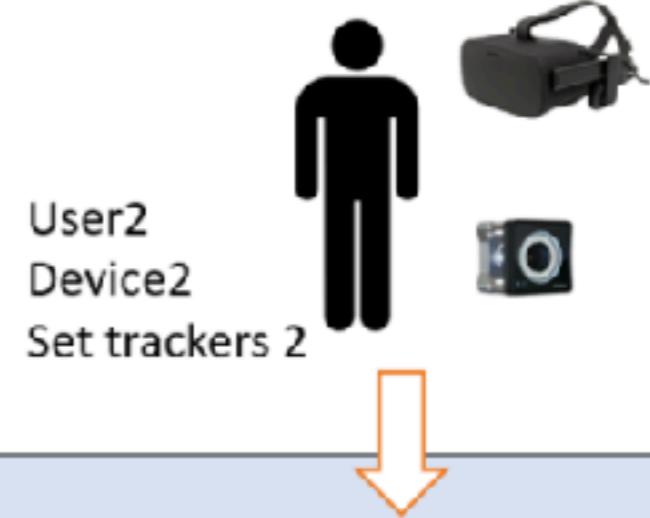
Interesting Collaborations: GameLab



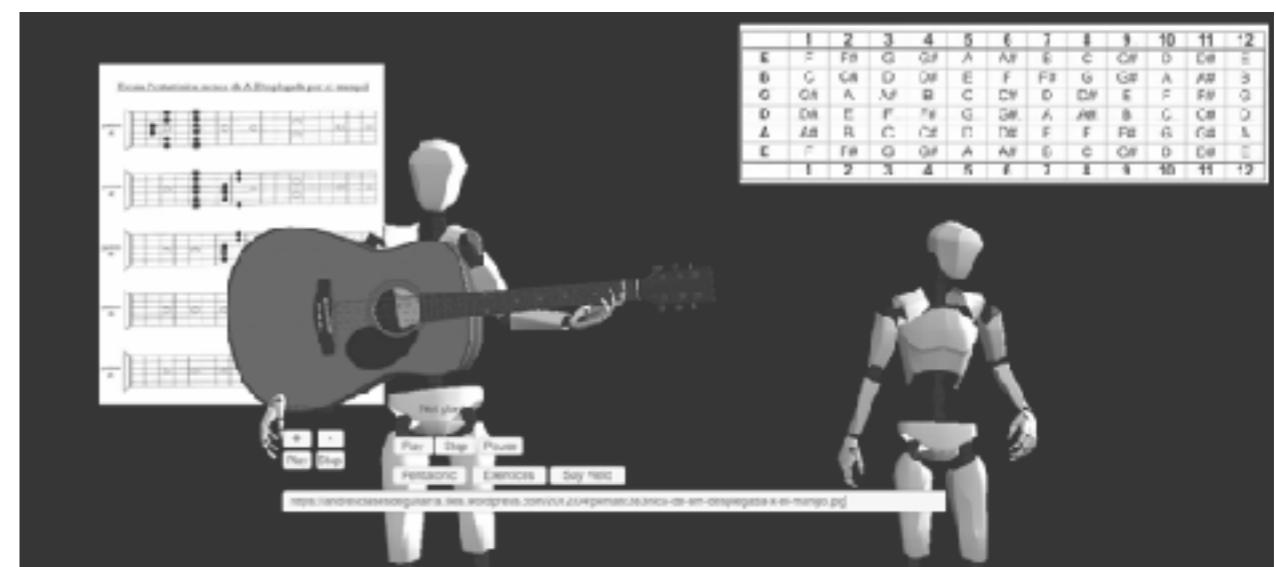
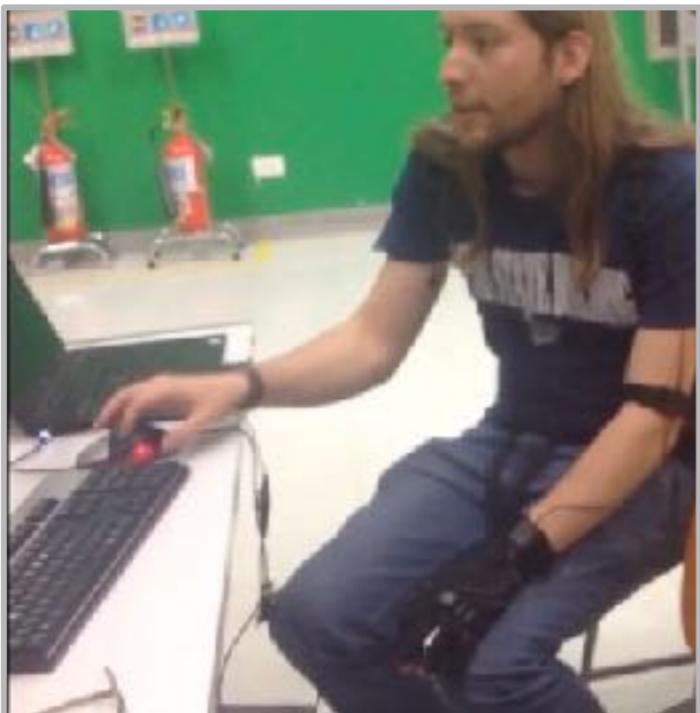
Current collaborations: Imagine X



Current Work with my BSc: Sergio Madera et. al.



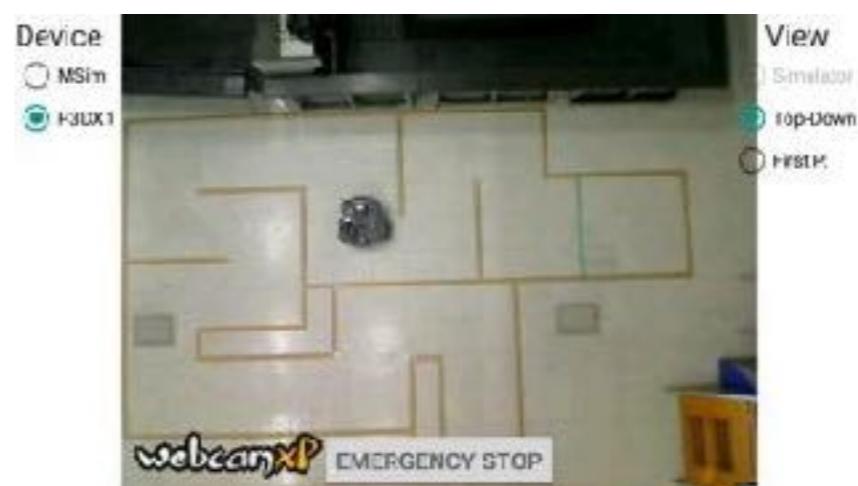
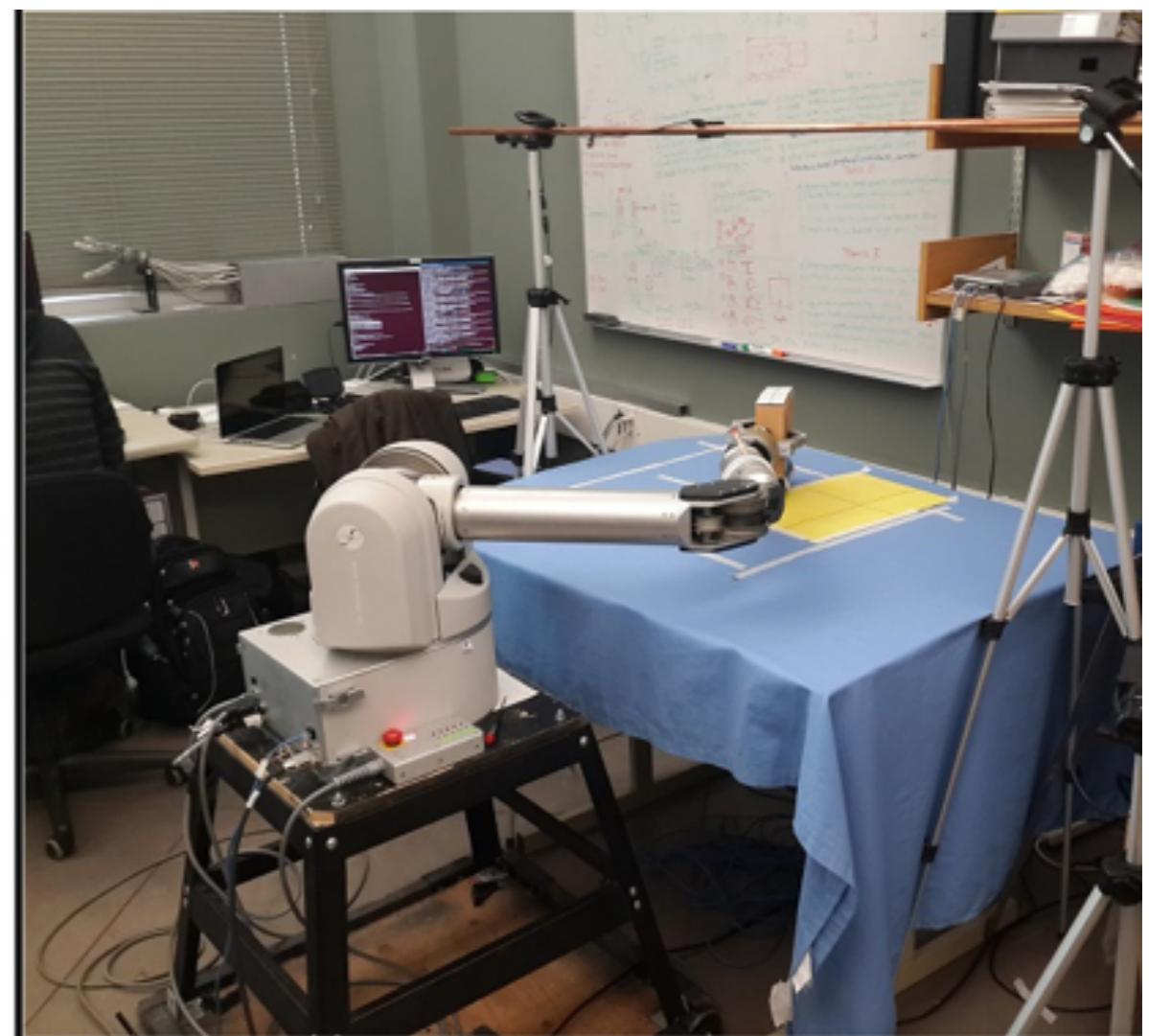
Current Work with my MSc: Johann González. et. al.



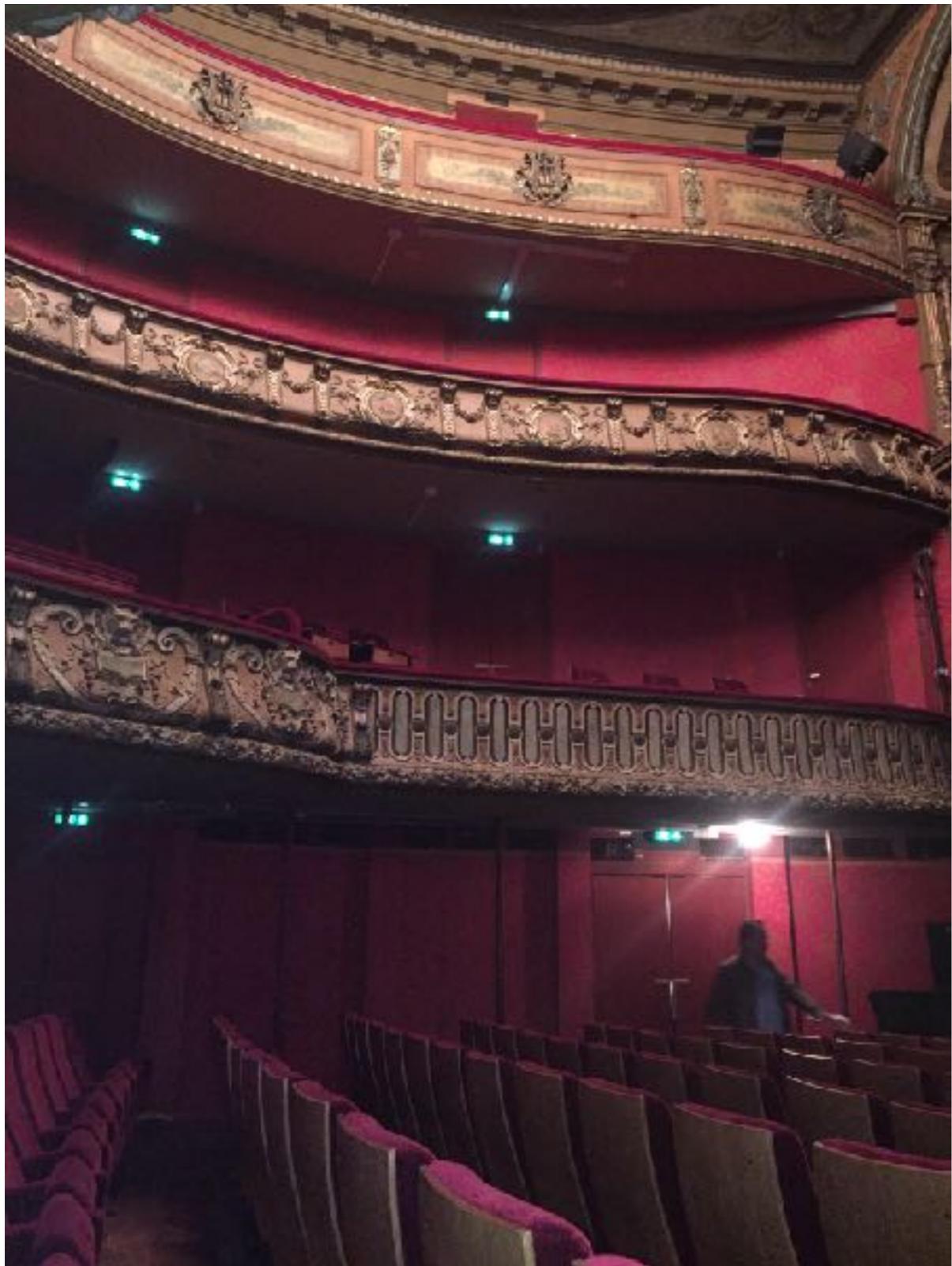
Current Work with my MSc: Carlos Torres



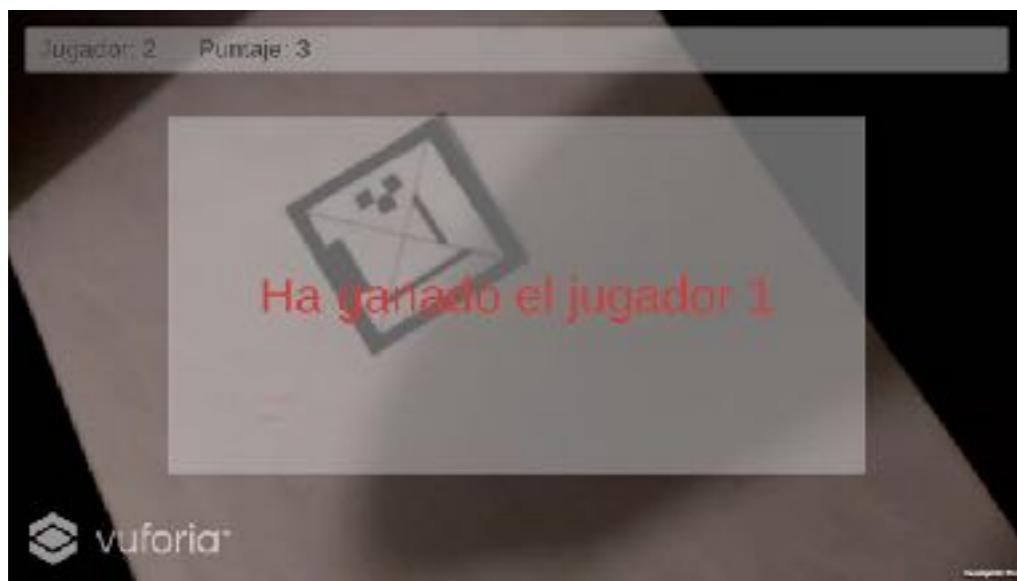
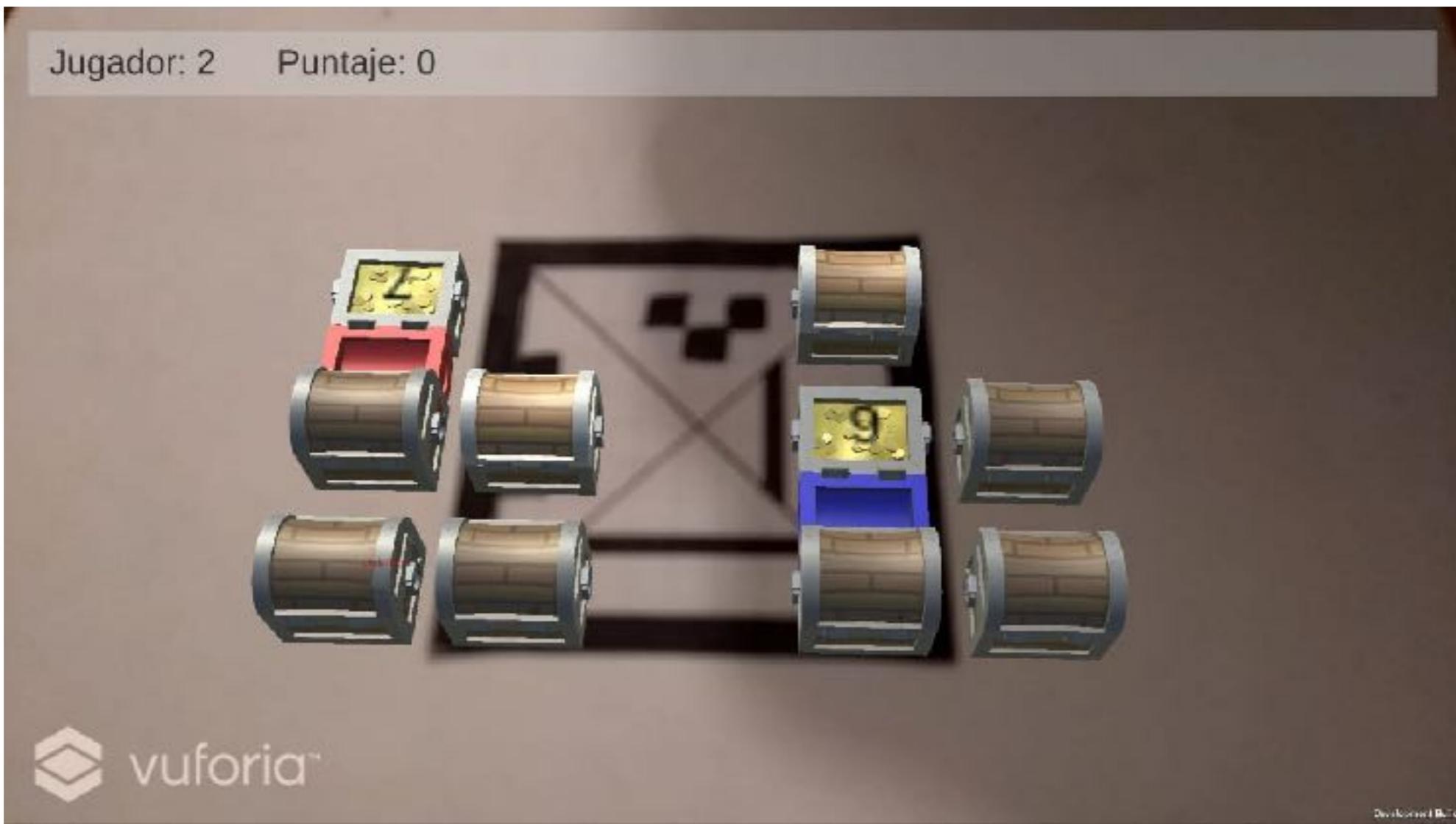
Current Work with my MSc: Juliana Montes



Current Work with my PhDs: Diego Rodriguez



Current Work with my PhDs: José Dorado



Current Work with my PhDs: Victor Garzón

Thanks for your  
attention! Questions?

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Pablo Figueroa, PhD

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@pfiguero

<https://sistemas.uniandes.edu.co/~pfiguero/>

