



## Project

Virtual Reality “Fire at home”



# Why Fire at home VR?

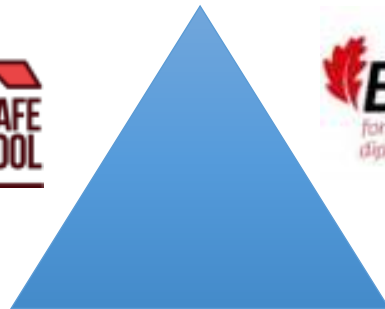
- 75% of fire related deaths occur at home.
- In a fire the behaviour during the first minutes makes the difference between
  - a fire contained in a room or an apartment with no persons injured, and ...
  - a fire fully developed with many people in danger
- “Learning by doing” concept.



# What is the origin?



- Proposed by Bizkaia Fire Bigade as a tool for delivery of fire education to teenagers.
- Developed by Tesicnor, a Safety Training Company from Pamplona (Spain)
- Supported by Bfiresafeatschool and integrated as a deliverable of the project



# Description and goals of the game

- It is an android based VR application that allows the user to move within an apartment and interact with its environment, using Oculus Quest 2 headset.
- Use of Virtual Reality to experience good and bad decisions when you face a fire at home
- It is an individual and collective learning tool
  - One person plays
  - Other people can watch on a screen what the player sees and does
- The final aim is to emphasise the concept of *Close the door to fire*.



# How it works?



- The player can repeat the game until he/she gets the best outcome
- It is not a self learning tool. It must be conducted by a trainer that explains to the player and to the observers the consequences of good and bad decisions

## *Scenario*

- With the headset on, the player finds himself/herself in an apartment
- Before starting, the player can check the layout of the apartment by physically walking through and checking all the rooms

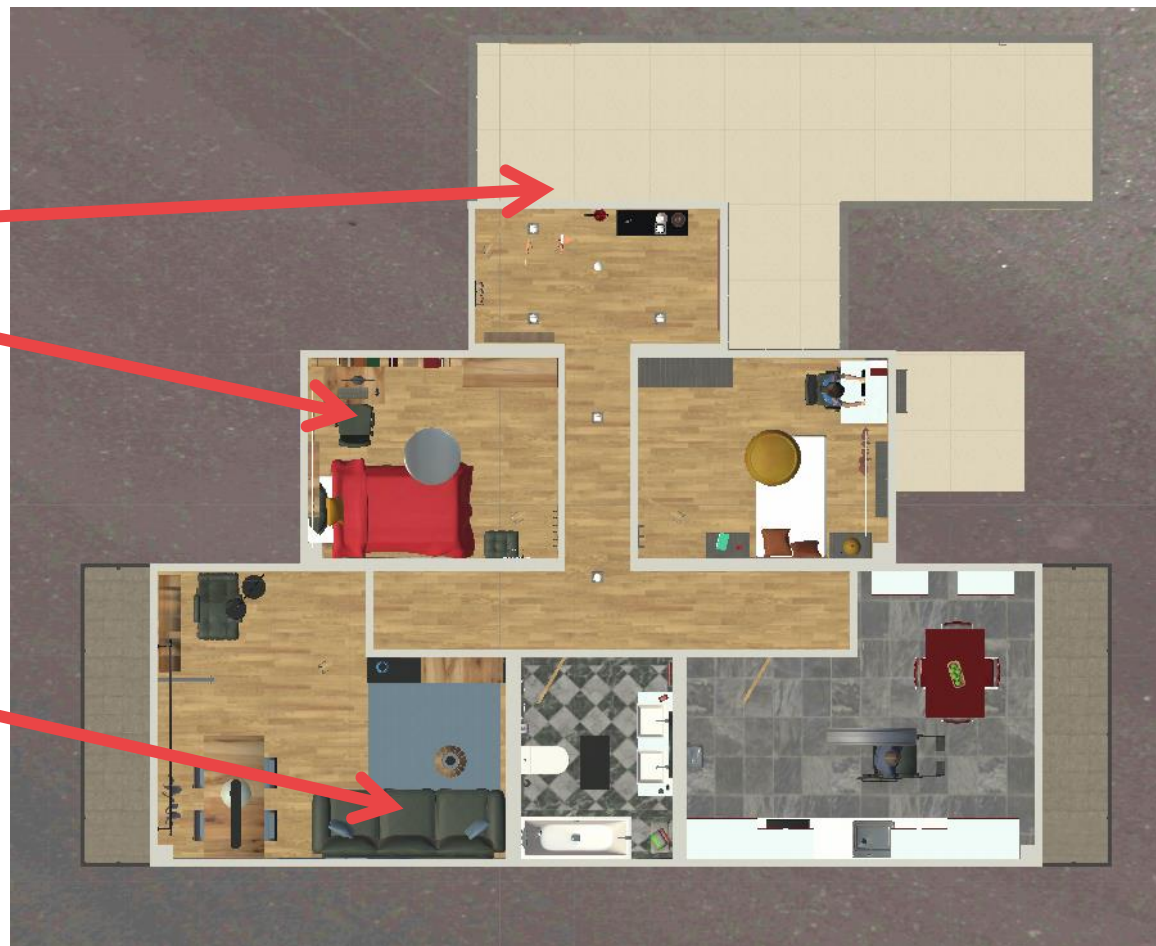


# How it works?

Layout of the apartment

Starting points


Fire source





# Structure of the game




- While the fire room door is open the smoke layer keeps growing and the neutral plane descends gradually.
  - If the fire room door is closed the smoke layer in the other rooms remains stable
  - The conditions within the fire room continue to deteriorate, unless the extinguisher brings the fire under control.
  - The behaviour of the fire and smoke depends on
    - doors or window being open and
    - time
  - It's realistic and has been set using a complex Fire Development Simulator
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# Structure of the game



- The smoke reduces visibility within a narrow fringe of 50 cm above the neutral plane of the smoke layer.
  - The player must crouch down to maintain visibility when the smoke layer reaches head height
  - If the player's head is within the smoke layer he/she will be inhaling smoke
  - The level of smoke intoxication is cumulative, depending on the exposure time and is registered on a scale that the player can see on his watch. Once the intoxication reaches unsustainable levels, the player will lose consciousness and the “game is over”.
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# Requirements

- Oculus Quest 2 Virtual Reality headset and Oculus touch controllers



- “Fire at home” software uploaded by Tesicnor
- To be able to share the image on an external screen, a Wi-Fi connection and a computer are needed.
- The playground is 10 m long and 10 m wide.



# Questions?

