

Mixed reality & tangible interaction

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Description :

Tangible Terra is a project that brings the building mechanics of Minecraft into the real world using mixed reality and tangible interaction. Through this experience, players can interact with a physical surface, like a table, which is embedded with QR codes. These codes represent :

- a grass surface that represents the ground
- different blocks (log, wood, stone, cobblestone, wood stairs, stone stairs, door, glass block)
- an inventory (each QR code is an inventory slot)
- a red circle to represent which block in the inventory the user wants to select

These QR codes allow the creation of an interactive game world. Players can customize their in-game inventory by physically moving QR codes corresponding to the different blocks. Using the "selection" QR code, represented as a red circle, players can choose which block they want to place. By moving this selection QR code and tapping on the AR grass surface, players can place blocks wherever they desire.

Players can interact with the virtual blocks in different ways: tap to place, hold to remove, or even stack blocks by placing new ones on top of existing blocks.

Interactions :

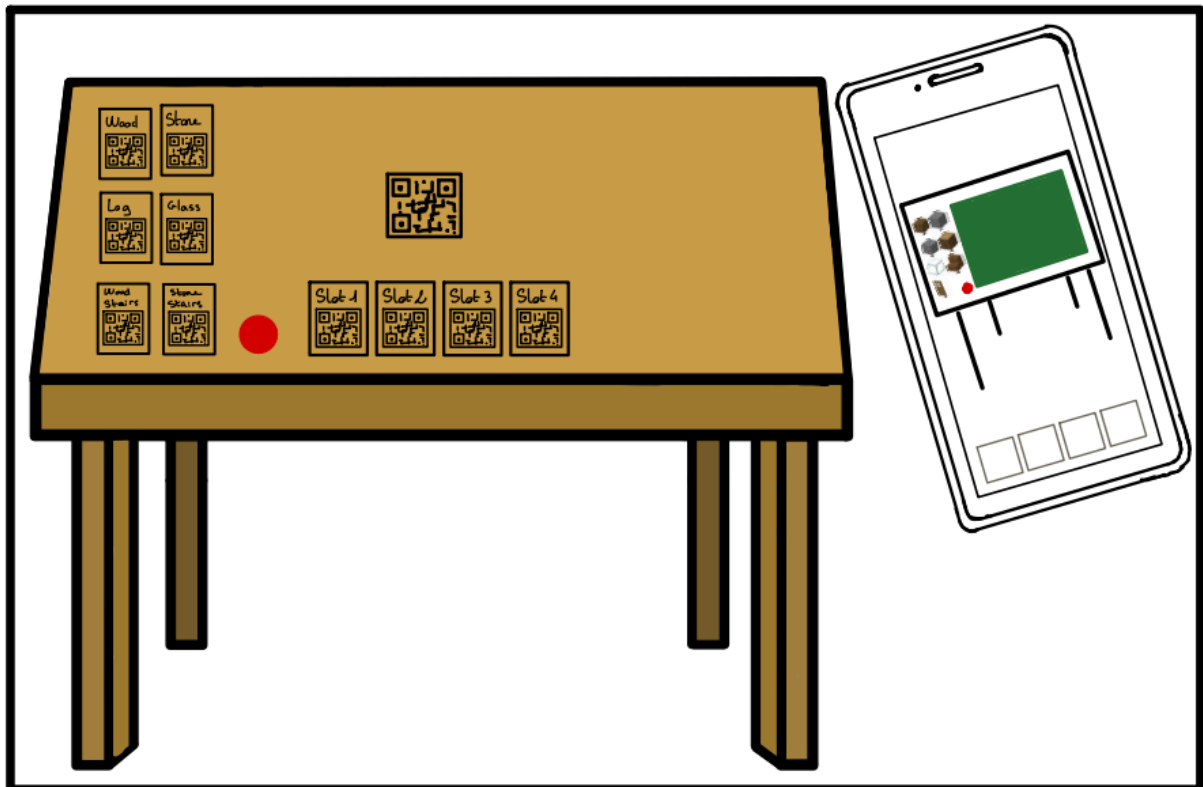
Tangible manipulation

- > move the entire scene by moving the large QR code that correspond to the grass ground
- > move the small QR code that correspond to a type of block in your inventory to add it
- > select a block in the inventory by putting a colored token on it

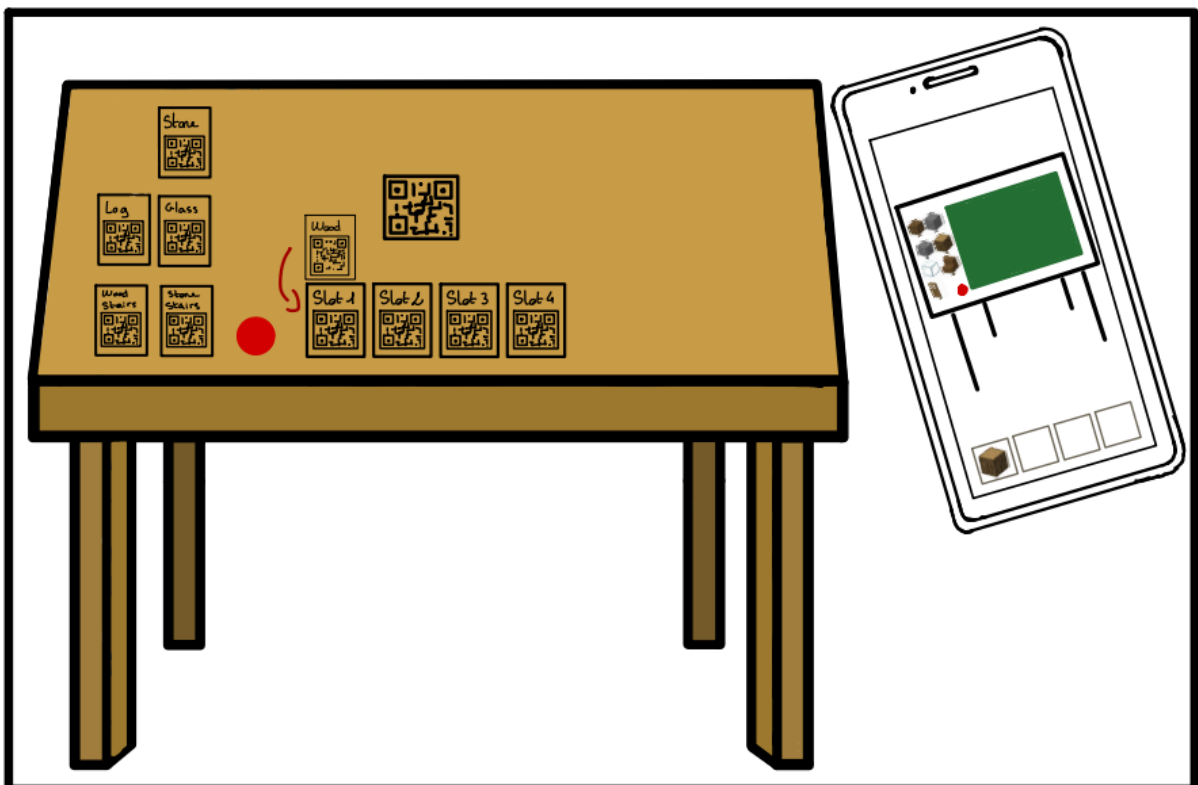
Touch manipulation

- > touch on the screen the grass environment to put a selected block on this place
- > hold your finger on a block already placed to remove it

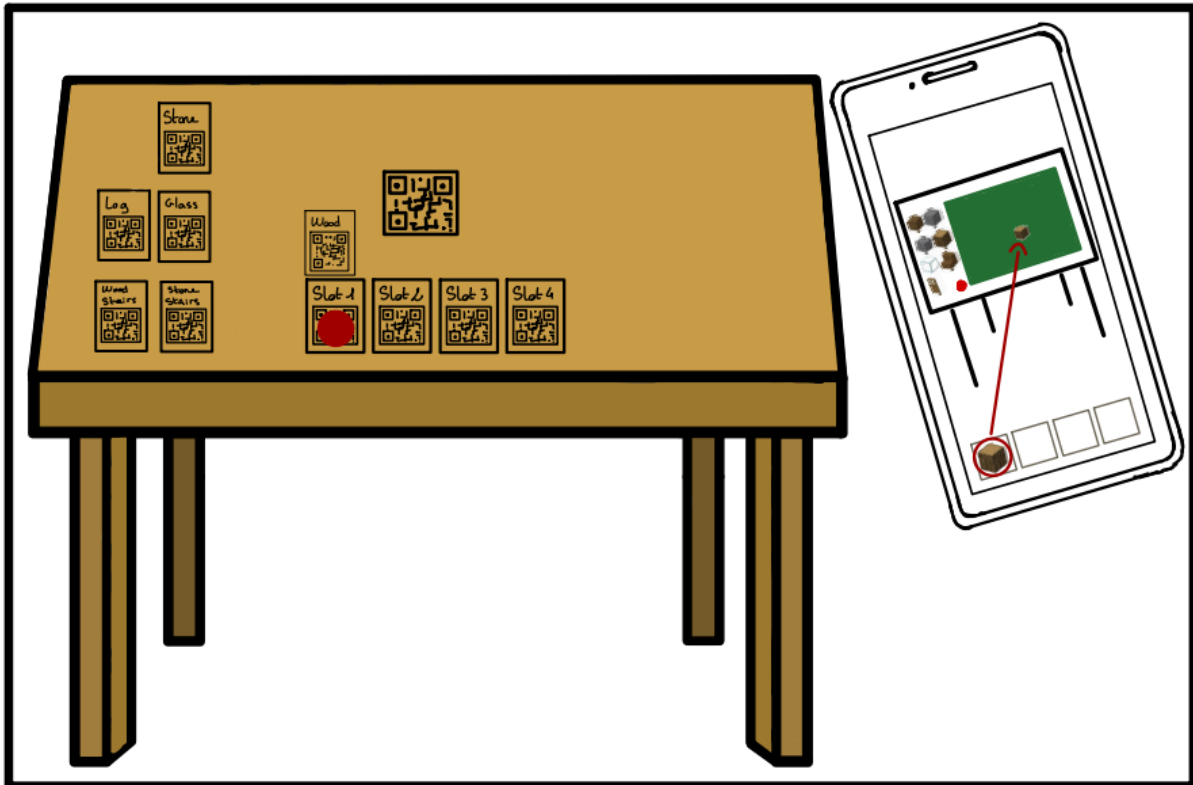
Sketches :



We can see the table with the different QR codes that represent the ground, the blocks and the inventory. On the phone you can see the rendered QR codes.



Here the player adds a wood block in his inventory by moving the corresponding card in the physical inventory. On the phone the inventory is filled by the wood block.



Here the player selects the wood block to place on the ground by placing the red token on the corresponding spot in the physical inventory. Then, he taps on the virtual ground to place the block.