

# Mixed-Up Museum Overview

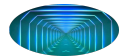
15 Feb 2021 Version 1.1

Current list of bugs and work in process is at <https://trello.com/b/95GmRqGA/mixed-up-museum>

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## Game Setting

The game is set in a 3D maze of 9 **rooms** in a 3x3 square. All doors to adjacent rooms are available for use, and indicated by a '**transporter**' (pulsing blue oval). Each room has 4 **items** or images, one on each wall. Some of those items are in the wrong place.



Each item has a **description**. An item is in the wrong place when the description and the image do not match. It is always the image that is in the wrong place. Descriptions are always in the right place.

The items are arranged by **date** in diagonal rows from the earliest (in room 11, upper left) to the most recent (in room 33, lower right). Looking at the map (after a topic is loaded) shows how any specific set is arranged.

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## Game Goal

The player's goal is to rearrange the items that are in the wrong place to be in the correct place. Level 1 has only 2 items in the wrong place (of the 36 items), and the player's goal is to take one of them, swap it with the other incorrect item, and replace the swapped item into its correct place. Level 2 has 3 items in the wrong place, and levels 3 and 4 have 5 items in the wrong place.

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## Game Ends

The game ends when all the items are on their correct walls.

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## Player Actions Overview

The player has 4 sets of actions: navigation, turn, item interaction, and menu.

### Menu

The menu is the first blue screen at the start of the game. It shows on the left and the right how the player moves (left) and turns (right).

The menu can be brought up at any time during the game with the ESC keyboard key or by tapping one of the ESC buttons. The menu and any popup is hidden with the same key.

Help is provided with the ? button. It is level-specific, and the user can tap each level then ? and get a description of that level. The level used in the game is whatever level is selected when the game is started.

The most important button on the menu is the map button. After the content is loaded and the game is started, this brings up a map of the museum (see screenshots below) indicates both the date range of each room as well as the location and facing direction of the player.



The door icon brings up instructions for moving through doors into another room.



The topic icon indicates the current topic and is the way to start the game. It brings up a list of all topics in the game. Tapping any topic starts that topic, giving an overview and starting a row of yellow squares indicating as each image is loaded.

NOTE: the game window is currently too large for the screen, and you have to scroll up to see the bottom. This is an item to be fixed.

The Topic Catalog button allows the user to page through all the items in the current topic. This includes every item in the database, not just those in the current game. This works before the game has started with whatever is the current topic.



The restart button restarts the game with the same topic. It can be used at any time. It reloads the content from the beginning, randomly selects items, and loads images, and resets the timer.



## Navigation

Player can move in all 4 directions relative to wherever they are pointed: Forward, backwards, left, right. Movement is either by keypad (forward: w, backwards: s, left: a, right: d — or forward: up arrow, backwards: down arrow), or by buttons (for touch screens). The on-screen buttons are activated/hidden by tapping the touch-screen button. Navigation touch-screen buttons are on the lower left corner.



To move from one room to another, the player bumps the ‘teleport’ in the middle of the wall on the floor (glowing blue). That should shut down player movement until the next room is finished. Player must be in the middle of the transporter and facing the wall to go through.

Player cannot go through a wall backwards or sideways.

## Turn

Turning or rotating the player (without moving location) is done by either the left/right keyboard arrows or by the curved arrow buttons of the touch-screen set, lower right.

## Item interaction

To determine which items are incorrectly placed, player brings up the description of the item and compares it to the image on the wall. Player does this either with keyboard 'q' or with the 'description' icon on the menu. If the description and image do not match, then the image is in the wrong place. It is always the image that is wrong, never the description.



To move an image from one wall to another, players put the image in their cart. Players can grab and carry an image (removing it from the wall) or place it onto a wall (replacing any image already there). If the player is carrying an image, the shopping cart icon shows up with a gold box in it.



If the image is in the wrong place, the player will get a 'correct sound' when they remove it. If the image being removed is already in the correct place, or if it is being replaced by the wrong image, player will get an 'incorrect' sound.

Player can take an image with either keyboard 'g' or on the menu with the hand icon. The same action will replace or swap the image in the cart with that on the wall. Player must be roughly facing the wall to take that image.



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## Game Play

Player does 4 things:

1. Move through the museum, looking at all the items and comparing the image and the description.
2. Take an image off the wall and put it into the cart to move it to another room.
3. Replace an image on the wall with the image in the cart (repeat until all items are correct except the first).
4. Put the final item back onto the original (now blank) wall.

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## Functional Parts

### Walls and floor

There are 4 walls (they are reused for each 'new' room. Each is a barrier keeping the player from getting out of the room except through the doors. Each wall has a unique 'texture' (pattern of stone or brick) that can be used to help navigate. That is, the 'north' wall will always be the same in every room, etc. Each wall also displays one item, an image. The images can be removed and replaced.

The floor is static and does not interact in the game.

## **Doors (transporters)**

Every wall with an adjacent room in the map has a 'transporter', a blue glowing image on the floor in the middle of the wall. Bumping this transporter with the player while facing the wall causes the player to go through the transporter to the next room.

## **Game Content**

There are two parts to the game content: the text (description, date, who did it, where) and the images. All game content (except the first 4 random wall images when the game is first loaded) is loaded into the game from a server when a topic is selected.

From the text content (a simple spreadsheet), 36 items are randomly chosen then arranged by date. The text content is then put on the description of the item that belongs on each wall.

The images loaded are those that correspond to the 36 chosen items. They are loaded into the game before it starts.

Restarting the game with the same topic causes a full new load and new random 36 items.

After the images are loaded, 2 (or 3 or 5 in higher levels) items are chosen to be incorrect. Incorrect means the image does not match the description. In level 1, the two images are swapped at the beginning of the game. In levels 2-4, each image is moved to the next wrong item in a chain.

## **Trolley**

The trolley is used to 'carry' an item from one room to another. When full, it shows a gold square on the trolley. There is no direct interaction with the trolley.

## **Stars**

The stars to the left of the player at the bottom indicate how many 'moves' the player must make, and how many correctly have been made. For example, if 2 items are out of place, then it takes 3 moves to correct it: take first item, swap the two incorrect items, replace the swapped item onto the first wall. There is no direct interaction with the stars.

## **Timer**

The timer shows the elapsed time (in seconds) since the start of the game. It is reported at the end of the game. In a future version, it will be used to determine qualification for certificates.

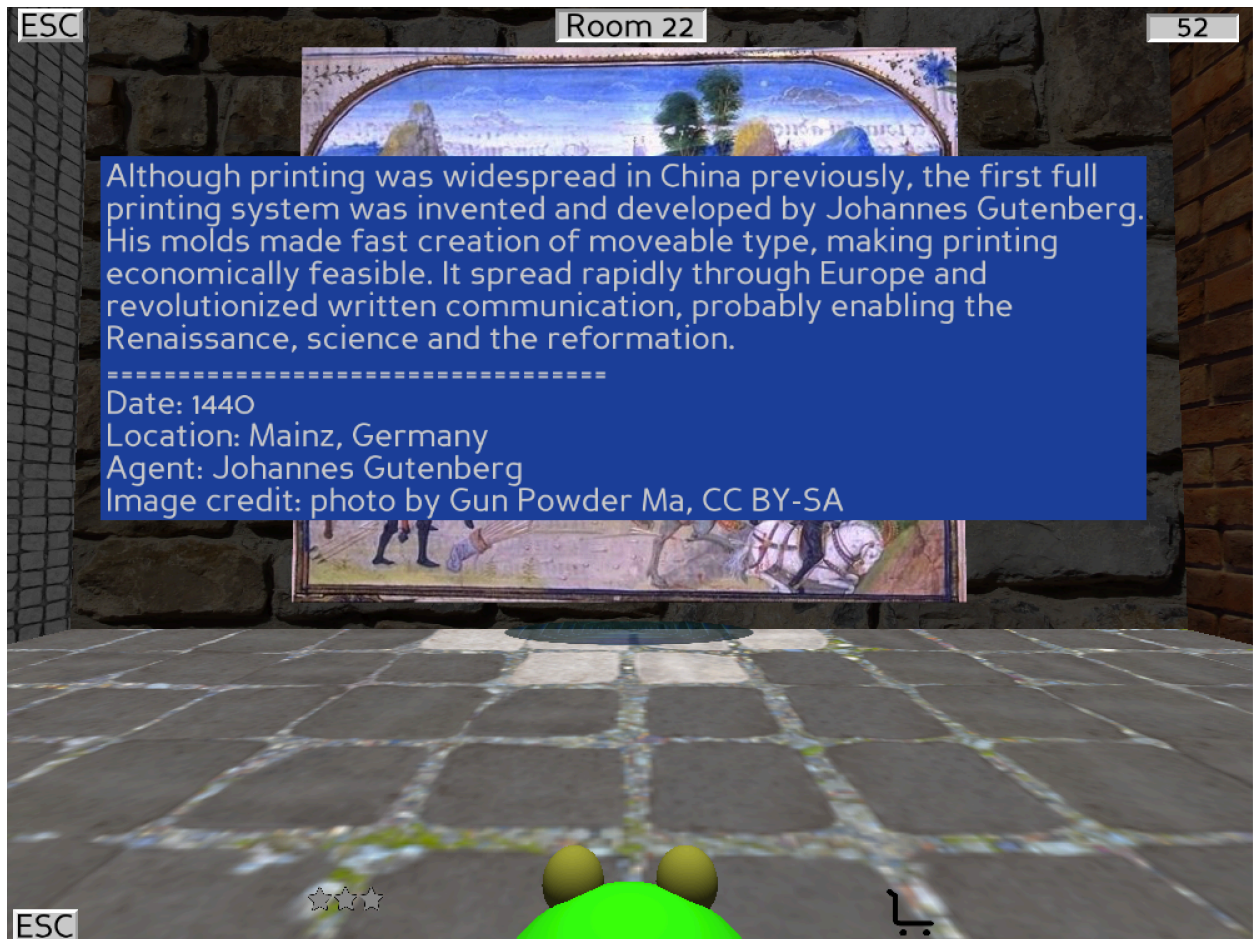
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## Screenshots of Play (level 1)



At the beginning, find the mistake in the first room. For each image, check the description.



This description does not match the battle scene. It is a description of the European printing press. Find the room that has the description of this battle.



ESC

Room 22

137


15/37

BATTLE OF POITIERS

This battle was the middle of the three big English victories in the 100 years war. Edward the Black Prince (son of Edward III) led the English forces against King John II of France who was aided by Dauphin Charles and Prince Philip. The English were outnumbered almost 2:1. King John and Prince Philip with 17 lords and 13 counts were among those captured. It was the end of France for a while, and Jean de Venette wrote 'From that time on all went wrong with the Kingdom and the state was undone. Thieves and robbers rose up everywhere in the land.'

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Date: 1356  
Location: Aquitaine, France  
Agent: England, France  
Image credit: uploaded by Loyset Liédet, public domain



ESC

☆☆☆

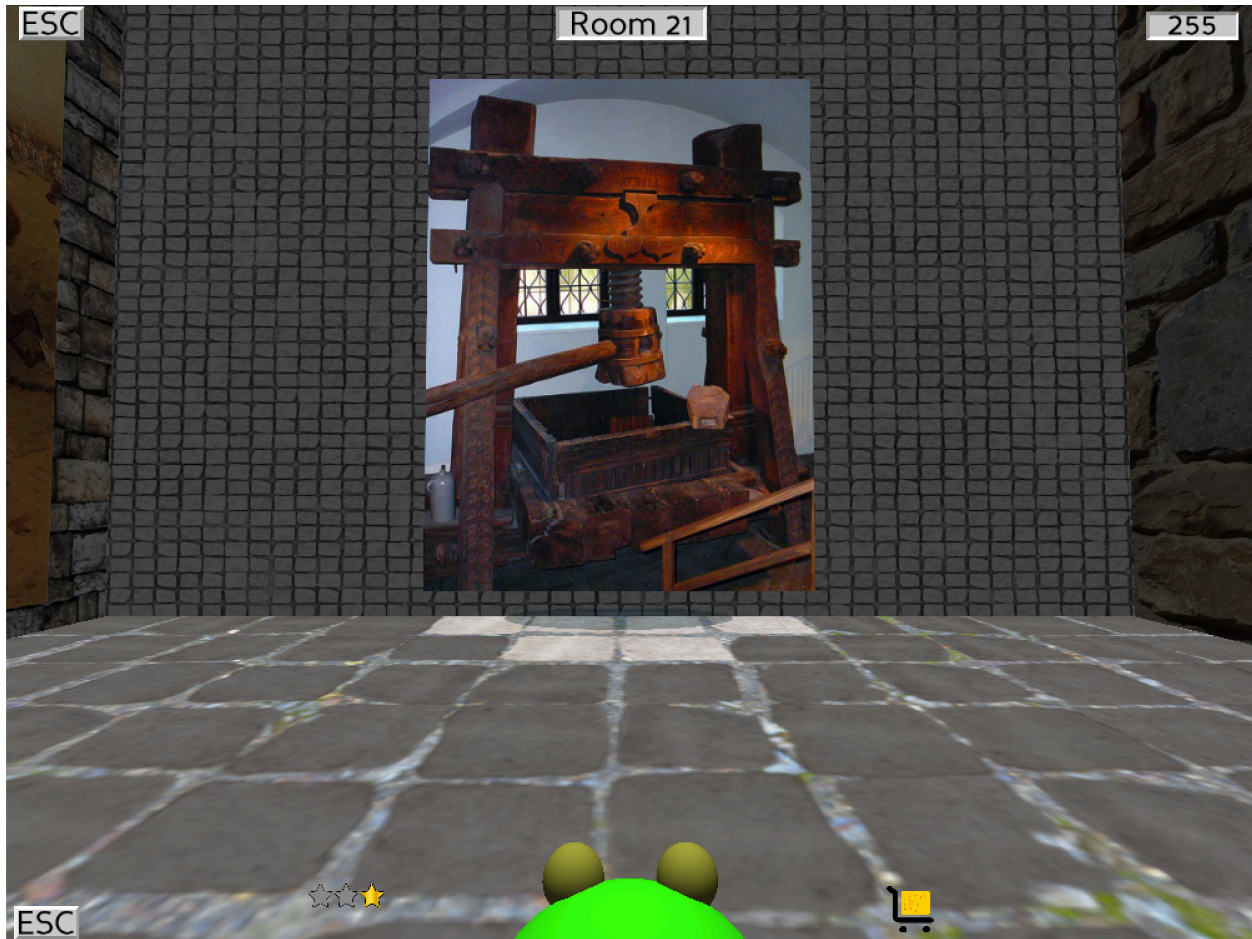
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Now I need to know where the battle scene belongs. I page through the Topic Catalog until I find it. Ah, the Battle of Poitiers, 1356, a critical battle in the 100 Year War.



I look on the map to see where 1356 is. It is in room 21. That is where I should find the other mistake.

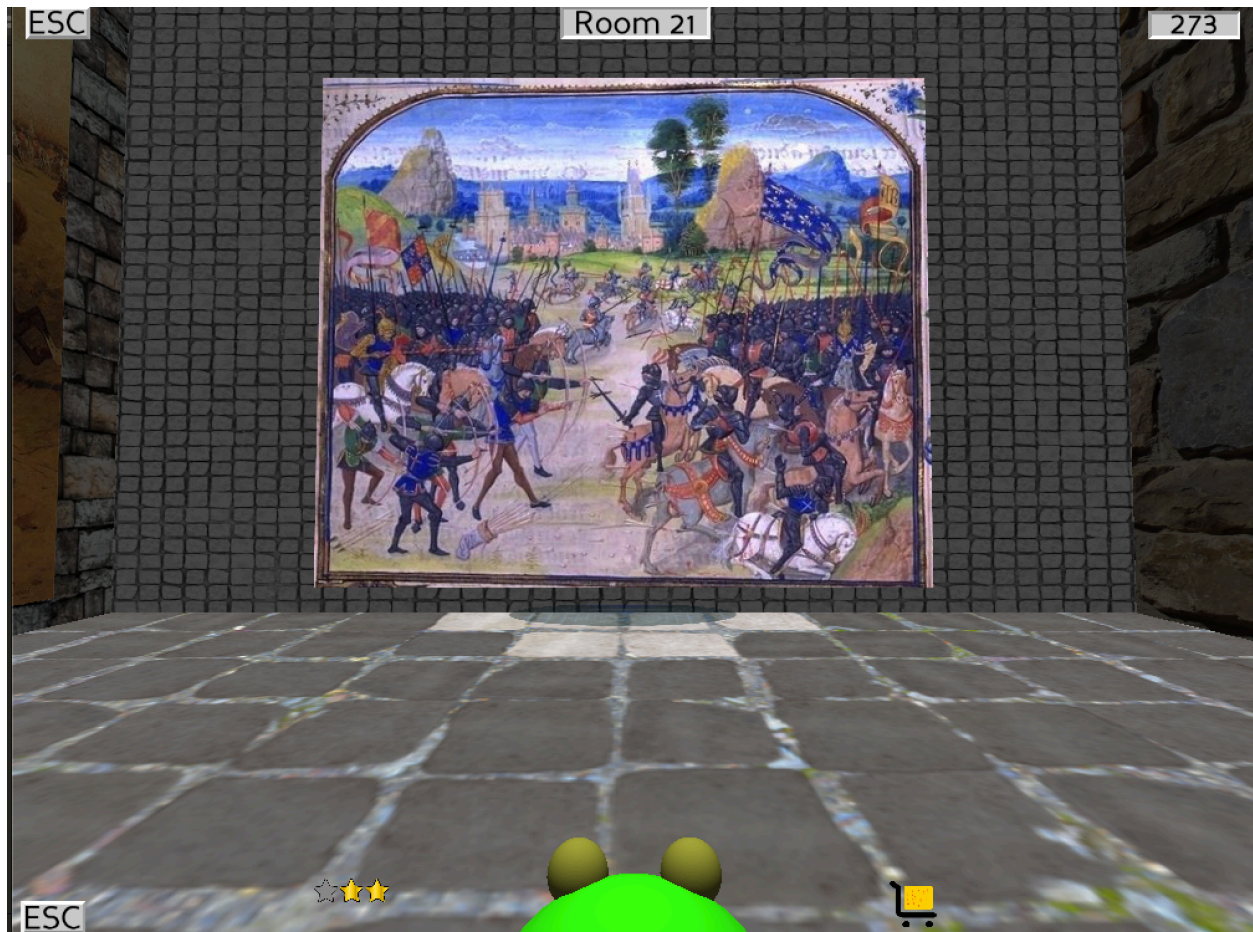


In room 21, look for the Gutenberg printing press. Here it is. It should have the description of the Battle of Poitiers (in level 1).

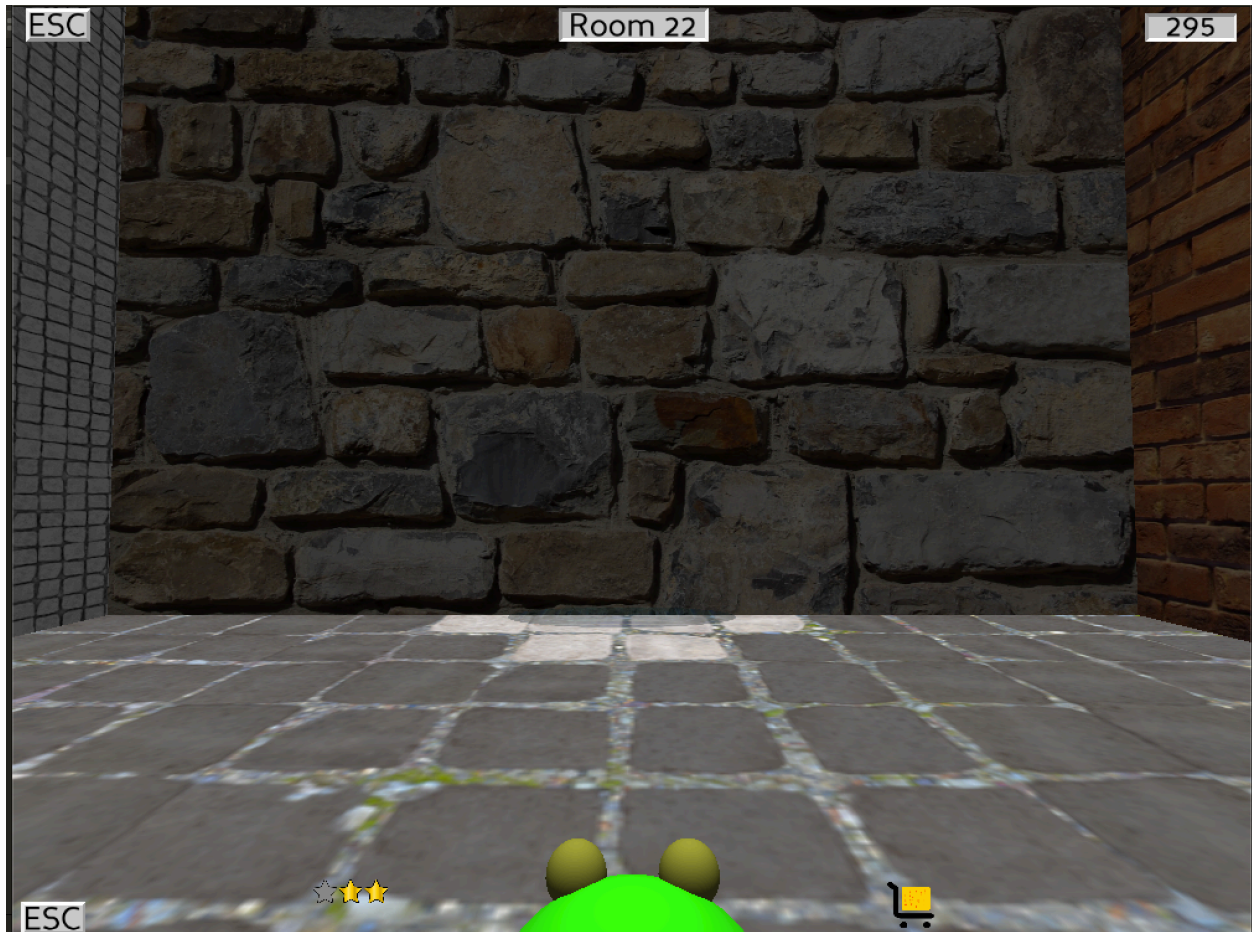




Right! The description matches the image in the cart, the Battle of Poitiers.



I replace the Gutenberg press image with the one from my cart, the Battle of Poitiers.



Almost there, 2 of 3 stars. Now, head back to the starting room (22) and replace the Gutenberg Press. Here is the blank wall. (I could also check the description to be sure.)





Back in our starting room, the blank wall now is where we put the image of the first European printing press with moveable type. Success!