Kilroy Was Never Here: An AR Mystery Game

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Kilroy Was Never Here:  
An AR Mystery Game  

By  

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Abstract

*Kilroy Was Never Here* is an augmented reality mystery game which uses design to influence urban exploration. It uses storytelling to enhance engagement with an environment, and generates an immersive experience for the user. It invokes a variety of methodologies, most notably discovery, transformation, and engagement. An alternate reality is generated through colored filters, motion graphics, and moving typography which both informs the user of the story and guides them through their environment. Discovery encompasses both clues and new locations for the user to visit as they unravel the mystery of the disappearance of the main character, Kilroy. Clues transform the space the user is viewing, and offer them a new understanding of their surroundings, considering how certain spaces may take on new nuances with the occurrence of meaningful events. There are three different clue types: locks, keys and freebies. Keys are clues which become integral to unlocking further gameplay when paired with the appropriate lock clues. Lock clues will then disseminate information to the user about the plot, and often will point the user to one or more new locations to investigate. Freebies are clues which do not require any input from the user beyond viewing the space through the lens of the application. The immersive aspects of the gameplay further dramatize the storyline by bringing narrative elements closer to the user's reality.

Keywords

Augmented reality, design, mystery, narrative, game
Between a fondness for non-linear storytelling, adventures involving agency, map-based narratives, and a thesis requesting innovation through design, I formulated my initial problem: how might we use storytelling and design to enhance engagement with an environment? Through a long process of designing and rethinking and redoing and redesigning, I ended up with a project that is best described as an AR horror mystery game, titled Kilroy Was Never Here. The three main facets of the game are discovery, transformation, and engagement.

The story of Kilroy Was Never Here, a mobile application with the intention of novelty and entertainment, is discovered by the player using three main interfaces: AR, map, and inventory. In the narrative of the game, Kilroy is your friend who suddenly disappeared and has been missing for a few weeks. AR is where the player does the bulk of the gameplay, scanning their immediate surroundings for clues and other artifacts, moving beings, or text, which provide context and insight to Kilroy’s disappearance. You explore this mysterious and unfamiliar world seeded within your own physical world, narratives spilling out over rooms you’ve sat in, stairs you’ve already descended, sidewalks you’ve crossed dozens of times without a thought. This other world is crawling with frantic handwritten messages from Kilroy which populate the environment like graffiti, slithering beings (worms? snakes? demons?) and bits and pieces of found information, like newspaper articles spanning entire walls, which blur the lines between your environment and the game itself, like giant chess pieces towering beside you. There are opportunities to engage with minigames directly surrounding you, and opportunities to trigger events from artifacts which only appear in the lens of the game. The clues and other messages within the game take the form of warping motion graphics which change over time and with their proximity to you, creating corners you may not want to peer around anymore.

The inspiration for the engagement within the game came from largely from three games: PokemonGo, the location-based mobile game with AR capabilities, MOTAS: The Mystery of Time And Space, an escape-room style web game from the early 2000s (which has since been archived and is no longer directly accessible) and Unsolved Case Files, a series of board games containing documents the players must sift through like detectives. Kilroy Was Never Here was born from combining the ideas of piecing together a narrative from found clues, solving small puzzles and riddles in order to progress in the game, and urban exploration supplemented with AR as gameplay, to create a new kind of horror game which fits snugly into the reality of our mobile-driven society. The title references iconic graffiti from WWII depicting a face and the words “Kilroy Was Here”, and gestures toward the player discovering where Kilroy was and was not in the time leading up to his disappearance.

There are three types of clues within the game, locks, keys, and freebies. Locks are clues which contain information about the narrative, but that information may only be accessed if paired with the corresponding key. Key clues, therefore, are clues which are seemingly meaningless or nonsensical by themselves, but when paired with lock clues as passcodes, identified symbols, etc. they unlock that previously hidden information. The necessity of pairing clues together creates more complex and difficult gameplay, and requires more exploration and consideration from the player. Freebies are clues which appear in the game’s environment, without any need for the player to uncover or otherwise bring them to visibility. The clues are designed to be decorative elements, creating an immersive experience for the player as they navigate unfamiliar and unsettling additions to familiar landscapes. Some of the graphics are in constant flux of motion, generating the sensation that your environment itself is some living, breathing horrific beast, while the motion and transformation of others are triggered by proximity, creating a sense of anticipation and fear. The clues are decoration, but they are alive, and alongside creating an aesthetic atmosphere they serve to provide information and deepen the worldbuilding at hand.

In considering the player and when they might be playing, I imagined the time between classes on a college campus, the time between work and an appointment in an urban area, the time in which you are waiting for a friend to meet you at a coffee shop. Kilroy Was Never Here is a game which is designed in short snippets, in order to allow the player to find a single clue at a time within a matter of minutes, if that is the duration of time they have to commit. The inventory is designed to remind the player of the
context in which they discovered the clue, displaying metadata about the date, time and coordinates of discovery, so they may put down the game for a week or longer at a time and be able to pick the story back up with relative ease. The lack of social media connectivity or larger network communication resolves the game to be structured for independent gameplay and isolates the player, a meta element that brings them closer to the narrative of the lonely, lost, and missing Kilroy.

The details of the design decisions were nuances that had the ability to amplify the core feeling of the game, but required consideration of practicality and clear communication, ease of understanding from the user. Designing the icons presented questions of stronger connotations of certain forms with unintended meanings, such as a magnifying glass clearly representing a clue in the context of a *Carmen SanDiego* CD-ROM computer game, but more obviously signifying ‘search’ in the context of a mobile application interface. Some design decisions were directed simultaneously by practicality and aesthetic streamlining, such as omitting titles from the inventory page, as naming conventions posed an unnecessary issue and would visually clutter the screen, inhibiting the user from scrolling through a large grid of information with ease. Other design decisions were made from time and resource scarcity, such as a 3D figure I had made 6 variations of before omitting entirely from the project. The figure required significant amounts of time to render from Cinema4D, and compositing the renders to integrate smoothly with the footage and filter in Adobe AfterEffects proved too problematic to spend the time on. The visual research into what features placed a figure in the uncanny valley may not have been able to come to fruition in the form of a not-quite-human figure lurking at the end of a hallway and reaching it’s backwards bent fingers out towards the player in a jump-scare moment, but the research was still valuable in directing the placement and behavior of other graphics throughout the environment. One of the more difficult aspects of the game to design was the interaction indication, which would appear in relation to an artifact in the game that was entirely augmented and not at all related to the existing environment. The indication had to contrast enough with the object and environment that it was an obviously new addition to the gameplay experience, but couldn’t contrast so much that it became visually disintegrated with the rest of the aesthetic. It could not be too cheesy (as an array of AfterEffects Particular tentacles proved to be), whimsical (as a ring of turbulent Insydium X-Particles proved to be), or distracting (as a full screen transition effect proved to be), but had to obviously lure the player into tapping on the artifact. A spiral appearing overtop the object became my answer to this design decision, which integrated well with the other spirals that had snuck their way into the game as location marker icons, decorative elements of the AR environment, and mental journey that Kilroy seemed to be going down.

Designing the map also required much time and attention, with vastly different iterations preceding a final style. The first variation of the map was inspired by the assertion of a notable professor that isometric was the way to go, and the maps that appear in the beginnings of fantasy novel series to contextualize the world into which the reader is about to plunge. The 2D perspective was too flat to feel truly immersive, and was resultantly confusing to navigate and relate to direct surroundings. A second version of the map sported a ghost avatar, which was intentionally androgynous and could be identified with any player, fit the spooky theme of the game, but didn’t quite make sense in context of how the player related themselves to the environment of the game. The player was intended to feel as though they themselves were peering into an alternate dimension of their reality, not an entirely separate figure existing within the scope of the game. The third version of the map took notable design moments from the AR portion of the game, dipped in red with larger than life typography sprawling the landscape, and it’s ‘avatar’ was nothing more than an arrow, which functioned to succinctly inform the player of their location, as well as further the ambiguity of the player’s place in the world.

What I originally anticipated in designing *Kilroy Was Never Here* was a geocaching narrative adventure, utilizing QR codes and video reels. Instead, the resulting project stepped even deeper in integrating the virtual and physical worlds, tying the fictional narrative to reality through AR typography which bled and embedded itself directly into the surrounding landscape, offering a new (and quite red)
perspective into spaces players had presumably seen before, but never before as they appeared in Kilroy's world.


Solution

A mystery game. A user explores a cityscape through the lens of virtual storytelling, enhanced with discovery transformation and engagement.

It stands for augmented reality, which is the integration of the real environment with digital content. In our project, it takes the form of a mobile application, in which it can be viewed through the player's camera, and supplemented by a color filter and resolution gaps.

Discovery

Discovery is a twist: it is a twist to the game—discovering new locations, as well as clues about Kilroy’s disappearance.

In contrast to this nature is that the user may uncover clues that are not the clues for the game. A location only on a square rotation, or after triggering a certain event in the game.

Clues

There are three types of clues: labels, keys, and information.

Labels: the clues which may only be revealed if there is a specific input from the user, whether that is a code, pattern, or some other format.

The input required to reveal the information from a label is the same as a label.

Keys and locks share distinct locations, and it is up to the user to figure out which ones go together.

Information: which simply appear in the environment without any input necessary from the user, such as the image shown to the right.
Voicemail

from Jax

text code to listen to voicemail

Example of a lock clue

Inventory

Key clue and inventory in the user's inventory, and can be accessed at any time. Any key that the user accesses into the user's field of view is automatically sent to the inventory.

Could I Be Trapped in Some Alternate Dimension?

Look at clue inventory walkthrough

Key clue alternate example

Transformation

Through the use of augmented reality, the environment of the user is completely transformed.

Using a remedial moving typography which comes from animation and weaving graphics, the user experienced a remodeling with a new X-ray of living, breathing horror.

The intention is to further demoralize the sensory elements by bringing them closer to the user's reality, creating an immersive experience.

How Do I Get There? Who Is He Hiding From?
Typography

There are two types of typography present in guiding the user through the transformed environment: guiding type and narrative type.

The guiding type acts as the on-screen navigator through the transformed environment, setting a map in the user's mind. The words are in a handheld format to orientate the user.

The narrative type functions to tell the user more about the plot and bar off any text. It could involve cutting or deleting in some other fashion.

Engagement

There are three main modes of engagement: the order in which the user chooses to reveal the story’s content. Interactivity with elements in the game, and piecing together with archetypal plots.

Initial Ideation

Before things got spooky this was the plan:

A story-telling adventure in which the user followed a map, or explored independently to discover locations which present dilemmas. The player could then use various graphic methods to further continue in a larger narrative, the items would be relevant to the specific location.

The video for the right was the first example I came up with for the project, just to see what it would look like to place text and images into an environment.
Moodboards

For the moodstyle & aesthetic direction, my first thoughts went in with either a gritty feel, or a more edgy aesthetic which played with depth. I referenced the available moodboard when I started developing my first version of the mood.

Typeface Exploration:
Guiding

I first began exploring typefaces to use to help guide the user through the path. Considerations included legibility, boldness, and nuance.

Let's Get Spooky

After creating my first moodboard with a more topic-specific focus, I began working on my next video sketch, which was focused on using type in the environment. The word I chose to explore was "Close" at first. So the idea of guiding the user but the more I worked on anger, the more I felt the need to hearken to a creepy / morbid aesthetic direction.

I was thinking about how to bring more drama to the video, and in contemplating where I based drama working well in other media, I decided that enriching the environment a bit would add an extra layer of intrigue.

3D vs 2D Animation

Next up was a quick experiment to test out what a story told in a dirty medium could look like, and ended up with 2D motion Compositor; ready 2D animation (by Adobe After Effects).

2D animation seemed to be the winner but that didn't stop me from continuing to experiment with 3D rendering later in the process.
Typeface Exploration: Narrative

In earlier phases of the project, I thought most would use a separate font for onscreen horror/narrative. In the game, I settled on choosing three

• Casual: Any

• Handwritten: Chalk

• Roman/Slab: Simple

This led me to consider using a handwritten style to convey emotion and surprise. It was a conscious decision to return to the idea of handwritten type design, this time using my actual handwriting instead of a handwritten style of typography.

The annotation was much more clear and brought into the story the emotion's voice I was going for, without losing its' smooth, consistent, and corporal quality of many handwritten type experiences.

Type Animation Exploration

I continued to experiment with different ways to treat the typography within the scene. At first, I felt restricted towards something that could reflect the internal moment, with a handwritten style of typeface. Then I switched directions toward a more typeface style. My final animation patterns were breathed and heartbeats, with heartbeat being the anchor.

Narrative Typeface Testing

As I began to integrate the typographic elements into the scene, it became apparent that there was not enough clear distinction between the game's theme and narrative style. I wanted to create an intuitive experience by returning to the concept of handwritten type design, this time using my actual handwriting instead of a handwritten style of typography.

The annotation was much more clear and brought into the story the emotion's voice I was going for, without losing its smooth, consistent, and corporal quality of many handwritten type experiences.

Map Version 1

My first version of the map was envisioned as a stable mindboard, as previously mentioned, and was developed when I still considered using the hiding/alternating typeface style within the project.

I started developing the map based on the initial directions by the AF-2 sequence, and therefore could use a refresh in order to better integrate with other aspects of the game.
Map Visual Research

I did some research on how other location-based AR games were treating their maps before bringing my own up.

Visuals are from the following games (in order): PokemonGo, Clash of Clans, Ingress, Tencent's Map, and Five Nights at Freddy's AR.

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Map Version 2

After some visual research on how maps were treated in other AR games, I decided to try out a 3D animated map sequence using Cinema 4D. I thought of making the敷地 replays be overhead using the speedier theme. But it didn't quite fit thematically, and it ended up looking too in eel-like.

The location felt closer to matching the style of the AR sequences, but not quite there yet.

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Transition Exploration

I tested out a large variety of transition sequences. I'm leaning in a different part of the world with these designs for now, instead of playing with the world style. It seemed to be the most fitting for the sequence.
Finalized Map

In my final iteration of the map, I decided to use a consistent element across the project, without losing a distinction for the game.

Sprites are also a consistent element existing as 2D symbols on the map, and the visual elements in the final image. The sprites change appearance when the user comes into contact with them, which is a consistent detail throughout.

Inventory Grid

I worked many times on the inventory, and kept finding a way to integrate it with the map. I had to decide on the visual style which would be in line with the visual style for the game.

I determined a consistent grid for ease of managing inventory items. The question marks indicated the inventory slots on a grid. This allowed easy access to items, making it easier for the player to manage their inventory.

I initially thought that naming each inventory item was the best way to ensure keeping track of items. However, it ended up being more useful to categorize them into general types rather than assigning them specific names.
Inventory Item

In considering what information was necessary to include for each item in the inventory, I first considered the location where it was found, which was most important.

I determined that the date the inventory item and first encountered location would be helpful for judging the age of the item in relation to when it was discovered.

Lastly, I determined it necessary to note how many times the item was reused to account for the amount of time that had passed since the item was first encountered.

Icons

Some of the emblems stored for items were intended for visual identity and others, including dimensional depth and outline, and a small depiction. The inventory item was the hardest to design, so many options were tried until the one we eventually decided on was the best.

Interaction Indication

Creating a visual cue that the phone be toasted was challenging. I experimented with multiple fonts, colors, and textures, including Adobe After Effects Particular and Cinema 4D iPosite Particle.

None of the interactions were finalized as the final method, but the final selection was derived from the best options given to the set.

3D Figure Exploration

In an early version of one of the 3D sequences, I had an animating figure watching for the character at the end of the scene. The idea was abandoned, but served to remind me to consider possibilities.
3D Figure Moodboard

An interesting and mysterious visual features placed a figure in the anatomy valley to make the most terrifying moodboard chase ever created.

3D Figure Iteration

I tried some ideas of the original and continuous image and many times I felt stuck. If it's not the case, present something you would not want to approach. Roll out at the end of a long, colorful hallway.

Giving the figure emotional proportions, I learned hands and the slow walking figure seemed to fit the creepy hotel I was preparing.

Scare Test

When the figure was perfectly ripe, looking at the end of the hallway, composing and rendering posed many issues. The figure did not integrate well enough with the background, and did not contribute enough variety to the game to continue pushing in that direction.

Generating the current was hot, but it was valuable to understand where it was going to be placed as an aspect of the project that was simply not working.

Imagine RIT Presentation

I presented the project at Imagine RIT 2018. I had a large TV screen playing all of my videos, and I spoke, and a late date showing this website.

Mostly, my goal was to see how many of the visitors were very excited and were willing to pay for any time soon.
AR Simulation

To add a level of engagement and interactivity to my project display at Imagine NIT, I set up Adobe’s AR tools to project graphics onto the walls, creating an interactive exhibit.

Some limitations of the software were that it could not apply a real filter or animate gifs, so all of the images were static. For those reasons, it was still a competitive success and allowed viewers to experience the game.

Despite this, it was really fun and engaging for the users to engage with, especially for children and those who had never used AR before.

THANKS FOR COMING

YOU’LL NEVER ESCAPE