



:Product Specification

For this assignment we have been tasked with designing and building an interactive Escape Room experience for one player. The assignment specification and marking rubric dictate the following requirements for the product:

- All elements in room should reflect a chosen theme
- Chosen theme influences visual style, interactions, and genre of the game
- Gameplay should be similar to a classic point-and-click game
- Must be a single player experience
- Needs at least 2 puzzles
- Built in Unity 3d
- Consider user experience – intuitive controls, immersive etc
- Majority of assets used should be original
- Any third party assets must be clearly referenced
- 3d assets are of high quality, with appropriate textures and lighting used
- Good quality, thematic sound assets
- Puzzles establish narrative, drive story forward, are achievable, goal is clearly communicated to player
- Full game loop with opening menu, game, win and lose conditions.
- UI elements are well designed and reflect theme
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Cupcake Thief: User Story Analysis and Production Plan

Considering the specification and my previous research, I created a user story for my game. I then broke this down into sections for how Unity would represent these points and the assets and scripts I would need to produce in order to create the whole experience. I broke the assets needed into prototype, MVP, and MAP to create a production plan to help me identify which parts need to be created first and give my project structure.

User Story	Menu + game navigation	I wake up in bakery	find myself trapped	note explains why	discover dumb waiter	realise I need to send my captor a cake	Look for a recipe book	find its in locked safe	Find code to safe is on board	unlock safe and open book to recipe	Find missing scraps of recipe from around the room	Combine ingredients from recipe	bake the cake in oven	Ice with relevant colours from clues	send cake up dumb waiter	escape!	Die when timer hits 0
Unity	Game manager switch between scenes	Scene fades in from black, cutscene of looking around plants to show bakery	camera shows locked doors	note pops up on screen	Dumb waiter is only interactive part of scene, is first thing they see	note pops up on screen	All other parts become interactable	When clicked on, camera shows that book is inside	Asks for 4 digit code, is pink, pink writing on board	safe has menu open when code is entered, book opens too if page not yet given note	3 notes are hidden around the shop to be found, when all 3 are found the recipe can be used	Objects from room can be added to bowl	cake can be added to oven, timer set	long bags of different colours can be used to pipe an cake	Cutscene of cake going up	Apology note drops, key drops	Game over screen
Prototype Components	Basic open screen - click to start	Basic cube models of bakery	Basic model of locked door	note #1	Script gives cue when objects hovered over	note #2	Models become interactable	Model of safe	chalkboard model (with writing)	Script: Safe unlocks and opens when code is entered	model of pieces	Models of ingredients	Model of oven	Model of icing bags	Model of button	note #4	Script ends game when timer hits 0
	basic lighting	short anim shows locked door	Script for pop up notes	Script reveal dumb waiter when clicked on	Bookcase model	When clicked on shows book inside and input panel	Pop up tells you if you enter code wrong	note #3	image of whole recipe	Model of bowl	script to set timer and temp	Script: Click to get option to add to cake	Short anim shows cake going up	key unlocks door	Button to restart the game		
	Basic music plays in bg	Basic bg for note with default text	Model of dumb waiter and poster	Chest model	Recipe book model	recipe pops up when all 3 parts have been found	Script: Player can pick up items, add to bowl,	script wait seconds and cake is ready	If wrong ingredients pop up says retry	key model							
	Timer in ui counts down																
MVP	Replay button after scene ends	Developed models for bakery setup	Full model of locked door	Note bg art, with relevant font	Full model of dumb waiter and poster	Player gets cake thought bubble pop up	Symbol for interactable objects	Animation shows book inside	Texture chalkboard, better font	Sound plays when safe unlocks	Thought bubble scraps of paper	Better models of ingredients	Anim of cake going in oven	Icing on cake models; 3 parts	Proper button model	Celebratory sound effect	Sad sound effect as you lose
	Basic start menu	Specifically tailored lighting	Improved anim with new models	Pop up sound effect, crumpled paper	Animation of poster being pulled off	Player gets recipe book bubble pop up	Full textured models for chest bookcase safe	Sound effect plays as you discover it	Wrong code sound effect	animation of door opening	Ui beep Sound when recipe pops up	Sound effects for each ingredient	Anim of cake coming out of oven	Better icing bags	Timer decreases if cake is wrong	key unlock, chains drop sounds	Full menu screen to start and replay
	menu bg music	Background music	Sound effect for locks rattling	Close note sound, ui beep	celebratory sound plays when you discover	UI beep when thought bubbles pop up	Input panel properly designed, textured	Animation of book opening to page	Sound when mix goes into tin	sound of oven door opening	Sound effects for each ingredient	Anim of cake coming out of oven	Icing sound effect	Pop up says it was wrong			
	Proper asset for timer			Nice ui for options when you click on object			Thought bubble for code pops up	Model of ripped up page	sound effect as book opens			Cake looks burnt if wrong ingredients used	better cake and icing model				
												sound effects tray going in oven	Sound for setting timers	Sound when oven goes off			
MAP	Flash screen with logo	Background music changes with events	Can access notes at any time from sidebar	Thought bubble sound effect	Bookshelf and chest have opening animations	Wrong code anim	Anim opening book Improve flick through pages										
	After game choice to replay or menu	Timer changes colour as time runs out				Sound plays as you input each number											
	Menu has anims and custom art	Textured models for whole bakery															

 : Planning PuzzlesPuzzle Criteria for Escape Room

Before I started brainstorming puzzles, I made a criteria list of what to include and avoid based off of the assignment brief, teachers advice, and my research into good puzzle design.

Must Haves:

- Needs at least 2 puzzles
- Puzzles reflect theme
- Sequential - one solution points to the next puzzle
- Gives 'a-ha' moment - balanced difficulty
- Give player regular feedback
- Solution is figured out, not guessed by trial and error
- Puzzles get harder as they progress

Must Avoids:

- Lack of direction - should be an obvious flow
- Multiple solutions
- Too easy or hard
- Feels random, not connected to theme
- Repetition, becomes boring

Possible 'Puzzle pieces' for a bakery

I listed objects which could be found in a bakery, divided into two groups; boxes and others. This is an approach used in planning puzzles for real-life escape rooms which I found in my research.

Boxes (items which can be opened to find the next clue)

- Recipe Book
- Till
- Oven
- Secret ingredient
- Dumb waiter
- Safe

- Others (items in environment to help solve puzzles/ build mood)
- Scales
- Display case
- Specials Chalkboard
- Icing bags
- Table cloths

Puzzle Ideas

Considering the puzzle criteria and the boxes and objects I compiled, I started brainstorming puzzles which I could use. These are just a few of the initial puzzle ideas, some of which I went on to expand and put into my User Story

Puzzle ideas

- Find combination to safe from writing on chalkboard, enter to open
- Recipe Book, opens to one page, with basic recipe, combine ingredients from around the kitchen to build a batter, put in oven at correct temperature to bake a cake properly
- Ice a cake with the correct colours, send up dumb waiter to get approval
- Discover dumb waiter by removing poster with clue (the dumb waiter movie poster for example)
- Balance the scales to present a key to dumb waiter
- Sift flour to find a key
- Use clues to figure out secret ingredient and add it to the cake mix

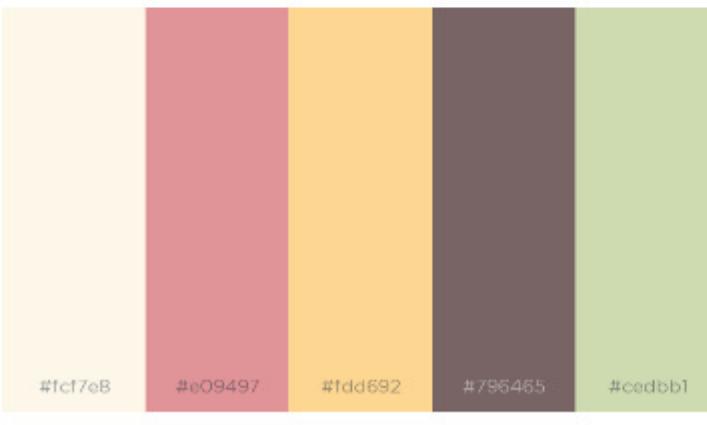


Mood Boards

To plan the assets I needed to make for my escape room, I've compiled Mood boards for each of the main elements of the game. This allowed me to explore exactly what style I wanted my assets to be in order to create a cohesive theme, and will be good to refer back to when it comes to creating the assets.

Art Style

I want a consistent art style throughout all my models so they all mix together well to create a cohesive setting. This style should be quite cutesy to match the bakery theme and contrast well with the stressful gameplay



This is my general idea for a colour palette - muted pastel tones which compliment one another to create quite a warm, cosy atmosphere

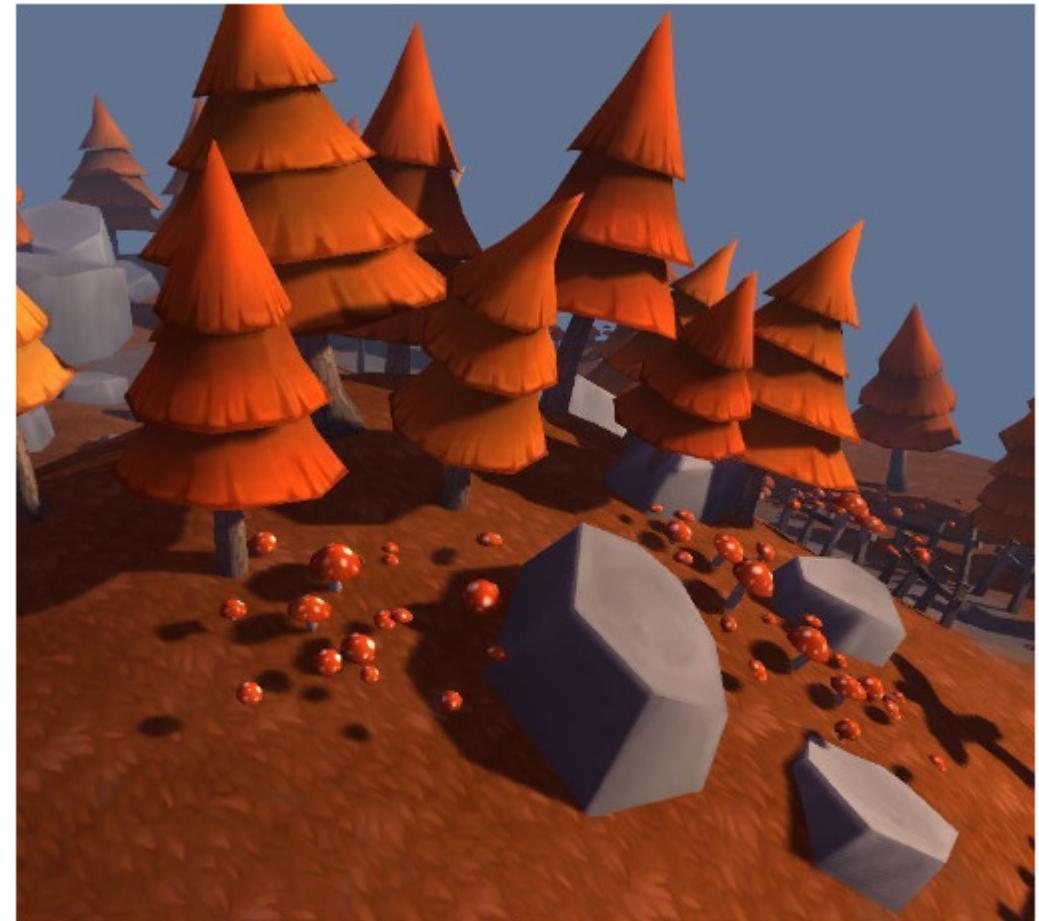
<https://sketchfab.com/models/d8ca573613704197b7ebe213ee13cb0b/embed?autostart=1>

I like the lowpoly art style - the crisp clear shapes make for a really clean, pleasing scene to look at



<https://www.allyalbon.com/little-shops-hamster-ramen-wip>

By handpainting the textures for these, the artist has both the simplistic style and greater detail and texture, which I really like. It really adds depth to relatively simple models



<https://www.cgtrader.com/3d-models/exterior/landscape/autumn-forest>

This shows a mix of low poly models with nice hand painted textures. This is what I plan to use in my game, to give simple stylized models that still have character and feel cosy

Bakery Setting

As my game is set in a bakery, I need to consider what kind of interior design would suit it – they tend to be quite cosy and welcoming, will I think will contrast well with the stressful feel of the game as the timer counts down

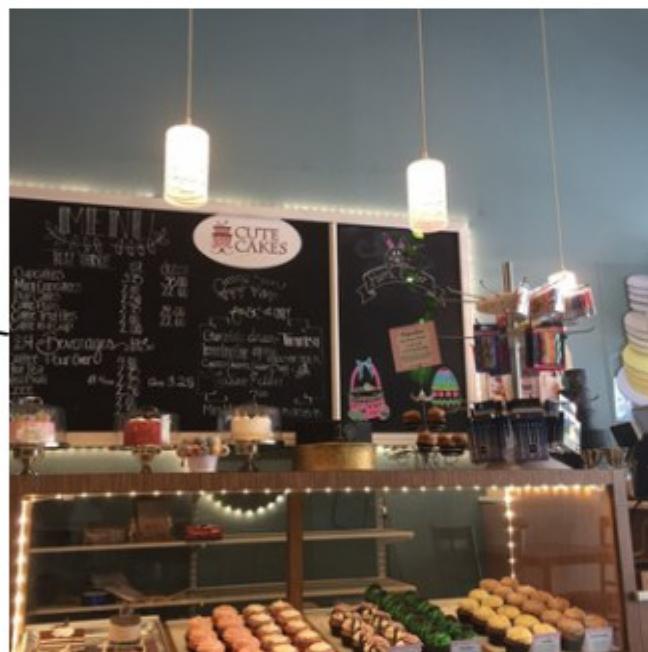


https://www.blogto.com/eat_drink/2015/02/the_top_30_bakeries_in_toronto_by_neighbourhood/

This is a good ref for the general layout – glass display in front, which backs onto the tills, with the kitchen area at the back

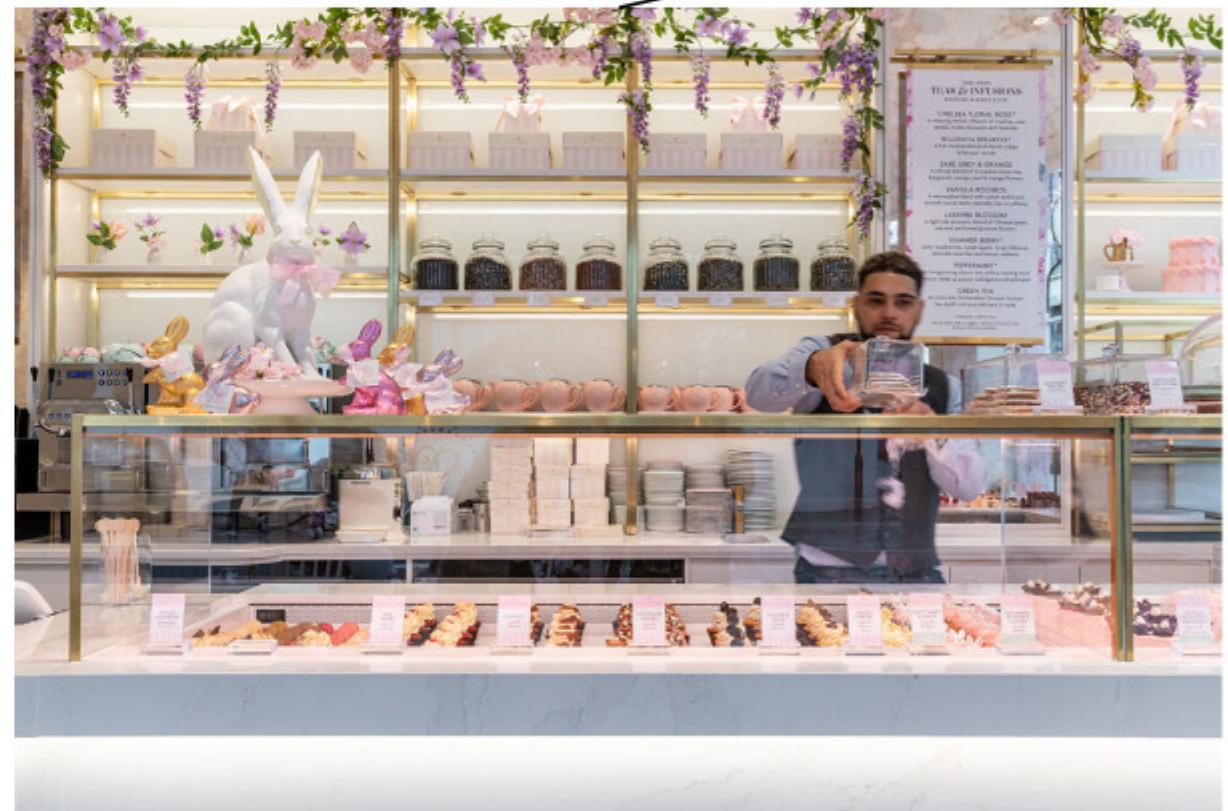
<https://www.retail-focus.co.uk/peggy-porschen-kings-road-london/>

Similar layout, glass counter in front, with cutesy-er interiors, lots of delicate pinks, bright whites, and metallic gold



<https://www.yelp.com/biz/cute-cakes-san-diego-2>

Mix of cutesy and elegant and homey, cosy design



<http://pedrettisbakery.com/>

This is what the storefront will look like. Though I won't need to model the exterior, I want to be able to model the inside of the front of the bakery in a similar way to this, with two large windows, a door in the middle, and small curtains to add warmth

Glass Display Counter

A key focal point of the bakery is the display case, so I want to make sure I get it right. I think this is the most important model as far as world building and immersion goes, as it's really what makes the bakery stand out from a regular shop or kitchen



<https://mohegansun.com/poi/dining/carlos-bakery.html>

I like the rounded profile of this display counter, it gives it a really gentle feel



<https://www.archiexpo.com/prod/frigom/eccanica/product-65240-1206777.html>

I like the wooden detailing below this counter - makes it feel more relaxed



https://www.youtube.com/watch?v=9wRw_5DLS8c

Glass texture needs to be see through and reflective

https://www.shutterstock.com/search/painted+wood+texture+white+grunge?sort=popular&_type=photo&safe=true&search_source=base_related_searches

Painted wood texture for the cabinet below glass needs to be one colour, with some grain showing through



Locked Front Door

The first thing the player will see is the locked door, which is how they know they are trapped. Therefore the model needs to be clearly secured as well as being in keeping with the theme



<https://www.pinterest.co.uk/pin/112941903126666315/?lp=true>

I like these double doors. Their french vintage style will fit in well with the bakery design, and having two handles like this will allow for an oversized lock and chain between them to show that it's locked



<https://www.cgtrader.com/3d-models/various/various-models/lock-power-up>

The lock will have a cartoonish keyhole to make it clear you need to unlock it



This is how the door will be locked across the two door handles



<https://www.istockphoto.com/gb/photo/light-white-wash-soft-wood-texture-surface-as-background-grunge-whitewashed-wooden-gm940901644-257185335>

The wood for the door will be whitewash to fit with the cute theme. It will also be varnished as it's an outside door so the texture will need some reflection

<https://en.clipdealer.com/vector/media/A:358496>

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Lock and chain will have a brushed metal texture that reflects light but is also quite rough and grainy

MIRO

Dumbwaiter

The main puzzle is the dumb waiter which the player sends a cake up to appease their captor. It needs to clearly be a dumb waiter, despite not typically being an instantly recognisable object



<https://www.pinrest.co.uk/pin/341569952966967999/?lp=true>

Want a vintage victorian style wooden dumbwaiter to match the theme. Rope shows that it's not just a cabinet



<https://www.shorts-lifts.co.uk/product/bkg-dumbwaiter-lifts/>

Panel next to lift controls the mechanics - button for up and down

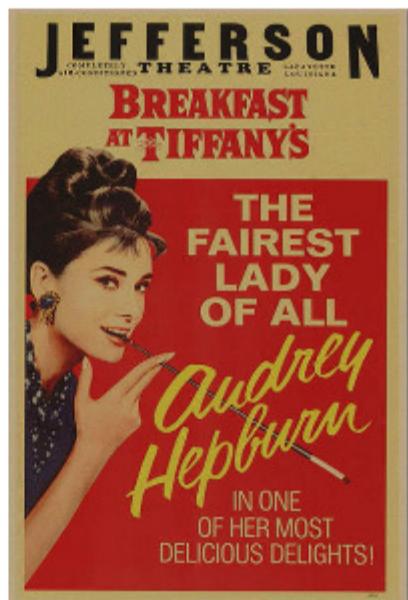


<https://www.architecturaldecor.co.uk/collections/antique-servants>

Style of buttons on control panel will match vintage servant bell



Dumbwaiter will have a sign to make it clear what it is. Will match these old bathroom signs, with a metal sign and embossed words



<https://www.canva.com/photos/MADat4OWJ4o-dark-wood-floor-texture-background-seamless-wood-texture/>

Dumbwaiter will have a dark wooden texture, with a nice grain



<https://www.aliexpress.com/item/32597465067.html>

Initially, the dumb waiter will be hidden by a vintage movie poster similar to this one, depicting a fictional film called 'The Dumb Waiter', tearing away slightly at the edges to show it's hiding something



<https://wwwvecteezy.com/vector-art/271650-old-paper-texture-background>

Movie poster will have old paper texture, matte and slightly distressed

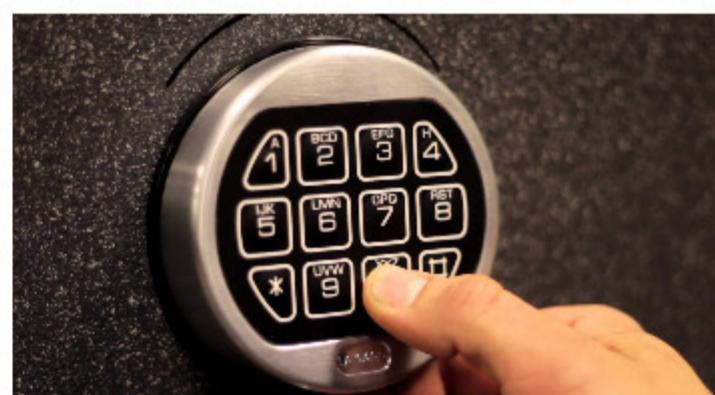
Safe

The safe will contain the recipe book, and be opened using a four number pin found from the bakery chalkboard.

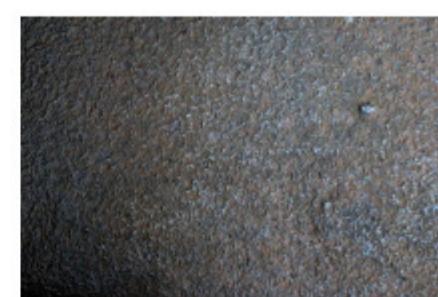


<https://championsafe.com/product/super-short-safe-superior-series/>

I like the large wheel handle to open this safe; think it'll make a good animation and sound as the player unlocks it correctly



I like the pin entry pad for this safe, being circular makes it a bit more unique and soft to look at. The buttons on my model will stick out more than these, so they can be animated being pressed in when player enters code.



https://www.flickr.com/photos/pandora_6666/10303353204

The texture of the safe will be rough dark metal, making it look quite old and worn

Chalkboard

The chalkboard will contain the pricelist for the bakery goods, some of which in a different colour which will indicate the key to the safe. This needs to stand out well so player thinks to type the combo into the pinpad and can progress to the next puzzle



<https://www.tripadvisor.co.uk/LocationPhotoDirectLink-g1096738-d9999277-i180248078-St Stephens Bakery The Bakers Lounge-Plymouth Plymouth Devon England.html>

Bakery chalkboards tend to have quite intricate graphic design for the menu, which I'll try and replicate with mine

<https://www.freepik.com/free-photos-vectors/chalk-texture>

Texture needs to be matte, dusty

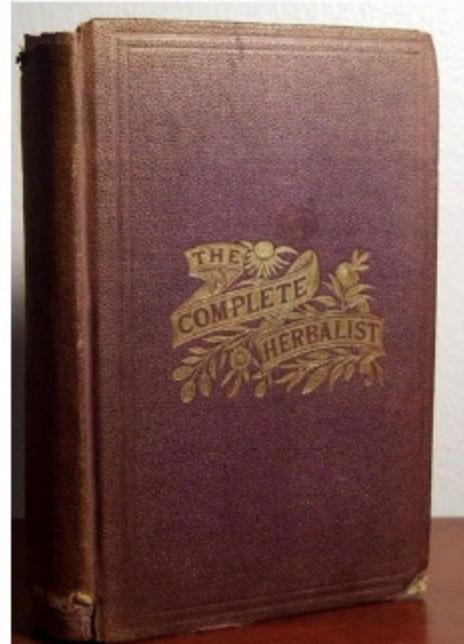


<https://www.chalkboardsigns.co.uk/waffles-and-milkshakes-menu.html>

Generally laid out in basic columns, with a handwritten font, and large prices in bubbles to make them clear - in mine I can make the bubbles different colours for the numbers which make up the code

Recipe Book

The recipe book will be discovered in the safe, and when it's retrieved will play an anim where it opens to a page. Need to have an exterior and a design for the open page once all the paper pieces have been found



<https://i.pinimg.com/originals/8e/49/98/8e4998ced87d6fb134dcf260de880cf.jpg>

Exterior will look like this, bound in worn old leather to show its age, with gold inlay on the title, which in mine will read 'Recipes'



<https://rogermontgomery.com/recipe-for-a-stock-view/>

Once open it will display aged paper and look similar to this



<https://depositphotos.com/13884085/stock-photo-scrap-of-old-torn-paper.html>

Torn out pieces will have rough borders, irregular shapes, old paper texture

Sweet Tooth

Raw Nirvana (Avi's Recipe)

2 c Unsweetened Shredded Coconut
1/2 t Cacao Powder
1/4 t Maca Powder
1/4 t Mesquite Powder
1/4 c Cacao Nibs
1/2 c Agave Nectar
1/2 c Coconut Butter
1/2 c Coconut Oil

Preparation:

- Mix all dry ingredients in a big mixing bowl.
- Add wet ingredients and mix with hands until thoroughly mixed.
- Form into balls: mini-1t; boulders 1-1/2" diameter
- Place in refrigerator to set, about 10-20 minutes. You may eat out a few minutes before eating.

Store in refrigerator up to several weeks. They are lasts just out of the freezer as well.

<https://www.pinterest.co.uk/pin/510806782716613919/?lp=true>

The page layout will be like this, with a section for title, ingredients, and recipe itself. Each will have pieces missing

<https://i.pinimg.com/originals/78/f6/cb/78f6cb27bf76244af9dcdb31d351f67d.jpg>

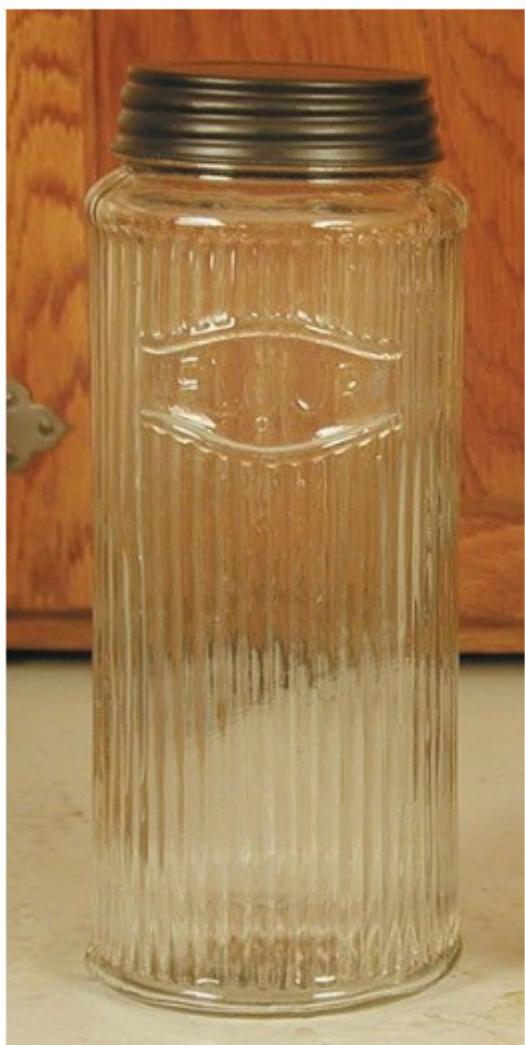
Recipe will also have a sketch drawing of the cake in black and white

#1 Inglaterra Wedding Cake



Ingredients

To bake the cake the player must assemble the ingredients as written in the recipe, mix them in a bowl, and add the mix to a tin



<https://www.pinterest.co.uk/pin/274790014738077735/?lp=true>

Dry ingredients such as flour and sugar will be stored in glass jars with textured glass and sticking out labels

<https://to-embrace.com/products/fresh-egg-storage-basket>

Eggs are stored in a cutesy container with a chicken on top like shown here



<https://www.scp.co.uk/products/cornbury-glass-butter-dish?variant=34737032524>

Butter dish matches the glass jars

<https://www.silverwoodbakeware.com/collections/cake-sandwich-pans>

Cake tin with straight sides and metallic texture



<https://www.nisbets.co.uk/mason-cash-mixing-bowl-260mm/gg773>

Classic ceramic mixing bowl, with beige patterned exterior and shiny glaze texture



<https://www.anythinginstainedglass.com/glass/wissmachTexturedClear.html>

Rippled glass texture for the jars and butter dish

Smaller assets to build atmosphere

The small assets dotted around the bakery which aren't interactable but build up the scene are what will make the experience feel immersive. It helps with the world building.



<https://pinabresciani.com/crostata/>

Jam tarts with brightly coloured fruit fillings - jewel tones, with reflective mirrored textures and handpainted pastry



<https://www.marksandspencer.com/l/food-to-order/party-food-and-sandwiches/fresh-fruit-n-bzt59>

Mini tarts with a selection of toppings dusted with sugar



<https://www.fourseasonslivepool.co.uk/product/plaque-sign-open-closed-shop-sign-double-sided-large-a4-retro-duck-egg-blue-red-yellow-cafe-business/>

vintage open/close sign hanging on door

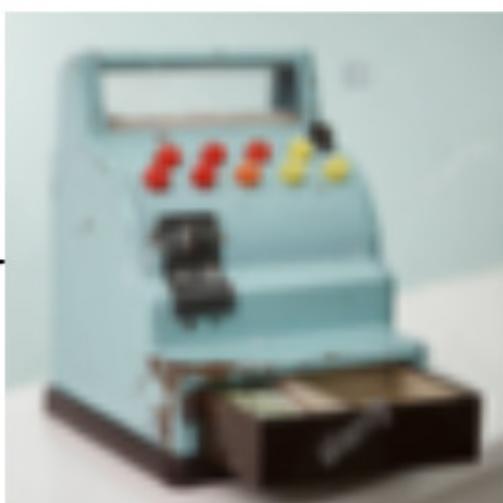


<https://www.linentablecloth.com/blog/wholesale-restaurant-tablecloths>

round tables with checked linen table clothes and flowers on the table

<https://www.cntraveler.com/restaurants/edinburgh/soderberg-bakery-shop-broughton-street>

Cookies in jars on the desk, jars match the ones I made for ingredients



<https://www.alamy.com/stock-photo/old-fashioned-till.html>

Old fashioned till behind the counter



Oven

Oven bakes the cake mix, player must be able to open door, place cake, and adjust the temperature



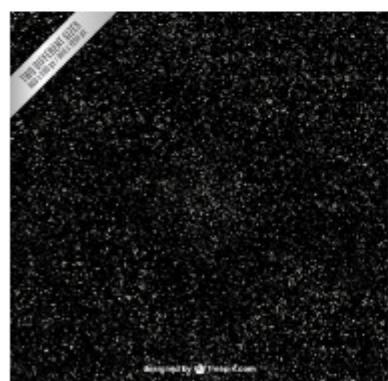
<https://bigchill.com/us/shop/ranges-and-stoves.html>

Gas stove on top, twist dials, and one big door which opens. I like the little window and metal logo on this one



<http://www.antiquegasstoves.com/pages/dixie.html>

Door opens towards player, has sheet trays which the cake can be placed on. Inside texture is speckled black metal



<https://www.freepik.com/free-photos-vectors/speckled-texture>

Speckled black metal texture for inside the oven.
Will have a metallic sheen



<https://www.shutterstock.com/image-photo/oven-control-knobs-close-144074224>

Oven knobs are basic metal, with a dot to represent which end is the pointer

Cake and icing

Options of multiple icing bags with different colours which can be picked up and applied. The icing on the cake will be in a set pattern, with a UI menu to pick which colours go where.



<https://preppykitchen.com/funfetti-cake-2/>

I like this style of cake icing, with 3 distinct parts (top, drizzles, sides) which can be separate colours for the game.

<https://www.wilton.com/decorating-bags-16-inch-disposable-piping-bags-12-count/2104-1357.html>

Icing bags are clear plastic so icing can be seen, tied at end, with metal nozzles



Lighting

Lighting in the scene must help build the mood and also match the style of the bakery itself



<https://www.ler.ltd.uk/which-way-to-go-fluorescent-or-led/>

Kitchen area has fluorescent strip lights that give off a bright white light



<https://www2.meethue.com/en-gb/blog/6-kitchen-lighting-ideas>

Main lights in the shop area are hanging, as timer gets lower and lower down the light turns red and starts flashing to build mood

<https://www.walmart.ca/en/ip/LED-String-Lights-Warm-White-Ball-Pairy-Lights-Waterproof-Decorative-Starry-Lights-for-Bedroom-Patio-Parties-Battery-Powered-3M-30LED/PRD1TSJWIEH74H5>

Fairy lights around the front half of the shop give off a dim warm light

User Interface must have a visual style which matches the theme without complicating the visibility of the functions



<https://en.clipdealer.com/vector/media/A:111934651>

UI icons are based on chalkboard designs to match the theme; clear white lineart with a black background

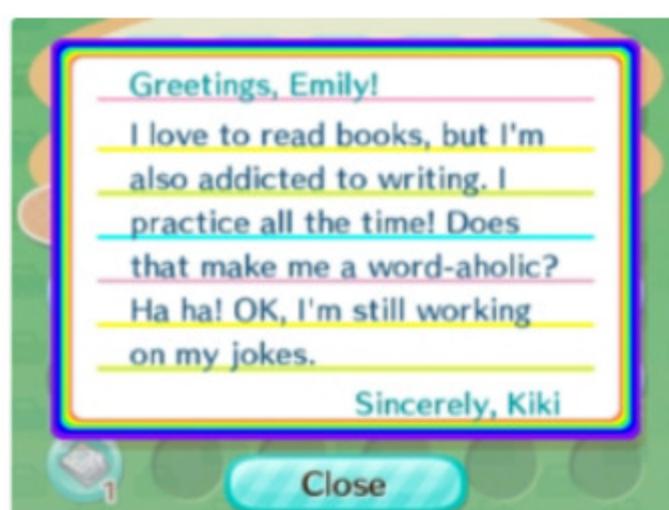
<https://flookdigitalmedia.com/solutions>

Main menu set up like a chalkboard menu, with columns for each section that can be highlighted when hovered over



Pop Up Notes

The pop up notes that give the player messages from their captor as they solve each puzzles



<https://nookipedia.com/wiki/Letter>

basic layout of note is like this; note takes up most of screen, has matching close button



<https://www.canva.com/templates/search/bakery-menus/>

Note paper has the bakery name and logo as its header

<https://www.freepik.com/free-photos-vectors/bakery-logo>

Cutesy logo for the top of the paper

<https://www.urbanfonts.com/fonts/handwritten-fonts.htm>

Handwritten font for the writing

<https://www.freecreatives.com/backgrounds/white-paper-texture.html>

New paper texture, slightly textured as it's fancy



designed by freepik.com

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

Smaller assets to build atmosphere

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<https://pinabresciani.com/crostat/a/>

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<https://www.marksandspencer.com/l/food-to-order/party-food-and-sandwiches/fresh-fruit-n-bzt59>

Mini tarts with a selection of toppings dusted with sugar



<https://www.fourseasonslivepool.co.uk/product/plaque-sign-open-closed-shop-sign-double-sided-large-a4-retro-duck-egg-blue-red-yellow-cafe-business/>

vintage open/close sign hanging on door



<https://www.linentablecloth.com/blog/wholesale-restaurant-tablecloths>

round tables with checked linen table clothes and flowers on the table

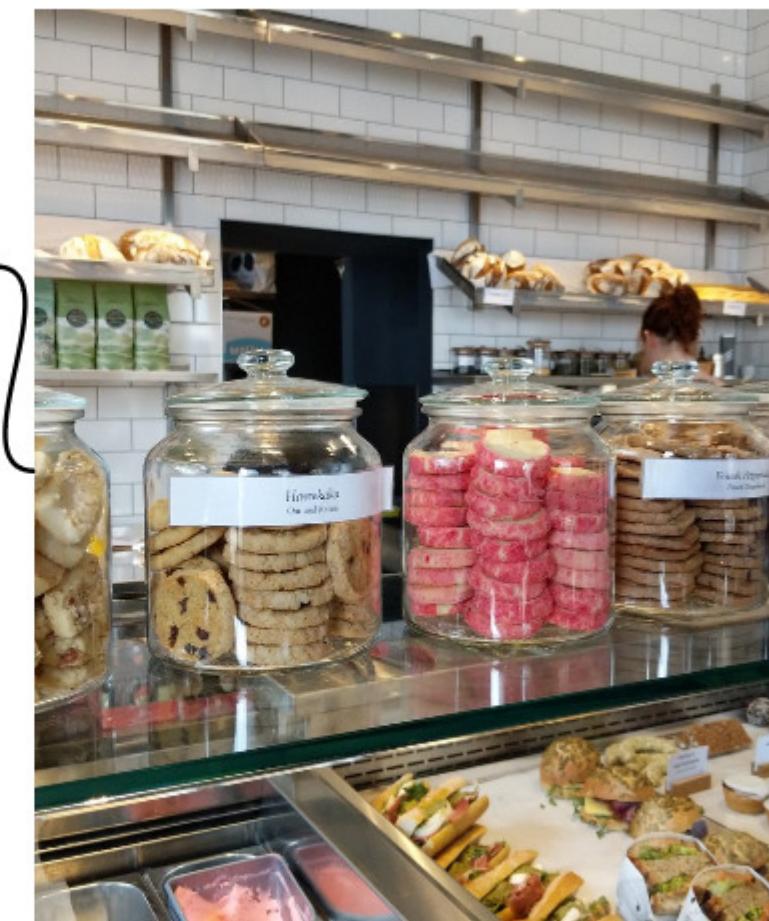
<https://www.cntraveler.com/restaurants/edinburgh/soderberg-bakery-shop-broughton-street>

Cookies in jars on the desk, jars match the ones I made for ingredients



<https://www.alamy.com/stock-photo/old-fashioned-till.html>

Old fashioned till behind the counter



UI Feature	Brief Description	What it achieves
(eg. pause button)	(eg button in top of screen, click to bring up pause menu)	(eg allows player to pause gameplay to consider options)
Interactable hover	When player hovers over interactable objects in the scene they become highlighted	Gives player feedback so they know they can interact with that object, gives them an idea of what to do next as they can see what options they have to interact with
Click prompts	If player is within range of an interactable object and the camera is pointed at it, a pop up prompt appears on screen encouraging player to click on it	Gives player feedback so they know they can interact with that object, gives them an idea of what to do next as they can see what options they have to interact with
Timer	Countdown timer appears in the top corner of the screen, turning red as it draws closer to 0	Communicates time restraint to player, encourages quick choices
Positive Feedback effect	When player correctly solves a step of puzzle a celebratory sound effect plays, and a particle effect is shot from the object in a burst of confetti	Tells player they solves a step correctly, makes them feel proud
Negative feedback effect	When player completes a puzzle incorrectly (eg enters wrong pin) a sad sound effect plays, screen shake and red filter is added to screen for a few seconds	Tells player they did the puzzle wrong, gives their actions consequences, encourages them to try again
Player Controller	Player moves around the scene using classic WASD controls, camera is controlled independently using mouse	Allows for immersive experience, player can move around scene while looking wherever they wish, helps to spot interactable objects and puzzle pieces
Opening Screen	First screen player sees, shows experience title and image of the locked door, click to move on	Sets the scene, introduces game, image suggests an escape game with a time restriction
Pop up notes system	Notes are given to the player from their captor as they solve puzzle pieces. These open in a pop up to read the note, with a button at the bottom to close.	Builds up story of the game, gives hints about the players next step, allows player to read the note for as long as needed to take everything in because they chose when to close the screen
Notes Icon	Notes icon on screen, clicked to open inventory of all the notes received	Tells player that there will be notes which will be important to the game, allows for easy access to reassess notes as required
Notes Inventory	Separate screen contains all the notes found, can be clicked on for closer look. Has blank notes with question marks to represent notes which haven't yet been found	Again, emphasises importance of notes, blank notes give indication of how many more puzzles are left, allows player to go back at a later point to review notes
Death Screen	Final screen, is shown if timer hits 0 and player still hasn't escaped. Small animation of the bakery on fire, with a button to retry	Shows consequences of actions, tells player they failed, allows them to retry
Win Screen	Final screen, is shown if player completes all puzzles before timer hits 0. Small anim shows the cake the player made with candles on it	Shows that the player won and escaped, the character had a happy ending. Also confirms that the final puzzle, the cake, was a key part in their escape

SOUND CATEGORY	WHEN IT'S USED	WHAT ITS USED FOR	DESCRIPTION	HOW TO CREATE IT	DURATION	TYPE OF FILE
(eg UI, player movement)		(eg build mood, give user feedback)	(eg beep, melody)	(eg record sample on audacity and edit, compose on keyboard)	(eg 1-2 seconds, 30seconds)	loop point
UI	Button Press	Give user feedback that input has been received	Light beeps	Synthesise in nanostudio, edit on audacity	~1 seconds	X
UI	Opening Screen	Introduce game while title screen displays, build mood	Uke strum intro	Record uke sample, edit if needed	~5 seconds	X
Player	When player walks	Improves immersion, adds to feeling of travelling in the space	Soft footsteps on wooden floor	Record foley sample with mic, edit in audacity	~5 seconds	X
Player	When player hower over an object	Makes it clear the item interactable	Low beep	Synthesise in nanostudio, edit on audacity	~1 second	X
Music	When player first enters room to find themselves trapped	Adds tension and drama, exaggerates characters feeling of shock and surprise	Dramatic melody (dun dun duun)	Find similar music online, try and replicate myself or edit existing piece to be better suited (if the permissions allow)	~5 seconds	X
Music	As player is trying to solve puzzles	Adds to mood of the room, makes player feel unsafe	Creepy, nice sounding but dark, like a broken record player	Find similar music online, try and replicate myself or edit existing piece to be better suited (if the permissions allow)	~3 mins	X
Music	When player solves a puzzle	Celebrates the player, adds to the 'ah-hah' moment and satisfaction from solving puzzle, confirms they did the right thing	Triumphant mini-melody, like trumpets that play in other games but more theme relevant	find similar music online, try and replicate myself or edit existing piece to be better suited (if the permissions allow)	~3 seconds	X
Music	When player gets a puzzle wrong	Lets the player know they need to try again	Sad mini melody, 'wa wa wahh' type sound	find similar music online, try and replicate myself or edit existing piece to be better suited (if the permissions allow)	~3 seconds	X
Object interaction	Show locked door as chains rattle	Communicate to the player that they're trapped	Heavy metal chains clinking together	Record foley sample using jangling keys with mic, edit in audacity	~2 seconds	X
Object interaction	As timer counts down	Adds to tension, exaggerates that it's time sensitive	Tic toc of an old clock	Record sample of clock ticking, edit	~10 seconds	X
Object interaction	As player tears poster down	Shows the poster is being removed, adds immersion, more satisfying for player	Sound of paper ripping, crumpling	Record sample of newspaper being crumpled and ripped, edit	~3 seconds	X

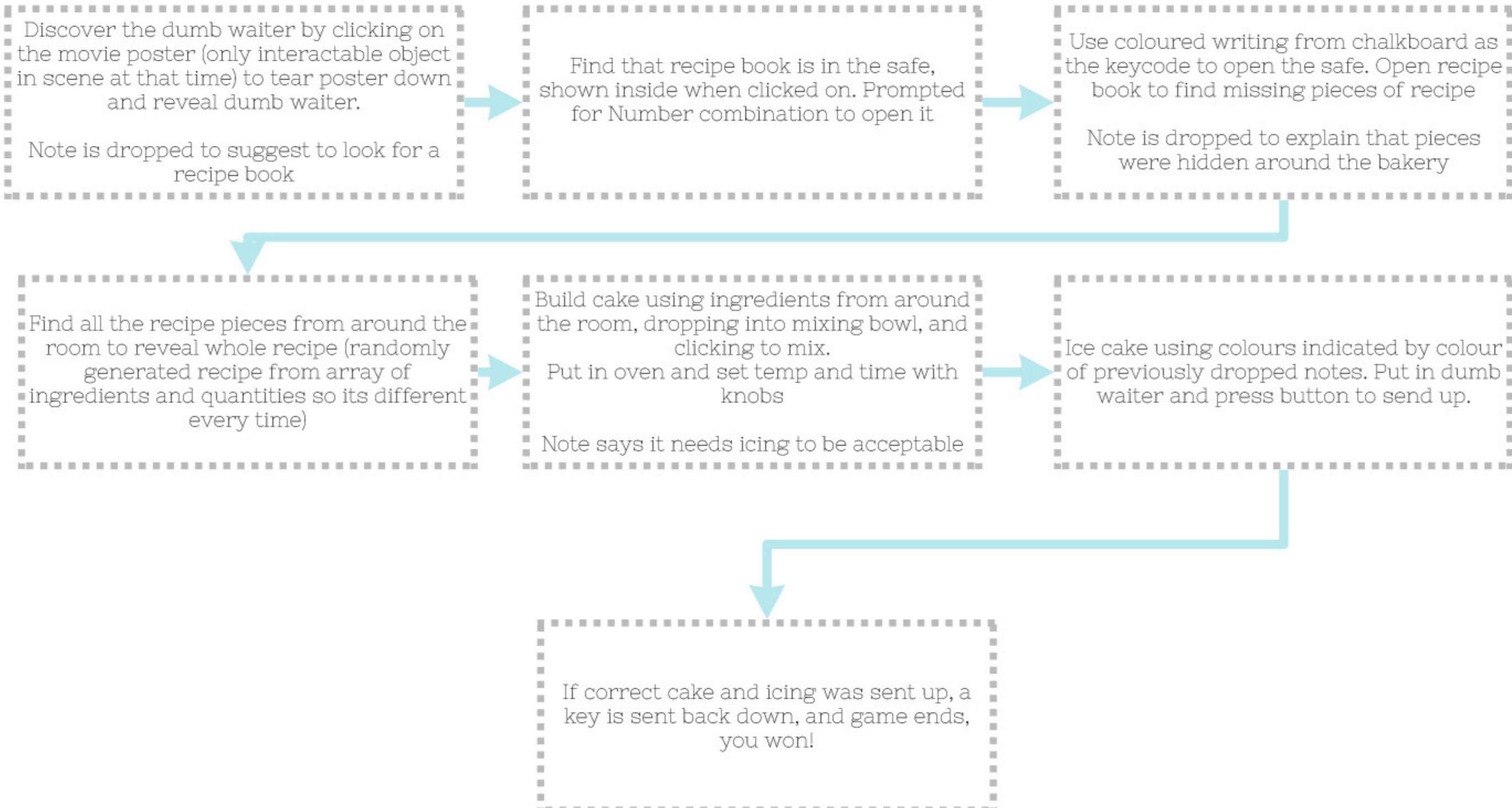
Object interaction	As player discovers the dumbWaiter and buttons come back to life	Shows that it still works, suggests it'll be important	Recharging noise, electronic buzz building in noise	Synthesise in nanostudio, edit on audacity	~5 seconds		
Object interaction	As numbers are entered into safe	Gives feedback that user input was received	Electronic beep	Synthesise in nanostudio, edit on audacity	~1 second		X
Object interaction	When safe unlocks	Tells user they successfully solved the first puzzle	Mechanical unlocking clunk sound, along with triumphant music described previously	Record foley sample using an old lock and key with mic, edit in audacity	~3 seconds		X
Object interaction	When recipe book opens	Adds immersion	Sounds of paper sliding, heavy cover hitting the table	Record foley sample using an old book with mic, edit in audacity	~2 seconds		X
Object interaction	When player picks up a note	Adds immersion	Crumpled paper sound	Record foley sample using newspaper with mic, edit in audacity	~3 seconds		X
Object interaction	When player puts eggs in bowl	Adds immersion, shows it was successfully added	Egg cracking sound	Record foley sample using an egg with mic, edit in audacity	~2 seconds		x
Object interaction	Player putting dry ingredients into bowl	Adds immersion, shows it was successfully added	Soft muted flumph noise as flour hits bowl	Record foley sample using flour with mic, edit in audacity	~2 seconds		X
Object interaction	Player putting mix into cake tin	Adds immersion, shows it was successfully added	Piping type noise	Record foley sample using cake mix with mic, edit in audacity	~3 seconds		X
Object interaction	Opening oven	Shows it was opened	2 part - click of mechanism unlocking, then metallic creak as it opens	Record foley sample using my oven with mic, edit in audacity	~3 seconds		X
Object interaction	Putting cake tin on shelf	Shows it was properly placed	metallic scrape of tin against wire rack	Record foley sample using metal baking trays and racks with mic, edit in audacity	~3 seconds		X
Object interaction	Setting temperature and timer on oven	Shows response is being received and that they've been set	Clicking noise as cogs are turned, high pitched beep when player sets it	Synthesise in nanostudio, edit on audacity	~5 seconds	X	X
Object interaction	Oven is done	Shows that cake is ready to come out	Old fashioned egg timer noise	Record foley sample using an old egg timer with mic, edit in audacity	~2 seconds	X	
Object interaction	Cake is revealed to be burnt	Shows they made the cake incorrectly	Sizzle noise, on top off wa-wa-wah music of a failed puzzle	Make a sample on keyboard, edit	~3 seconds		X
Object interaction	Cake is well cooked	Shows they made the cake correctly	Order up style ding, like an old diner	Make sample on keyboard, edit	~3 seconds		X

Object interaction	Piping icing	Shows icing is being piped	Wet piping noise	Record foley sample using piping bag with mic, edit in audacity	~5 seconds	X	
Object interaction	Put cake in dummy waiter	Shows it was correctly placed	Sound of glass sliding onto wood	Record foley sample using glasses on countertops with mic, edit in audacity	~3 seconds		X
Object interaction	Cake being sent up the dumbwaiter	Adds immersion, makes it seem like its really being moved up	Sound of ropes sliding, wooden mechanics	Record foley sample with mic, edit in audacity	~3 seconds	X	
Object interaction	Keys being dropped for release	Adds immersion, draws attention to the keys	Sound of keys jangling	Record foley sample using keys with mic, edit in audacity	~2 seconds		X



: Flow of Puzzles

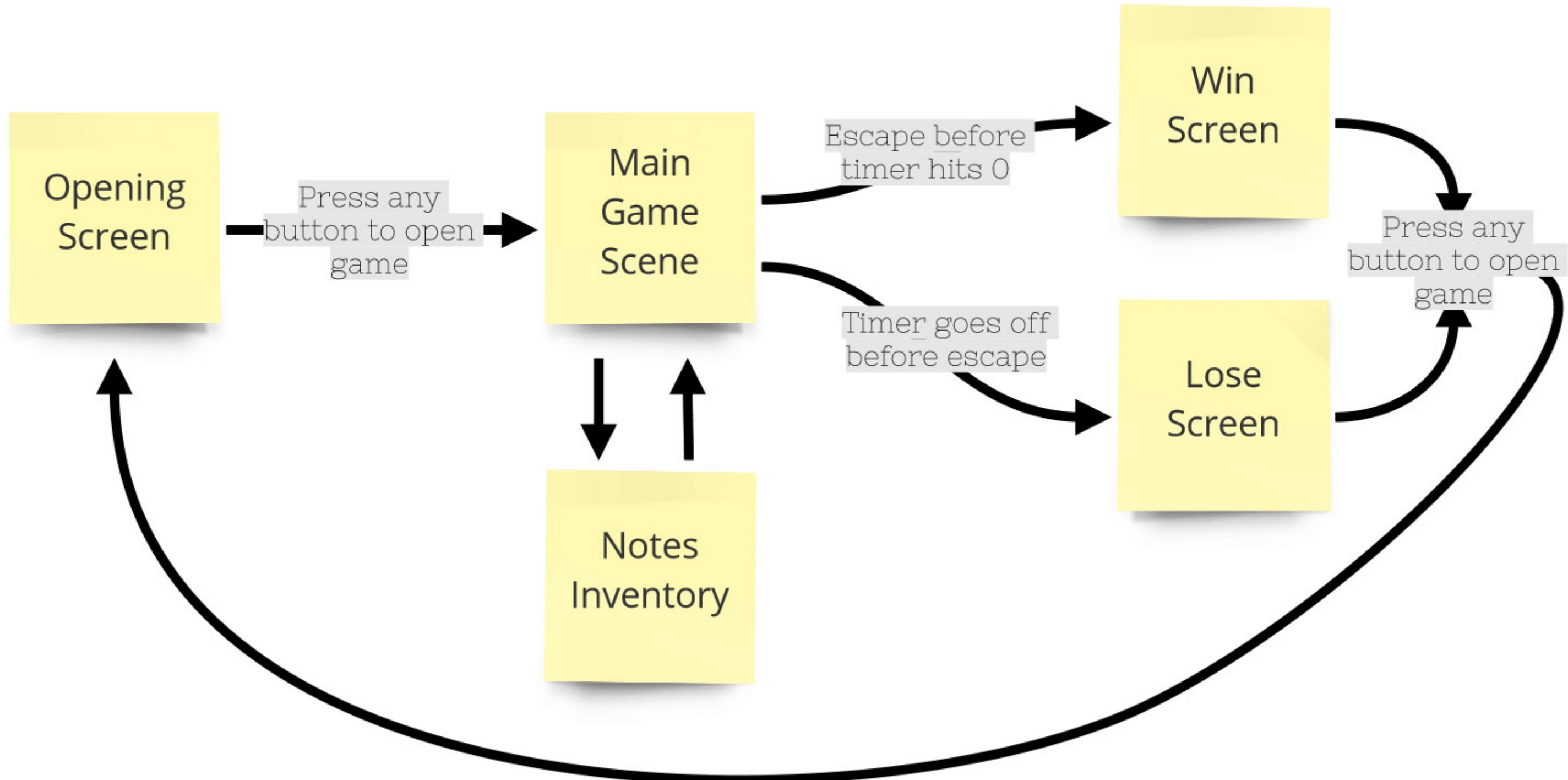
Using my puzzle planning, I've settled on which puzzles I'll use. Here I'm breaking puzzles down into their elements and descriptions, and showing the flow of puzzles and how they lead to one another





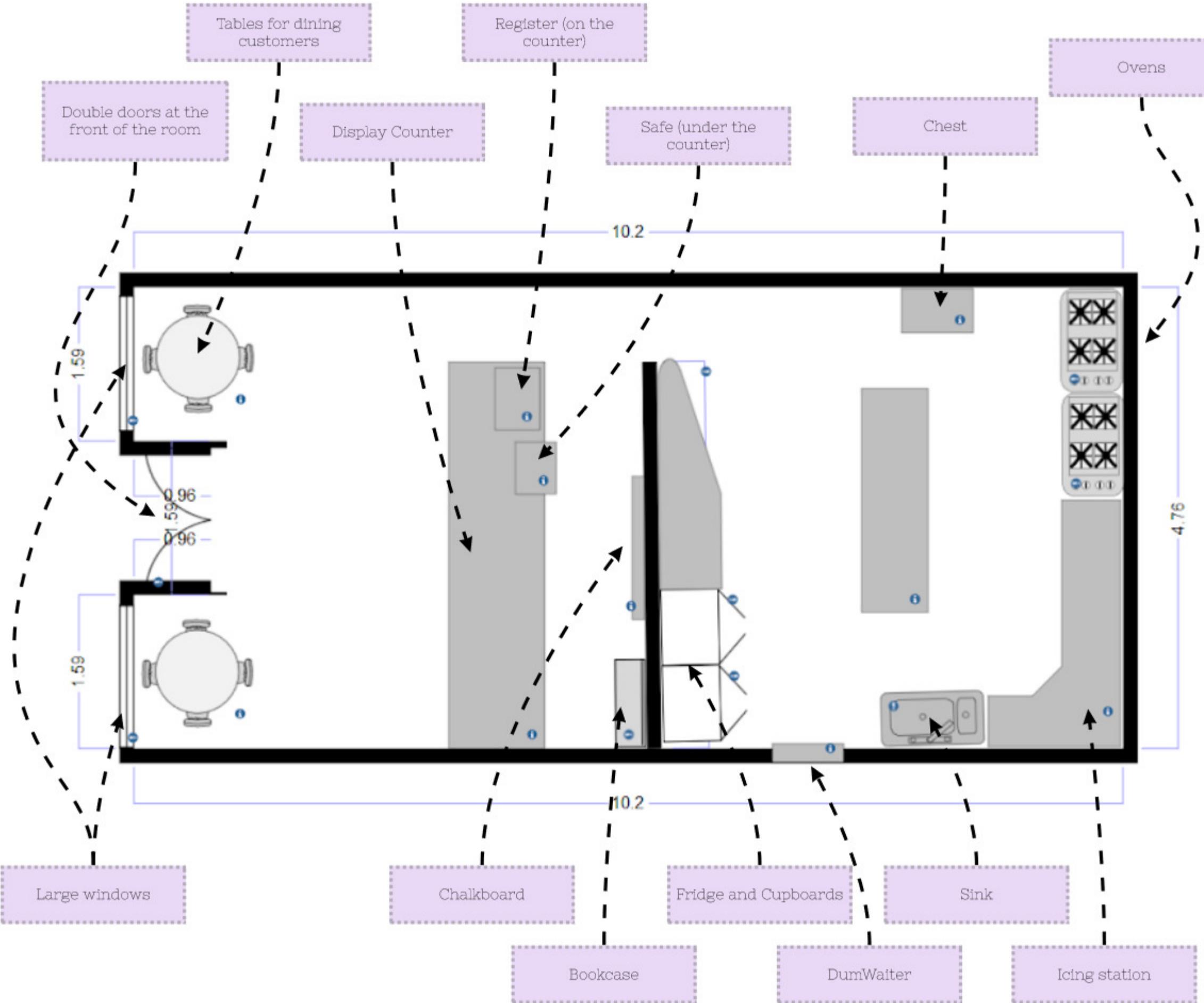
: Flow of Scenes

I've briefly gone through how the player will navigate through the game loop, and which order they have access to each scene.



Cupcake: Level Plan

This is a basic representation of the floor plan for my bakery scene. It's made up of 3 main areas for the player to explore - the customer cafe area, the till and display counter, and the kitchen itself. This will help inform my creating of world building assets - eg posters would be good to fill up the large stretches of empty wall - as well as my placing of these assets in my Unity scene.





: UX planning

In order to build a cohesive User Experience for my project, I've outlined the UX goals I want my game to give players, how the usability and interactions in my game will achieve these goals, and a brief description of the features which I will have to program in to facilitate these interactions.

User Experience

Smooth Experience

Interaction

- No delay when interacting with objects or UI
- Puzzle works logically to avoid frustration
- Easy to manoever the player character
- Feedback confirms when you've interacted with something in the scene
- Intuitive UI to manoever around the game

Feature

- Scripts for interactable objects and UI are triggered immediately after player clicks on them, animations play instantly, UI prompts animate as you hover over objects to pop into scene
- Puzzle planning follows natural flow, completion of one puzzle leads player to the next with use of notes dropped by captor
- Player controller is responsive and smooth, matches controllers from other schemes so player knows how to use it, player character reacts as soon as input is received
- Visual and audio feedback is given when player interacts with object in the scene; when player hovers over interactable object, object is highlighted to show it's important; when they move close to it a UI prompt pops up telling player to press button to interact; when player interacts with something an animation and sound plays
- UI is logical, follows patterns found in other games so player knows what to expect, with clear icons and visuals and not too many different windows to navigate. Player can manoever around the game without having to work it out

Pressure, tension

- Player is constantly made aware of the time pressure
- Motivated by substantial threat if time runs out
- Atmosphere builds as time decreases
- Each action has consequences, must be thought through and not hastily guessed

- Timer implementation in the UI is constantly ticking down, alongside background audio of the ticking sound. Ramps up in volume near completion of each task, drops off when puzzle is completed and celebratory sound plays, creates rise and fall of pressure
- Story building establishes the scenario and threat through a short cutscene and the notes delivered to player. At game over if player loses, bakery is shown on fire, shows consequence of failure
- As timer decreases, the timer text turns red, ticking noise increases, and background music becomes more tense
- If wrong solutions to puzzles are entered, timer is decreased by 10 seconds, camera shakes and red filter is applied for a few seconds, shows that their action was wrong and has consequences

Satisfaction

- Player feels smart when they finish a puzzle; ah-ha moment
- Player gets feedback when they did something right

- Puzzle solutions are reached through careful calculation and logic, not trial and error - clues must be clear in scene to guide player, each puzzle points to the next piece, so even if player doesn't know how to solve next puzzle they know what the next goal is (eg to find the recipe book)
- Balanced puzzles; not too difficult to be impossible, not too easy to be dull
- Audio and Visual feedback celebrates the player when they solve a part of the puzzle - confetti animation plays, along with celebratory chorus of sound

 : SoundScape

Using my sound planning, I collected some samples of 3rd party sounds from freesound.com which sound similar to what I want to make myself. This will be good to refer back to when making my sounds, and help refine my ideas of what type of sounds are required

Paper crumpling – a quick point effect of a rustle of paper to sound like a note being opened



Safe unlocking – high pitched electronic beeps as keys are entered, mechanism clicking open and door being opened



Egg timer sound – A key part of getting the right sound is the mechanical whirring sound as the timer is set and the tinny ring when it goes off



Baking tin going in oven – sound of the metal hitting against the wire rack, initial clash with slight rattle after



Egg cracking – needs an initial crack followed by shell being opened and egg pouring out



Oven opening and closing – metal rattles, reverbs after the initial sound



Poster being torn down; quick sound of paper ripping to show it being pulled away from the wall



Mixing the cake batter – quite wet sounding loop, sound of spoon/whisk hitting the bowl



Setting oven temperature – ignition spark noise, followed by low hum of gas until oven goes off

