

# Doors Feature Design Document

## Overview

- Doors are pivotal to our game as they help manage pacing in our third-person survival horror game.
- Doors should fit the various settings within our Resident Evil-like Mansion environment.
- Doors should block players' navigation and view
- Doors should be a soft navigational obstacle
- Doors should be able to be toggled to Locked which will then make them a hard navigational obstacle until Unlocked.

## User Stories

- As a player, I must be able to open doors to help me navigate through the space
- As a player, I must be able to close doors behind me to control the space and escape enemies
- As a player, I must know what a door is and the basics of how they function
- As a player, I must be taught or already know the intuitive nature of the control scheme to interact with the door
- As a player, I must know which doors are openable, closable and lockable
- As a player, I must either not be frustrated with the mechanics of the door and keep it as a secondary thought to be immersed in the gameplay
- As a Level Designer, I need to be able to use doors to control the flow point between rooms
- As a Level Designer, I must know the dimensions and variations of doors that can be placed into environments
- As a Designer I need the ability to have multiple visual variations of doors to dress, prop, and build an environmental functional narrative.
- As a Designer, I need to be able to update how the door functions through a tool quickly to help with iterative design
- As a Quest Designer, I need to be able to assign an event trigger for when the player completes objectives for interacting with the door
- As a UI Designer, I need to know all functionality of the door before release to ensure it can all be telegraphed within the HUD or elsewhere
- As a Sound FX artist, I need to know the entire variation of doors usable to curate realistic effects for each instance.

## Goals

Priority	Function	Description	Jira	Comments
Must	Door should Open	Doors should open to allow players to traverse the environment		<ul style="list-style-type: none"> <li>Is the door meant to be a physical game object, an entity?</li> <li>Should the door be able to have an event trigger system while the door is open?</li> <li>Should the door interact with environmental effects?</li> <li>Can we climb on top of the door?</li> <li>Is the door a two-way door? I.e. open both ways, if so how do we differentiate this in the engine?</li> <li>If we are using the door as merely a transition method between scenes or environments, is the door opening necessary, besides implementing an animation?</li> <li>Are we using an open door as a blank template, should the player be able to use a fence gate or an open window in the same capacity as a door?</li> <li>What is our visual signifier for a door that is capable of being opened? We should communicate between the art and design teams to figure out a solution.</li> <li>What sizes do the doors have to be, and how should each variation be opened? Can the design lead and the environmental designers form a basis?</li> <li>Should the mechanics of the door being opened be different for different controllers?</li> <li>Can enemy or ally entities interact with the door?</li> <li>Animators will need a complete physics breakdown of each variation of the doors, to implement them.</li> <li>If the door can be traversed through by enemies, we need to allow for the hitboxes to be wide enough and in cohesion with the animation team, create animations of them going through the door, or the base design being large enough for them to go through.</li> <li>Sound designers will need to know the variations of sounds to make sound effects for it opening</li> <li>Audio engineers will need to know if enemies and allies can open doors and from which ranges they can be opened to account for direction and distance within audio cues.</li> <li>Enemy and Ally AI will need to know if the door is open during the movement algorithm</li> <li>A tool to create variations of doors should be made to make the process easier.</li> </ul>

Must	Door should Close	When a door is closed it is a soft navigational obstacle		<ul style="list-style-type: none"> <li>• How should the door close, depending on the variation we will need to work with the audio engineering and sound design team to work through the list.</li> <li>• Do the doors have to visually close in front of the player, perhaps we can cue the sound and the door animation doesn't have to play since it will be behind the player</li> <li>• Can the player immediately go back through the door or is there a brace period</li> <li>• Is the door a soft navigational obstacle for enemy and ally AI as well?</li> <li>• How does a closed door interact with ai pathfinding?</li> <li>• Is the door the only navigational obstacle?</li> <li>• Can the door be broken, i.e. permanently closed or open?</li> <li>• Are certain doors unable to be closed, we should implement a tagging system in the inspector to allow for them to be differentiated at an initial glance</li> <li>• Is there a specific visual effect we want to indicate a door closing as opposed to opening, the FX artists should be communicated with during the development of these designs</li> </ul>
Must	Door should be able to be Locked	When a door is locked it is a hard navigational obstacle		<ul style="list-style-type: none"> <li>• How should the door be locked, with a button, a key that needs to be collected elsewhere as a limited resource or reusable resource etc?</li> <li>• If it is locked can it be unlocked? Should this be another goal or are we treating this as a binary value?</li> <li>• What is our signifier for a door that is closed and unlocked as opposed to a door that is closed and locked?</li> <li>• Can an open door be locked? If so, does it need to be unlocked to close properly?</li> <li>• Should there be a UI prompt given for the locking mechanic or is it inherent within the control scheme of the game and controller? We should talk to UX and UI about this.</li> <li>• What are the strategic differences between a locked door and a closed door?</li> <li>• Do we need to differentiate between a locked door and a door that is not capable of being opened?</li> <li>• If we have a key resource or an external way to open the door like a button, how should the aesthetics be defined to match the rest of the game, the concept artists and modellers</li> <li>• How can we use this locking system to further narrative or add experiences for the player to have, is this something we</li> </ul>

				should work in cohesion with the quest and puzzle design team?
Could	Door could be able to start open ajar	The door can start open a little, allowing an obscured view to what lays beyond		<ul style="list-style-type: none"> <li>Implementing this as a first draft implies that the door needs a full range of motion, This may be better split into multiple goals</li> <li>We would need to discuss with environmental artists if this type of design is possible with already implemented or soon-to-be levels</li> <li>This may lead to problems with the state of the door existing, is the door being ajar considered open or closed?</li> <li>How will AI pathfinding deal with an ajar door?</li> <li>Is this a low-use case, or should we make tool implementations into the engine to allow for making this easier?</li> <li>Is this needed as a basic function for how a door operates?</li> </ul>
Must	Doors must be interactable	Players must be able to interact with doors regardless of their state and have feedback which shows this		<ul style="list-style-type: none"> <li>What definition of interactable, and how do we want the player to go through these interactions?</li> <li>Should the player be allowed to interact mid-animation or action?</li> <li>UI team and UX team involvement</li> <li>How our other mechanics interactable with the door, if there is a dodge mechanic can we dodge into a door, is there an animation we will need for it, is the physics engine capable of what we are looking for?</li> </ul>
Must	Doors must be interactable close up	Players should have to walk close to the door to interact with it		<ul style="list-style-type: none"> <li>Is a button prompt required when the player is close up? Should it fade in and out of UI?</li> <li>Is there a wide array of interactions? Should we operate through a list that the user can run through?</li> <li>Are there some interactions that shouldn't be made obvious for the player e.g. they can shoot a lock to break it?</li> <li>Is the interaction a press key or hold key or something else?</li> <li>Is the control scheme able to accommodate multiple interactions that we have with their relevant controllers e.g. a switch controller</li> <li>Does the UI need sound effects?</li> <li>Does there need to be animations for the UI interaction, e.g. a button filling up as you press it down?</li> <li>If the doors are interactable, should they also be interactable from further away, or should an Ally only interact when the player is near to simulate the control?</li> </ul>
Must	Doors must have	Non-gameplay		<ul style="list-style-type: none"> <li>If the variations should be easily switched in editor then every variation</li> </ul>

	different variations of appearance and be easily switched in editor	related different meshes to fulfill the fantasy of a believable environment		<p>has to be the same dimension, this should be coordinated with the environment design and artists</p> <ul style="list-style-type: none"> <li>• If certain doors are required for other uses such as cutscene triggers or event triggers, then another object would have to be created with other properties unless a tool is coded to differentiate between them.</li> <li>•</li> </ul>
Must	Doors must Feedback to a player when Locked	Players should know when a door is locked, and therefore get audio feedback when interacted with		<ul style="list-style-type: none"> <li>• If audio feedback is needed then sound engineers and audio teams will need to be consulted</li> <li>• Does every door require a unique sound effect?</li> <li>• Will doors that are unable to be opened have the same feedback?</li> </ul>
Should	Some doors should have different visuals when Locked	Depending on the environment Locked doors might have different visuals (e.g. a bathroom stall door or lab door)		<ul style="list-style-type: none"> <li>• Functionally each door will need a separate inspector toolkit and blueprint to be maintainable</li> <li>• Door variance may increase the dev time needed for this feature</li> </ul>
Should	Doors should have option to change speed at which they open	We should be able to tweak how fast / slow a door can open to control pacing		<ul style="list-style-type: none"> <li>• Should be in constant communication with animation and engine department to make sure no problems arise with increasing and decreasing the speed of the animation</li> <li>• How does this effect AI behaviour?</li> </ul>
Could	Doors could have option to close on their own	Doors could slam behind a player to create tension / surprise		<ul style="list-style-type: none"> <li>• How quickly should they close on their own?</li> <li>• If its a slam effect contact audio department</li> <li>• How do we make certain the player is out of the possible hit range of the closing?</li> </ul>

## Visual Brief

Visual Description	Concept Art
Doors should be attached to walls and seamlessly blend in with the their environment	
Doors should block the players vision	

Ahad Khan

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