

28 May 2024

ECHO-BASED HERITAGE DIGITAL TWIN FRAMEWORK

Supplementary Data and Results

By: Hord Arsalan

1. INTRODUCTION

This document contains supplementary data and results for the Echo-based Heritage Digital Twin Framework. The purpose of this document is to provide additional visual and tabular data supporting the methods and findings presented in the main research paper. This includes images generated using AI text-to-image generation tools, comparative tables, and detailed descriptions of heritage buildings that have been used in this research from the Heritage at Risk (HAR) register.

The framework utilises collective memories or oral histories to reconstruct lost heritage buildings. The process involves converting oral histories into structured architectural terminology using an Architectural Heritage Transformer (AHT), inputting these terms into a Standardised Heritage Prompt Template, and then using AI text-to-image generation tools to create visual representations of the heritage buildings.

2. CONTENT

A. Comparative Table 1:

Comparative table 1 is designed to evaluate the effectiveness of two prompt formulation methods—Direct Prompt Method and Reverse Engineering Method—in generating accurate images of heritage buildings using AI text-to-image tools. The tables help compare the results from these methods to determine which produces images that closely resemble the original buildings. Images closely resembling the original are highlighted in the table.

B. Analysis of Effective Prompts:

The analysis of successful prompts involved breaking down the prompts into three main categories: subject, form, and content. This detailed breakdown helped evaluate the impact and importance of each element in order to refine the prompt template for more precise replication of heritage buildings.

Subject: This category focuses on the main focus or theme of the prompt, such as the type of building (e.g., church, castle), its architectural style (e.g., Gothic, Victorian), and the historical period it represents. The subject provides the foundational context for the generated image.

Form: This category includes specific architectural details and structural components of the building. Elements such as the type of materials used (e.g., stone, brick), distinct architectural features (e.g., towers, windows), and the building's overall shape and configuration are analyzed under this category.

Content: This category pertains to the setting and additional descriptive elements that enhance the realism and historical accuracy of the generated image. It includes the surrounding environment (e.g., landscape, urban context), conditions (e.g., weathered by time, restored), and any other relevant details that contribute to the building's depiction.

C. Comparative Table 2

Using the insights gained from the analysis of successful prompts, a structured prompt template is created. This template incorporates key elements that have been identified as critical for accurately depicting heritage buildings.










The new prompt template is used to generate images of the same test buildings. These images are then compared with those generated using the direct method and the reverse engineering method.








The images generated using the new template are compared with the original buildings, as well as with the images produced by the direct and reverse engineering methods.








The prompt template is refined by adding necessary modifiers or "magic terms" to improve the accuracy of the generated images. This iterative process ensures continuous improvement of the template.








3. COMPARATIVE TABLE 1:




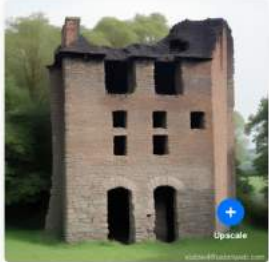
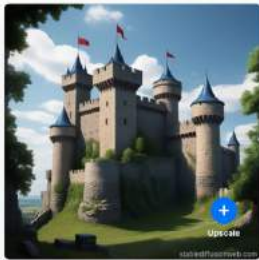
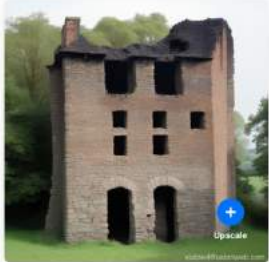
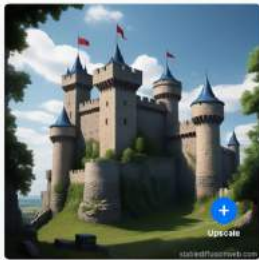


Heritage Building	Building 1: Holbeache House, Holbeache Lane - Dudley	
		
Description from HAR Direct Prompt	Two storey brick building with Dutch Gables and terracotta tiled roofs from circa 1600 but largely re-faced in C19. The house is associated with the Gunpowder Plot and the last refuge of Stephen Littleton and other conspirators. Roberts Catesby was killed and other arrested there. It is currently vacant and in very poor condition.	
Reverse Engineering Prompt	Create a detailed illustration of an early 20th-century English country house, featuring a large, two-story brick structure with a complex roofline that includes multiple chimneys and gabled peaks. The house should be set against a backdrop of a clear blue sky, emphasizing its historical architecture with red brick construction and large, evenly spaced windows. In the foreground, depict a lush green lawn, enhancing the rural and serene atmosphere typical of such estates.	
AI Text-to-Image tool	HAR description	Reverse Engineering Prompt
DALL·E 2		
Stable Diffusion		
Adobe Firefly		





Heritage Building		Building 2: 48 Mill Street, Bridgnorth - Shropshire (UA)	
			
Description from HAR Direct Prompt		<p>This three-storey building, c.1675, forms part of commercial premises used as an antique centre. The oldest building fronting the road was in poor condition, but extensive re-roofing and external render repairs have been completed with the benefit of funding from Historic England. Masonry works to the return elevation of the building range immediately behind the front together with window and door repairs remain outstanding. Unoccupied for several years, plans to convert the front range into self-contained holiday lets on three levels are under consideration.</p>	
Reverse Engineering Prompt		<p>Create an image depicting a quaint, asymmetrical three-story corner building. Its beige facade and white-trimmed windows exude traditional charm. The first floor, with large windows, suggests a business like a café or shop, beneath an overcast sky. Wet streets hint at recent rain, adding a cozy atmosphere to this urban scene. Surrounding elements enrich the setting, inviting exploration.</p>	
AI Text-to-Image tool		HAR description	Reverse Engineering Prompt
DALL·E 2			
Stable Diffusion			
Adobe Firefly		 	 






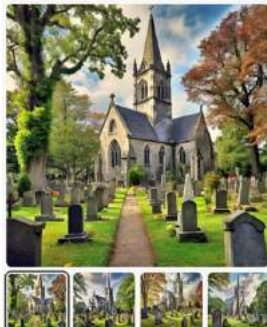
Heritage Building	Building 3: Methodist Church, Darlington Street, Wolverhampton	
		
Description from HAR Direct Prompt	<p>Large Methodist Church dating from 1900-01 by Arthur Marshall, built on a previous church. Classical baroque style built in brick and ashlar ground floor and dressings stone. Symmetrical facade with pediment and two stone towers and a large central cupola covered in copper over the main hall with 3-bay tunnel vaults with groin vaulted aisles and a semi-circular balcony. The church complex has undergone many alterations although it also retains many original features. The roof and rainwater goods are in poor condition and ongoing lack of maintenance.</p>	
Reverse Engineering Prompt	<p>Capture a photo of a historic Baroque building at a city crossroads, featuring red brickwork and stone details. It has arched windows, green-domed towers, and an elegant entrance. The cloudy sky highlights its vibrant facade, with wide, empty streets framing its urban significance.</p>	
AI Text-to-Image tool	HAR description	Reverse Engineering Prompt
DALL·E 2		
Stable Diffusion		
Adobe Firefly		










Heritage Building	Building 4: Church of St Michael, Alberbury with Cardeston - Shropshire (UA)	
		
Description from HAR Direct Prompt	<p>The original C12 church was replaced by the existing nave and chancel built in 1749. The semi-detached west tower was added in 1844. Restored in 1905 by AE Lloyd Oswell, the church is built of uncoursed Alberbury breccia with sandstone ashlar dressings and roofs mostly covered by plain clay tiles. The slate covering to the tower roof has failed and needs to be re-laid. The parapet gutter also requires complete renewal, the decorative weathervane overhauling and access up and onto the tower parapet gutter improved. Fundraising to address these repairs is currently in progress.</p>	
Reverse Engineering Prompt	<p>Capture a realistic photo of an ancient church with a circular tower and Gothic window, set against a vibrant green landscape. The stone facade, weathered by time, contrasts with the bright blue sky. This serene, historical setting emphasizes the church's timeless beauty and peaceful rural atmosphere.</p>	
AI Text-to-Image tool	HAR description	Reverse Engineering Prompt
DALL·E 2		
Stable Diffusion		
Adobe Firefly		

Heritage Building		Building 5: Wattlesborough Castle (uninhabited parts), Alberbury with Cardeston - Shropshire (UA)	
			
Description from HAR Direct Prompt		Remains of a large square tower of the castle, now without a roof. Probably late C13 for Sir Robert Corbet. The wall heads are particularly vulnerable; some blocks of masonry have fallen from high level. The owner was previously considering consolidation and re-roofing works to facilitate domestic use, but a repair and development scheme has yet to be put forward.	
Reverse Engineering Prompt		Capture a realistic photo of an ancient stone keep amidst a vibrant garden. Its square structure and weathered walls contrast with the garden's life and color, showcasing resilience and history against a serene backdrop. This composition highlights the harmony between architectural strength and natural beauty.	
AI Text-to-Image tool		HAR description	Reverse Engineering Prompt
DALL·E 2			
Stable Diffusion			
Adobe Firefly			

Heritage Building		Building 6: Arnside Tower, Arnside - Westmorland and Furness Council (UA)	
			
Description from HAR Direct Prompt		Fortified tower house, probably C15. Burnt 1602, repaired probably mid C17. One wall has completely collapsed and there are cracks in some lintels. A sustainable management solution is required for the site.	
Reverse Engineering Prompt		Create an image of a medieval stone castle, robust with high walls and narrow windows for defense. The structure should have a squared design, presenting a formidable and imposing silhouette against a vivid blue sky. The battlements should be crenellated, and there might be a hint of greenery at the base of the walls, suggesting the castle is set in a lush landscape. The castle should appear ancient yet well-preserved, a testament to the architectural prowess of the past.	
AI Text-to-Image tool		HAR description	Reverse Engineering Prompt
DALL·E 2			
			
Stable Diffusion			
			
Adobe Firefly			

Heritage Building	Building 7: Church of St George, Church road	
		
<p>Description from HAR Direct Prompt</p> <p>Reverse Engineering Prompt</p>	<p>Anglican parish church. C14 and C15, restored in 1871-72 by Ewan Christian. West tower, nave with clerestorey, north and south aisle, south porch, chancel and vestry. Coursed rubble with freestone dressings; slate roofs behind embattled parapets. South roofs poor; walling and pointing in poor condition and spalling; drainage poor with damp and water ingress affecting floors.</p> <p>"Depict an old English church with a square battlemented tower and a weathervane, set against a clear afternoon sky. The stone building should have a timeless look, with a rectangular shape and a welcoming arched entrance. Surrounding the church, a few weathered gravestones and a large yew tree characterize the peaceful churchyard.</p>	
AI Text-to-Image tool	HAR description	Reverse Engineering Prompt
DALL·E 2		
Stable Diffusion		
Adobe Firefly		







Heritage Building	Building 8: Church of St Helen, High Street, Thurnscoe - Barnsley	
		
Description from HAR Direct Prompt	Victorian church with Georgian tower, the rest rebuilt in 1887. Clay tiled roofs to nave and southeast corner are failing and need to be regularly overhauled. Eroded stonework to porch.	
Reverse Engineering Prompt	Capture a realistic photo of an old church with a tower and Gothic windows in a serene cemetery. Surrounded by headstones and trees, the scene embodies tranquility and historic reverence.	
AI Text-to-Image tool	HAR description	Reverse Engineering Prompt
DALL·E 2		
		
Stable Diffusion		
Adobe Firefly		
		








Heritage Building		Building 9: Church of the Holy Trinity, Robertson Street, Hastings - Hastings	
			
Description from HAR Direct Prompt		Victorian church designed by SS Teulon with stained glass windows by Clayton and Bell and Kempe. The stonework is displaying serious effects of erosion, particularly on the south, east and west elevations.	
Reverse Engineering Prompt		Capture a photo of a Gothic church with detailed stonework on a city street, contrasting with modern buildings. The scene highlights the blend of historical and contemporary architecture, emphasized by a cobblestone street. This image showcases the church's design and the intersection of different eras.	
AI Text-to-Image tool	HAR description	Reverse Engineering Prompt	
DALL·E 2			
			
Stable Diffusion			
			








Heritage Building	Building 10: Church of St George, Church Lane, Doncaster – Doncaster
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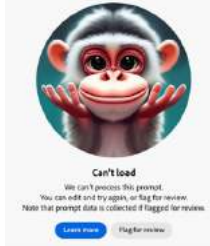
Description from HAR Direct Prompt	Major Victorian church by Sir George Gilbert Scott, replacing the medieval parish church which was destroyed by fire. Several phases of repair undertaken, but further work required to stonework, including to the central tower.
Reverse Engineering Prompt	Capture a realistic photo of a cathedral with Gothic architecture, towering above a busy urban scene. The contrast between the historic spire and modern buildings emphasizes the blend of old and new in the cityscape.

AI Text-to-Image tool	HAR description	Reverse Engineering Prompt
DALL·E 2		
Stable Diffusion		
Adobe Firefly		

Heritage Building		Building 11: Church of St John the Evangelist, Christchurch Road, Bournemouth - Bournemouth Christchurch and Poole (UA)	
			
Description from HAR Direct Prompt		<p>Flint-clad Victorian church. A Listed Places of Worship Roof Repairs Grant was awarded and stage 1 repairs to the roof and cast-iron rainwater goods completed in 2017. The west end and tower are also in a poor state, with crumbling stone and falling masonry, and funding is currently sought for this second phase.</p>	
Reverse Engineering Prompt		<p>Capture a realistic photo of a historic church with unique stone architecture, featuring detailed facades and pointed arches. Positioned on a quiet street, its intricate design and aged textures stand out against the simplicity of the urban environment. This photograph aims to highlight the church's architectural beauty and the quiet dignity it brings to its surroundings, emphasizing the interplay between historical craftsmanship and the modern city setting.</p>	
AI Text-to-Image tool	HAR description	Reverse Engineering Prompt	
DALL·E 2			
Stable Diffusion			
Adobe Firefly			

Heritage Building	Building 12: Church of St Mary the Virgin, St James's Street, Kemp Town, Brighton - Brighton and Hove, City of (UA)	
Description from HAR Direct Prompt		
	<p>Late Victorian red brick building by William Emerson. Comprises a chancel with 5-sided apse, two vestries, transepts and four bay nave with north and south aisles and incomplete tower. Major repairs to the North elevation (2016-17) and West front (2018-19) were funded by the National Lottery Heritage Fund. Work undertaken in 2019-21 included emergency repair of the south transept, repairs to brickwork, masonry, roofs, rainwater goods to the south aisle, funded by Covid-19 Emergency Heritage at Risk Grants. Outstanding repairs remain to be done to the liturgical east end and other areas.</p>	
Reverse Engineering Prompt	<p>Capture a realistic photo of a distinctive brick church on a city street, showcasing its gothic arches and vibrant red facade against a clear sky. This photograph aims to highlight the contrast between the church's traditional architecture and the urban environment, showcasing its role as a historical landmark amidst modern life.</p>	
AI Text-to-Image tool	HAR description	Reverse Engineering Prompt
DALL·E 2		
Stable Diffusion		
Adobe Firefly		

Heritage Building	Building 13: Church of St Mary, Fretherne with Saul - Stroud		
			
Description from HAR Direct Prompt	Large mid-Victorian parish church in an isolated site. Ornate in the decorated style of sandstone with limestone dressings. There has been a loss of stonework with many falls of carved features.		
Reverse Engineering Prompt	Capture a realistic photo of an intricate, Victorian-style church surrounded by a lush graveyard. The church's detailed stonework, pointed spires, and ornate windows stand out against a blue sky. This photograph aims to emphasize the church's architectural beauty and its serene, historical setting within the cemetery, showcasing the harmony between human craftsmanship and nature.		
AI Text-to-Image tool	HAR description	Reverse Engineering Prompt	
DALL·E 2			
			
Stable Diffusion	 		
Adobe Firefly	  <div></div>		

Heritage Building	Building 14: Church of St Paul, Heaton Moor Road, Stockport - Stockport	
		
Description from HAR Direct Prompt	Church of 1876-77 by Bird & Whittenbury. East end extended by Oakley in 1896 and tower built in 1900. Hammer-dressed buff coloured sandstone with ashlar stone dressings and a slate roof. Tower repaired during 2014 but this uncovered poor roofing details which have made this church vulnerable.	
Reverse Engineering Prompt	Create an image of a classic stone church with a prominent, detailed bell tower reaching towards a clear blue sky. The church should feature Gothic architectural elements, including pointed arches, ribbed vaults, and flying buttresses. The facade should be adorned with ornamental stonework and the windows should be arched with stained glass designs. The bell tower must have several levels of windows and an intricate, open belfry that allows the bells to be seen. There should be a neat lawn surrounding the church, with a few bare trees accentuating its historical look. The overall atmosphere should be peaceful and solemn, with no people in sight, capturing the essence of a quiet, sacred space.	
AI Text-to-Image tool	HAR description	Reverse Engineering Prompt
DALL·E 2		
Stable Diffusion		
Adobe Firefly		

4. ANALYSIS OF EFFECTIVE PROMPTS


	Effective Prompt	Subject	Form	Content
		<i>"what" or the focal point of the prompt</i>	<i>the "how", including the development, composition, structural aspects of the building, architectural style, material layers, and specific information about the building's shape, structure, setting and location.</i>	<i>the "why" behind the visual representation (Xie et al., 2023), focusing on the design intention, ambient setting, and conservation aspects.</i>
1	Two storey brick building with Dutch Gables and terracotta tiled roofs from circa 1600 but largely re-faced in C19. The house is associated with the Gunpowder Plot and the last refuge of Stephen Littleton and other conspirators. Roberts Catesby was killed and other arrested there. It is currently vacant and in very poor condition.	Storey-- architectural style/ year -	material of building - architectural elements	Details about restorations made- Current use - Deterioration state
2	This three-storey building, c.1675, forms part of commercial premises used as an antique centre. The oldest building fronting the road was in poor condition, but extensive re-roofing and external render repairs have been completed with the benefit of funding from Historic England. Masonry works to the return elevation of the building range immediately behind the front together with window and door repairs remain outstanding. Unoccupied for several years, plans to convert the front range into self-contained holiday lets on three levels are under consideration.	Storey - Architectural style/year-		Details about restorations made- Current use - Deterioration state
3	Capture a photo of a historic Baroque building at a city crossroads, featuring red brickwork and stone details. It has arched windows, green-domed towers, and an elegant entrance. The cloudy sky highlights its vibrant facade, with wide, empty streets framing its urban significance.	Architectural style/year --	material of building and colour- architectural elements - materials of arch elements	Setting
4	Capture a realistic photo of an ancient church with a circular tower and Gothic window, set against a vibrant green landscape. The stone facade, weathered by time, contrasts with the bright blue sky. This serene, historical setting emphasizes the church's timeless beauty and peaceful rural atmosphere.	Architectural Style/year- Type of building --	Architectural details -	Setting- Deterioration state
5	Remains of a large square tower of the castle, now without a roof. Probably late C13 for Sir Robert Corbet. The wall heads are particularly vulnerable; some blocks of masonry have fallen from high level. The owner was previously considering consolidation and re-roofing works to facilitate domestic use, but a repair and development scheme has yet to be put forward.	Type of building - Architectural style/ year - Architect		current state-
6	Fortified tower house, probably C15. Burnt 1602, repaired probably mid C17. One wall has completely collapsed and there are cracks in some lintels. A sustainable management solution is required for the site.	Type of building - Architectural style/year		Details about restorations made- Current use- deterioration state
7	Anglican parish church. C14 and C15, restored in 1871-72 by Ewan Christian. West tower, nave with clerestorey, north and south aisle, south porch, chancel and vestry. Coursed rubble with freestone dressings; slate roofs behind	Type of building - Architectural style/year -	Architectural elements- elements architectural materials	Restoration state - current state











	embattled parapets. South roofs poor; walling and pointing in poor condition and spalling; drainage poor with damp and water ingress affecting floors.			
8	Victorian church with Georgian tower, the rest rebuilt in 1887. Clay tiled roofs to nave and southeast corner are failing and need to be regularly overhauled. Eroded stonework to porch.	Architectural Style/year - Type of building --	architectural elements - architectural elements material	restoration state
9	Capture a photo of a Gothic church with detailed stonework on a city street, contrasting with modern buildings. The scene highlights the blend of historical and contemporary architecture, emphasized by a cobblestone street. This image showcases the church's design and the intersection of different eras.	Architectural style/year - Type of building -	architectural details of building	setting
10	Major Victorian church by Sir George Gilbert Scott, replacing the medieval parish church which was destroyed by fire. Several phases of repair undertaken, but further work required to stonework, including to the central tower.	Type of building - Architect - Architectural style/ year -		state of building - Future plans for renovation
11	Flint-clad Victorian church. A Listed Places of Worship Roof Repairs Grant was awarded and stage 1 repairs to the roof and cast-iron rainwater goods completed in 2017. The west end and tower are also in a poor state, with crumbling stone and falling masonry, and funding is currently sought for this second phase.	Architectural style/year - Type of building - Material of building -		State of the building- Restorations made - Future plans for renovation
12	Late Victorian red brick building by William Emerson. Comprises a chancel with 5-sided apse, two vestries, transepts and four bay nave with north and south aisles and incomplete tower. Major repairs to the North elevation (2016-17) and West front (2018-19) were funded by the National Lottery Heritage Fund. Work undertaken in 2019-21 included emergency repair of the south transept, repairs to brickwork, masonry, roofs, rainwater goods to the south aisle, funded by Covid-19 Emergency Heritage at Risk Grants. Outstanding repairs remain to be done to the liturgical east end and other areas.	Architectural style/ year - Material of building - Architect	Architectural elements - architectural elements materials -	
13	Large mid-Victorian parish church in an isolated site. Ornate in the decorated style of sandstone with limestone dressings. There has been a loss of stonework with many falls of carved features.	Type of building - Architectural style/ year - setting	Architectural elements - Architectural elements materials	Current state deterioration
14	Church of 1876-77 by Bird & Whittenbury. East end extended by Oakley in 1896 and tower built in 1900. Hammer-dressed buff coloured sandstone with ashlar stone dressings and a slate roof. Tower repaired during 2014 but this uncovered poor roofing details which have made this church vulnerable.	Type of building - Architectural style/ year - Architect	Architectural elements- architectural materials	Restorations made - Current deterioration state











5. COMPARATIVE TABLE 2









Prompt developed





A [number of storeys]-storey [type of building], styled in the [style/age of the building]. The building is constructed of [material/ colour of building]. Architectural elements include [specific architectural elements] made of [material of elements]. Situated in [context/ environment], the building was designed by [architect]. It underwent restoration [details about restoration made] and shows signs of [any deterioration]. Currently, it is used for [current use/occupancy]. Plans for the future include [future plans].


Heritage Building	Building 1: Holbeache House, Holbeache Lane - Dudley			
				
Description from HAR	Two storey brick building with Dutch Gables and terracotta tiled roofs from circa 1600 but largely re-faced in C19. The house is associated with the Gunpowder Plot and the last refuge of Stephen Littleton and other conspirators. Roberts Catesby was killed and other arrested there. It is currently vacant and in very poor condition.			
Reverse Engineering Prompt	Create a detailed illustration of an early 20th-century English country house, featuring a large, two-story brick structure with a complex roofline that includes multiple chimneys and gabled peaks. The house should be set against a backdrop of a clear blue sky, emphasizing its historical architecture with red brick construction and large, evenly spaced windows. In the foreground, depict a lush green lawn, enhancing the rural and serene atmosphere typical of such estates.			
Standardised Heritage Prompt Template	A [two]-storey [brick building], styled in the [circa 1600]. The building is constructed of [brick]. Architectural elements include [dutch gables and terracotta tiled roofs] made of [terracotta]. It underwent restoration [in c1900] and shows signs of [deterioration]. Currently, it is [vacant].			
Text-to Image generation tool	HAR Description	Reverse Engineering Prompt	Standardised Heritage Prompt Template	
DALL-E 2				
Stable Diffusion				
Adobe Firefly				





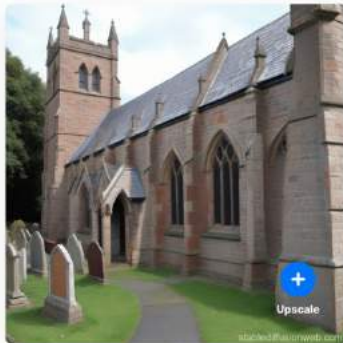
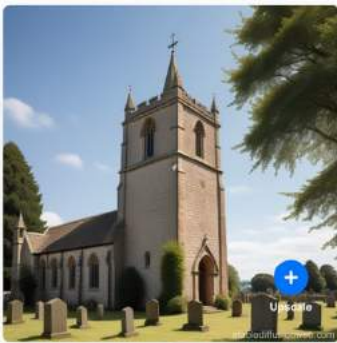




Heritage Building		Building 2: 48 Mill Street, Bridgnorth - Shropshire (UA)		
				
Description from HAR		This three-storey building, c.1675, forms part of commercial premises used as an antique centre. The oldest building fronting the road was in poor condition, but extensive re-roofing and external render repairs have been completed with the benefit of funding from Historic England. Masonry works to the return elevation of the building range immediately behind the front together with window and door repairs remain outstanding. Unoccupied for several years, plans to convert the front range into self-contained holiday lets on three levels are under consideration.		
Reverse Engineering Prompt		Create an image depicting a quaint, asymmetrical three-story corner building. Its beige facade and white-trimmed windows exude traditional charm. The first floor, with large windows, suggests a business like a café or shop, beneath an overcast sky. Wet streets hint at recent rain, adding a cozy atmosphere to this urban scene. Surrounding elements enrich the setting, inviting exploration.		
Standardised Heritage Prompt Template		A [three]-storey [building], styled in the [c.1675]. It underwent restoration [Masonry works to the return elevation of the building range immediately behind the front together with window and door repairs remain outstanding.]. Currently, it is [unoccupied]. Plans for the future include [plans to convert the front range into self-contained holiday lets on three levels are under consideration.].		
Text-to Image generation tool	HAR Description	Reverse Engineering Prompt	Standardised Heritage Prompt Template – first iteration	
DALL·E 2				
Stable Diffusion				
Adobe Firefly				






















Heritage Building		Building 3: Methodist Church, Darlington Street, Wolverhampton	
			
Description from HAR	Large Methodist Church dating from 1900-01 by Arthur Marshall, built on a previous church. Classical baroque style built in brick and ashlar ground floor and dressings stone. Symmetrical facade with pediment and two stone towers and a large central cupola covered in copper over the main hall with 3-bay tunnel vaults with groin vaulted aisles and a semi-circular balcony. The church complex has undergone many alterations although it also retains many original features. The roof and rainwater goods are in poor condition and ongoing lack of maintenance.		
Reverse Engineering Prompt	Capture a photo of a historic Baroque building at a city crossroads, featuring red brickwork and stone details. It has arched windows, green-domed towers, and an elegant entrance. The cloudy sky highlights its vibrant facade, with wide, empty streets framing its urban significance.		
Standardised Heritage Prompt Template	A [two]-storey [church], styled in the [classical baroque style 1901]. The building is constructed of [red brick and ashlar ground floor and dressings stone]. Architectural elements include [symmetrical façade with pediment and two green domed stone towers and a large central cupola over the main hall with 3-bay tunnel vaults with groin vaulted aisles and a semi-circular balcony, elegant entrance]. Situated in [a city cross roads], the building was designed by [ARTHUR MARSHAL]. It underwent restoration [but still retains many original features]		
Text-to Image generation tool	HAR Description	Reverse Engineering Prompt	Standardised Heritage Prompt Template – first iteration
DALL-E 2			
Stable Diffusion			
Adobe Firefly			











Heritage Building		Building 4: Church of St Michael, Alberbury with Cardeston - Shropshire (UA)		
				
Description from HAR	The original C12 church was replaced by the existing nave and chancel built in 1749. The semi-detached west tower was added in 1844. Restored in 1905 by AE Lloyd Oswell, the church is built of uncoursed Alberbury breccia with sandstone ashlar dressings and roofs mostly covered by plain clay tiles. The slate covering to the tower roof has failed and needs to be re-laid. The parapet gutter also requires complete renewal, the decorative weathervane overhauling and access up and onto the tower parapet gutter improved. Fundraising to address these repairs is currently in progress.			
Reverse Engineering Prompt	Capture a realistic photo of an ancient church with a circular tower and Gothic window, set against a vibrant green landscape. The stone facade, weathered by time, contrasts with the bright blue sky. This serene, historical setting emphasizes the church's timeless beauty and peaceful rural atmosphere.			
Standardised Heritage Prompt Template	A [church], styled in the [c12]. The building is constructed of [of uncoursed Alberbury breccia with sandstone ashlar dressings and roofs mostly covered by plain clay tiles]. Architectural elements include [nave and chancel] . Situated in [vibrant green landscape]. It underwent restoration [in 1905 by AE Lloyd Oswell]			
Text-to Image generation tool	HAR Description	Reverse Engineering Prompt	Standardised Heritage Prompt Template – first iteration	
DALL-E 2				
Stable Diffusion				
Adobe Firefly				











Heritage Building	Building 5: Wattlesborough Castle (uninhabited parts), Alberbury with Cardeston - Shropshire (UA)		
			
Description from HAR	Remains of a large square tower of the castle, now without a roof. Probably late C13 for Sir Robert Corbet. The wall heads are particularly vulnerable; some blocks of masonry have fallen from high level. The owner was previously considering consolidation and re-roofing works to facilitate domestic use, but a repair and development scheme has yet to be put forward.		
Reverse Engineering Prompt	Capture a realistic photo of an ancient stone keep amidst a vibrant garden. Its square structure and weathered walls contrast with the garden's life and color, showcasing resilience and history against a serene backdrop. This composition highlights the harmony between architectural strength and natural beauty.		
Standardised Heritage Prompt Template	A [square castle], styled in the [c13]. The building is constructed of [masonry blocks]. Situated in [green area with a bit of bushes around], the building was designed by [Sir Robert Corbet]. Currently, it is [vacant]. Plans for the future include [reroofing].		
Text-to Image generation tool	HAR Description	Reverse Engineering Prompt	Standardised Heritage Prompt Template – first iteration
DALL-E 2			
Stable Diffusion			
Adobe Firefly			











Heritage Building		Building 6: Arnside Tower, Arnside - Westmorland and Furness Council (UA)		
				
Description from HAR		Fortified tower house, probably C15. Burnt 1602, repaired probably mid C17. One wall has completely collapsed and there are cracks in some lintels. A sustainable management solution is required for the site.		
Reverse Engineering Prompt		Create an image of a medieval stone castle, robust with high walls and narrow windows for defense. The structure should have a squared design, presenting a formidable and imposing silhouette against a vivid blue sky. The battlements should be crenellated, and there might be a hint of greenery at the base of the walls, suggesting the castle is set in a lush landscape. The castle should appear ancient yet well-preserved, a testament to the architectural prowess of the past.		
Standardised Heritage Prompt Template		A [stone fortified tower house], styled in the [medieval times c15]. The building is constructed of [white stone]. Situated in [green area]. It shows signs of [cracks in some lintels].		
Text-to Image generation tool	HAR Description	Reverse Engineering Prompt	Standardised Heritage Prompt Template – first iteration	
DALL-E 2				
Stable Diffusion				
Adobe Firefly				











Heritage Building		Building 7: Church of St George, Church road		
				
Description from HAR	Anglican parish church. C14 and C15, restored in 1871-72 by Ewan Christian. West tower, nave with clerestory, north and south aisle, south porch, chancel and vestry. Coursed rubble with freestone dressings; slate roofs behind embattled parapets. South roofs poor; walling and pointing in poor condition and spalling; drainage poor with damp and water ingress affecting floors.			
Reverse Engineering Prompt	"Depict an old English church with a square battlemented tower and a weathervane, set against a clear afternoon sky. The stone building should have a timeless look, with a rectangular shape and a welcoming arched entrance. Surrounding the church, a few weathered gravestones and a large yew tree characterize the peaceful churchyard.			
Standardised Heritage Prompt Template	A [Anglican parish church], styled in the [c14-c15]. The building is constructed of [stone]. Architectural elements include [West tower, nave with clerestory, north and south aisle, south porch, chancel and vestry. It underwent restoration [by Ewan Christian]			
Text-to Image generation tool	HAR Description	Reverse Engineering Prompt	Standardised Heritage Prompt Template – first iteration	
DALL-E 2				
Stable Diffusion				
Adobe Firefly				









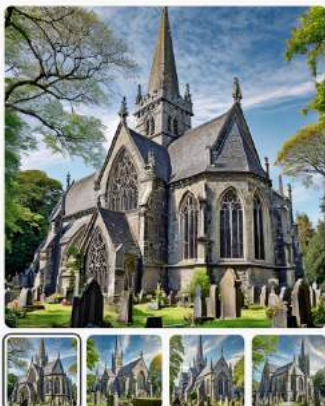

Heritage Building		Building 8: Church of St Helen, High Street, Thurnscoe - Barnsley	
			
Description from HAR		Victorian church with Georgian tower, the rest rebuilt in 1887. Clay tiled roofs to nave and southeast corner are failing and need to be regularly overhauled. Eroded stonework to porch.	
Reverse Engineering Prompt		Capture a realistic photo of an old church with a tower and Gothic windows in a serene cemetery. Surrounded by headstones and trees, the scene embodies tranquility and historic reverence.	
Standardised Heritage Prompt Template		A [church], styled in the [Victorian style]. The building is constructed of [brick]. Architectural elements include [Georgian tower]. Situated in [green area]. It shows signs of [deterioration in the clay tiled roofs to nave and southeast corner are failing].	
Text-to Image generation tool	HAR Description	Reverse Engineering Prompt	Standardised Heritage Prompt Template – first iteration
DALL-E 2	 	 	 
	 	 	 
Stable Diffusion			
Adobe Firefly	 	 	






Heritage Building		Building 9: Church of the Holy Trinity, Robertson Street, Hastings - Hastings		
				
Description from HAR		Victorian church designed by SS Teulon with stained glass windows by Clayton and Bell and Kempe. The stonework is displaying serious effects of erosion, particularly on the south, east and west elevations.		
Reverse Engineering Prompt		Capture a photo of a Gothic church with detailed stonework on a city street, contrasting with modern buildings. The scene highlights the blend of historical and contemporary architecture, emphasized by a cobblestone street. This image showcases the church's design and the intersection of different eras.		
Standardised Heritage Prompt Template		A [Church], styled in the [Victorian style]. The building is constructed of [stone]. Architectural elements include [stained glass windows]. The building was designed by [SS Teulon]. It underwent restoration [serious effects of erosion].		
Text-to Image generation tool	HAR Description	Reverse Engineering Prompt	Standardised Heritage Prompt Template – first iteration	
DALL-E 2				
Stable Diffusion				
Adobe Firefly				

Heritage Building		Building 10: Church of St George, Church Lane, Doncaster – Doncaster		
				
Description from HAR		Major Victorian church by Sir George Gilbert Scott, replacing the medieval parish church which was destroyed by fire. Several phases of repair undertaken, but further work required to stonework, including to the central tower.		
Reverse Engineering Prompt		Capture a realistic photo of a cathedral with Gothic architecture, towering above a busy urban scene. The contrast between the historic spire and modern buildings emphasizes the blend of old and new in the cityscape.		
Standardised Heritage Prompt Template		A [big Victorian church]. The building is constructed of [stonework]. Architectural elements include [specific architectural elements] made of [material of elements]. Situated in [context/ environment], the building was designed by [sir George gilbert scott]. It underwent restoration [to replace the medieval parish church which was destroyed by fire] and shows signs of [any deterioration]. Currently, it is used for [current use/occupancy]. Plans for the future include [to work more on stone work and the central tower].		
Text-to Image generation tool	HAR Description	Reverse Engineering Prompt	Standardised Heritage Prompt Template – first iteration	
DALL·E 2				
Stable Diffusion				
Adobe Firefly				

Heritage Building		Building 11: Church of St John the Evangelist, Christchurch Road, Bournemouth - Bournemouth Christchurch and Poole (UA)		
				
Description from HAR		Flint-clad Victorian church. A Listed Places of Worship Roof Repairs Grant was awarded and stage 1 repairs to the roof and cast-iron rainwater goods completed in 2017. The west end and tower are also in a poor state, with crumbling stone and falling masonry, and funding is currently sought for this second phase.		
Reverse Engineering Prompt		Capture a realistic photo of a historic church with unique stone architecture, featuring detailed facades and pointed arches. Positioned on a quiet street, its intricate design and aged textures stand out against the simplicity of the urban environment. This photograph aims to highlight the church's architectural beauty and the quiet dignity it brings to its surroundings, emphasizing the interplay between historical craftsmanship and the modern city setting.		
Standardised Heritage Prompt Template		A [Victorian church], styled in the [Victorian style]. The building is constructed of [flint-clad]. Architectural elements include [arched windows]. It underwent restoration [repairs to the roof and cast-iron rainwater goods completed in 2017]. Plans for the future include [a poor state, with crumbling stone and falling masonry].		
Text-to Image generation tool	HAR Description	Reverse Engineering Prompt	Standardised Heritage Prompt Template – first iteration	
DALL·E 2				
Stable Diffusion				
Adobe Firefly				

Heritage Building	Building 12: Church of St Mary the Virgin, St James's Street, Kemp Town, Brighton - Brighton and Hove, City of (UA)		
			
Description from HAR	Late Victorian red brick building by William Emerson. Comprises a chancel with 5-sided apse, two vestries, transepts and four bay nave with north and south aisles and incomplete tower. Major repairs to the North elevation (2016-17) and West front (2018-19) were funded by the National Lottery Heritage Fund. Work undertaken in 2019-21 included emergency repair of the south transept, repairs to brickwork, masonry, roofs, rainwater goods to the south aisle, funded by Covid-19 Emergency Heritage at Risk Grants. Outstanding repairs remain to be done to the liturgical east end and other areas.		
Reverse Engineering Prompt	Capture a realistic photo of a distinctive brick church on a city street, showcasing its gothic arches and vibrant red facade against a clear sky. This photograph aims to highlight the contrast between the church's traditional architecture and the urban environment, showcasing its role as a historical landmark amidst modern life.		
Standardised Heritage Prompt Template - first iteration	A [2]-storey [late Victorian church]. The building is constructed of [red brick]. Architectural elements include [a chancel with 5-sided apse, two vestries, transepts, and a four bay nave with north and south aisles, and an incomplete tower] made of [brick and masonry]. Situated in [an urban environment] Currently, it is used for [religious services]. Plans for the future include [completion of outstanding repairs].		
Text-to Image generation tool	HAR Description	Reverse Engineering Prompt	Standardised Heritage Prompt Template – first iteration
DALL-E 2			
Stable Diffusion			
Adobe Firefly			

Heritage Building		Building 13: Church of St Mary, Fretherne with Saul - Stroud		
				
Description from HAR		Large mid-Victorian parish church in an isolated site. Ornate in the decorated style of sandstone with limestone dressings. There has been a loss of stonework with many falls of carved features.		
Reverse Engineering Prompt		Capture a realistic photo of an intricate, Victorian-style church surrounded by a lush graveyard. The church's detailed stonework, pointed spires, and ornate windows stand out against a blue sky. This photograph aims to emphasize the church's architectural beauty and its serene, historical setting within the cemetery, showcasing the harmony between human craftsmanship and nature.		
Standardised Heritage Prompt Template - first iteration		A [large mid Victorian parish church], styled in the [mid Victorian style]. The building is constructed of [Ornate in the decorated style of sandstone with limestone dressings]. It underwent restoration [details about restoration made] and shows signs of [loss of stonework with many falls of carved features].		
Text-to Image generation tool	HAR Description	Reverse Engineering Prompt		Standardised Heritage Prompt Template – first iteration
DALL-E 2				
Stable Diffusion				
Adobe Firefly				

Heritage Building		Building 14: Church of St Paul, Heaton Moor Road, Stockport - Stockport	
			
Description from HAR	Church of 1876-77 by Bird & Whittenbury. East end extended by Oakley in 1896 and tower built in 1900. Hammer-dressed buff coloured sandstone with ashlar stone dressings and a slate roof. Tower repaired during 2014 but this uncovered poor roofing details which have made this church vulnerable.		
Reverse Engineering Prompt	Create an image of a classic stone church with a prominent, detailed bell tower reaching towards a clear blue sky. The church should feature Gothic architectural elements, including pointed arches, ribbed vaults, and flying buttresses. The facade should be adorned with ornamental stonework and the windows should be arched with stained glass designs. The bell tower must have several levels of windows and an intricate, open belfry that allows the bells to be seen. There should be a neat lawn surrounding the church, with a few bare trees accentuating its historical look. The overall atmosphere should be peaceful and solemn, with no people in sight, capturing the essence of a quiet, sacred space.		
Standardised Heritage Prompt Template - first iteration	A [Church], styled in the [1876-77]. The building is constructed of [Hammer-dressed buff coloured sandstone with ashlar stone dressings and a slate roof]. Architectural elements include [specific architectural elements] made of [material of elements]. Situated in [context/ environment], the building was designed by [Bird and Whittenbury]. It underwent restoration [East end extended by Oakley in 1896 and tower built in 1900.] Tower repaired during 2014 but this uncovered poor roofing details which have made this church vulnerable.		
Text-to Image generation tool	HAR Description	Reverse Engineering Prompt	Standardised Heritage Prompt Template – first iteration
DALL·E 2			
Stable Diffusion			
Adobe Firefly		