

# Exploration of Mumbai heritage



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Interaction Design - M.Des 2014-2016

Project 2, Guide - Prof. Venkatesh R.

# Declaration

I declare that this written document represents my ideas in my own words and where others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/ source in my submission. I understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

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Special thanks to Urban Design Research Institute for providing their research work on Mumbai Heritage.

# Abstract

Mumbai's history offers many heritage structures and historical precincts. Most are located in the south of Mumbai since earlier, the access to the city was only through the port there. Mumbai has 591 heritage structures registered as of 2012. A consulting committee called 'The Mumbai Heritage Conservation Committee' guides the process. There are more than 590 heritage sites in Mumbai out of which two are world heritage sites.

People living in Mumbai are unaware of this status and the abundance. The negligence towards the importance and existence of these heritage sites is what hinders the rich legacy of Mumbai from spreading forward to our upcoming generations. These sites are evidence of past human civilisations and represent the identity of a social group. World heritage sites often feature rare and beautiful natural phenomena, striking land features and endangered habitat. Some sites show the unbelievable human potential and must be appreciated by all. Many also have strong cultural biases that leads to arrogant and biased way of looking at art. Due to lack of knowledge about the heritage sites they are unable to keep their differences away.

This project, 'Exploration of Mumbai Heritage' aims to offer information on these important building in a visually appealing way. The diverse architectural styles need to be known and appreciated by the locals. This project, targeting towards the youth and enthusiasts of Mumbai touches upon the brief history, styles and whereabouts of the heritage structures. It hopes to educate and promote the same through a crowdsourced platform curated by experts. It also attempts to nudge the locals to visit these sites and appreciate its history without holding cultural biases.

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# I. Introduction

A property that is or may be inherited is called heritage. A historical site, a building, or an area of the unspoilt natural environment, considered to be important to a country or area's heritage is called a heritage site. [1]

In 1995, Bombay established itself in the field of heritage conservation in India. The pioneering legislation 'Heritage Regulations for Greater Bombay', was the first of its kind in the country and came after years of efforts by planners, architects and concerned citizens who had dreamed of providing legislative protection to the architectural heritage of the city. With this legislation, 574 structures and 14 precincts were acknowledged for their architectural, historic or urban merit and considered worthy of continued protection. According to the updated list of 2012 by Municipal Corporation of Greater Mumbai, there are 591 Heritage structures in Mumbai. [2]

## 1. Grading and Precincts

Heritage sites are categorised by grades (Grade I, Grade II (A & B) and Grade III) and heritage precincts. Heritage precincts comprises of large concentration of heritage buildings of architectural, historic or streetscape value. [3]

### **Grade I comprises of buildings and precincts of national heritage.**

They have excellent architectural style. They can be associated with a great historical event, personality or movement.

### **Grade II Comprises of buildings of regional or local importance.**

In some cases these buildings are allowed extension or additional building in the same plot.

### **Grade III Comprises buildings and precincts of importance for townscapes.**

Can represent a lifestyle of a community or region, evoking aesthetic and sociological interest.

## 2. Motivation for the project

Heritage is our legacy from the past, what we live with today, and it should pass on to the future generations. These sites are evidence of past human civilisations which represents the identity of a social group.

There are two world heritage sites in Mumbai; Chhatrapati Shivaji Terminus and Elephanta Caves. World heritage sites often feature rare and beautiful natural phenomena, striking land features and endangered habitat.

Some sites show the unbelievable human potential and can be appreciated by all. Protection of these buildings will create framework for future changes and enabling their protection. Tourism is an important sector that has has a direct impact on development of country economy and generation of jobs. These heritage site are major tourist attraction points.

## 3. Reasons for lack of awareness

Unavailability of information on Heritage sites of Mumbai is a major reason for the unawareness. The information put up online and the list of updated Heritage structures have a lot of errors and is out-dated. Books written on most of the important structures are not affordable. There is no common ground for acquiring information on these structures online or offline.

The cultural differences and biases due to past history stops people from appreciating the richness of these sites. People have very strong views towards the British rule and look at it as slavery in early India. Some of the most intricate and beautiful structures that are being ignored due to these biases and differences. [4]

## 4. Goals of the project

To offer an exploration of heritage information which is visually appealing and engaging.

To draw attention to the architectural detail of heritage buildings which is currently not digitally available to people. To make it possible for people to easily recognise architectural styles as when they visit historical buildings around Mumbai.

To give basic knowledge about the history and location of the heritage sites and to nudge the users to visit such historical places.

## 5. Target Audience

The project targets the young crowd of Mumbai who help in spreading knowledge. These include college going students, photographers, architects and art and history lovers. The youth plays an important role in bringing a change and are trend starters. They are not just easy to teach but lack rigidness. Their open-mindedness and social behaviour would help spread the importance of the rich legacy of Mumbai and also urge the ones having cultural biases from changing their outlook towards art and history.



## II. Secondary Research

### 1. Listing of the Heritage sites

The updated list for Heritage sites of Mumbai 2012 which is available online has a lot of spelling mistakes, replication and incorrect data. <sup>1</sup>

This list was corrected and recompiled using the references from the Urban Design Research Institute, Colaba.

In addition to that, the list was grade-wise segregated and architectural styles of the ones that have been documented were marked.

	Grade I	Grade II-A	Grade II-B	Grade III	Heritage Precinct	Deleted	
Nature of buildings, monuments, precincts, etc.	Location	Ward	Existing Grade	Proposed Grade	Marked	Style	
P.W.D. Building	Veer Nariman Road	A	II-A	I	marked on map	neo gothic	
C.T.O. Building	Veer Nariman Road	A	II-A	I	marked on map	gothic	
Bombay Life Building (Old Royal Insurance Co. Building & Times of India Building)	Veer Nariman Road	A	III	III		no particular style	
Old Sasson Building	Veer Nariman Road	A	III	III		neo classical	
General Post Office (G.P. O.)	Intersection of Walchand Hirachand Marg, P. D'Mello Road, St. George Road.	A	I	I	marked on map	indo saracenic	
Blackie House	Walchand Hirachand Marg.	A	III	II-B		gothic	
Deputy Police Commissioner's Office – Zone-I (Bazar Gate Police Station)	Walchand Hirachand Marg.	A	III	II-A		colonial facade features	
a) Bank of Baroda Building (Shaw Wallace Building)	Walchand Hirachand Marg	A	II-A	II-A	marked on map	European Renaissance	
b) Krupanidhi	Walchand Hirachand Marg	A	II-A	II-A	marked on map	European Renaissance	
c) & d) Reliance House (Formerly known as R.P. L. House) (C. - Shahi Baug House, D – Ahmedabad House)	Walchand Hirachand Marg	A	II-A	II-A	marked on map	European Renaissance	
e) Construction House (Construction House – Walchand Hirachand Industries)	Walchand Hirachand Marg	A	II-A	II-A	marked on map	European Renaissance	
Apeejay Chambers	Wallace Street	A	III	III		no particular style, influ of vernacular	
Imperial Chambers	Wilson Road		III	II-A		European Renaissance	
Seaside Building	Women's Graduate Union Road.		III	III		vernacular villa, colonial features	
Shaar Rason Synagogue	Tatanpura Street	B	III	II-A		no particular style	
St. Joseph's Church	Nawroji Hill Road No. 5	B	III	II-A		classical	
Haroon Manzil	Jn. of Imamwada Road, Sardar Vallabhbhai Patel Road & Ibrahim Rehmatullah Marg.	B	III	III		colonial	
Godji Swetambar Jain Derasar	Kalbadevi Road	C	III	III		jain style	
Vasantwadi.	Kalbadevi Road.	C	Delete	Delete			
Queen's Diamond	Maharshee Karve Marg.	C	III	III		no particular	
Byramjee Jeejeebhoy Institutes	Maharshee Karve Marg.	C	II-B	II-A	marked on map	gothic revival	
Gamdevi Precinct	Bound by Gamdevi lane, August Kranti Marg, Sitaram Patkar Marg near Gwalia Tank and Grant Road Railway Station.	D	Heritage precinct	Heritage Precinct with individual y listed buildings		ore industrial	
Mani Bhavan	Laburnum Road, Gamdevi.	D	I	I	marked on map		
Haji Ali Complex.	In the Sea off Lala Lajpatrai Road, Haji Ali.	G/S	II-A	II-A			
Kilachand House	L.J. Marg (Nepeansea Road)	D	II-B	II-B	marked on map		

<sup>1</sup> A sample of this list can be found in Appendix A

## 2. Studying the architectural styles



1. **Colonial:** Naval Dockyard



2. **Neo Classical:** Asiatic Library



3. **Gothic:** Eg: St. xavier's High School



4. **Indo Saracenic:** Taj Mahal Hotel



5. **Art Deco:** Metro Big Cinema



6. **European Renaissance:** Indian Mercantile



7. **India:** Godji Shwetambar Jain Temple



8. **Architecture of Gujarat:** Gateway of India

The key features of the various styles were briefly studied to understand how each of them is different from the other.

Image source:

1. Indiannavy.nic.in,. N. p., 2015. Web. 14 Nov. 2015.
2. Flickr - 'Town Hall,. N. p., 2015. Web. 14 Nov. 2015.
3. Indiamike.com,. N. p., 2015. Web. 14 Nov. 2015.
4. C1.staticflickr.com,. N. p., 2015. Web. 14 Nov. 2015.
5. Im.rediff.com,. N. p., 2015. Web. 14 Nov. 2015.
6. Mountainsoftravelphotos.com,. N. p., 2015. Web. 14 Nov. 2015.
7. Tourmet.com,. N. p., 2015. Web. 14 Nov. 2015.
8. Images.boomsbeat.com,. N. p., 2015. Web. 14 Nov. 2015.

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## • Neo Classical Style

Neo classical [Fig. 1] is an architectural style produced by the neoclassical movement that began in the mid-18th century. Neoclassical buildings have some key features like symmetrical shape, tall columns that rise the full height of the building, triangular pediment and domed roof. [5][6][7]



Fig. 1

(sheet pasted : Image 1)

- **Gothic Style**

Gothic architecture [Fig. 2] is a style that flourished during the high and late medieval period. It evolved from Roman architecture and was succeeded by Renaissance architecture. [8][9][10]



(sheet pasted : Image 2)

Fig. 2

## • Indo Saracenic Style

Gothic architecture [Fig. 3] is a style of architecture that flourished during the high and late medieval period. It evolved from Roman architecture and was succeeded by Renaissance architecture.

[11][12][13]



(sheet pasted : Image 3)

Fig. 3

# III.

## Primary Research

### 1. User Interviews

Before coming up with the product idea, 15 users, that included an Indian writer, psychology students, taxi driver, housewife, tourists, artists, history teacher and designers were interview to know their views, thought process and general knowledge about Heritage sites.

A questionnaire which was created to learn three things:

- What they knew?
- What information they needed?
- How they feel?

Purpose	Questions
What do they know?	<ul style="list-style-type: none"><li>• What is the meaning of heritage site?</li><li>• How many heritage structures are in Mumbai? Name a few.</li><li>• Is there any world heritage site in Mumbai?</li><li>• How are the heritage sites segregated?</li></ul>
What information do they need?	<ul style="list-style-type: none"><li>• What would you like to know about the heritage of Mumbai?</li><li>• How often do you use maps and when?</li><li>• What landmarks do you look for while looking to reach a place?</li><li>• What do you know about architecture found in Mumbai?</li></ul>
How do they feel?	<ul style="list-style-type: none"><li>• When was the last time you went to a heritage site. How did you get there and whom did you go with?</li><li>• Is there any you visit on a daily basis? What do you think of the architecture?</li></ul>

## 2. Interpretation

### **Based on what they know:**

- People know the meaning of heritage. But are unaware of the large number of Heritage structures in Mumbai.
- Not many are aware of the two World heritage structures in Mumbai. They often think one of them is Gateway of India.
- Grades of heritage is not a valuable information for most of the users but age is.
- They do not know the names of styles but relate to structures by features.

### **Based on what information they need:**

- People get bored of reading long articles and history. Visuals are easy for them to remember.
- Students seem keen on knowing about styles as long as it is an easy distinction.
- Usage of maps is extremely common amongst the youth while travelling.
- Landmarks are almost never looked for on Google maps. But they are looked for once they reach the area (not on map).

### **Based on how they feel:**

- Students are the ones who are more keen to know about heritage sites.
- People prefer having some company while site seeing.
- Age of the building draws most attention to the building.
- People are unable to appreciate or even acknowledge heritage sites due to cultural biases unless they are drawn to it indirectly.



## IV. Design goals

The goal of the final design idea needed to be visually appealing with content that is simple to understand. It needs to aim at making people aware and conscious about the rich legacy that Mumbai possesses.

The information that the project gives to the user needs to be retained easily. The design should consider the fact that the user going through it is an amateur. Thus give a strong basic knowledge that is engaging enough and not overwhelming.

People should be able to learn, recognise and explain the features of different important buildings to others with ease.

# V. Similar work

## 1. World Heritage apps

### Collins UNESCO World Heritage [Fig. 4][14][15]

This app provides a guide to all 911 UNESCO World Heritage sites.

Its key features include maps, Images, the ability to plan an upcoming visit to a foreign country.

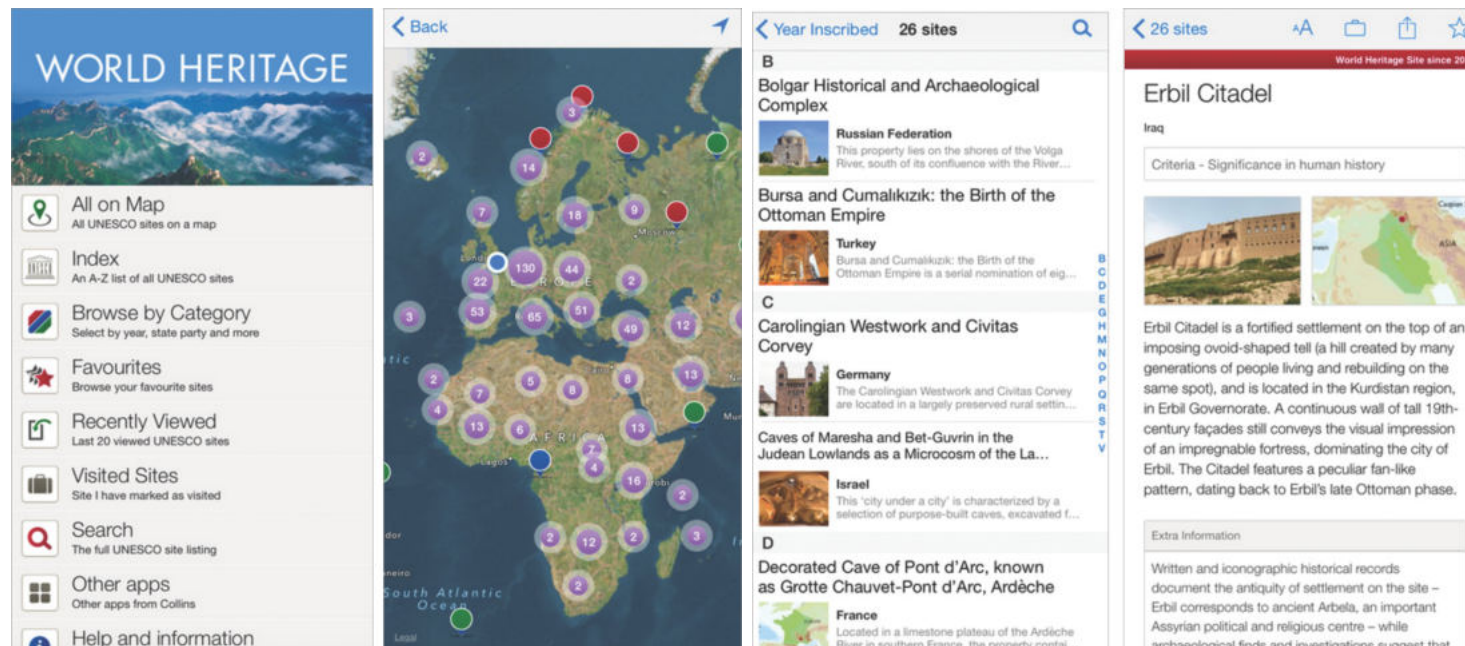


Fig. 4 Screenshots of the App

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### My World Heritage Passport: [Fig. 5]

This app lets one find the latest images, blog posts, weather forecasts of every world heritage sites. It uses API from Flickr for pictures, [weatheronline.com](http://weatheronline.com) for forecasting and [yahoo.com](http://yahoo.com) for blogs that can be used to record and plan trips.

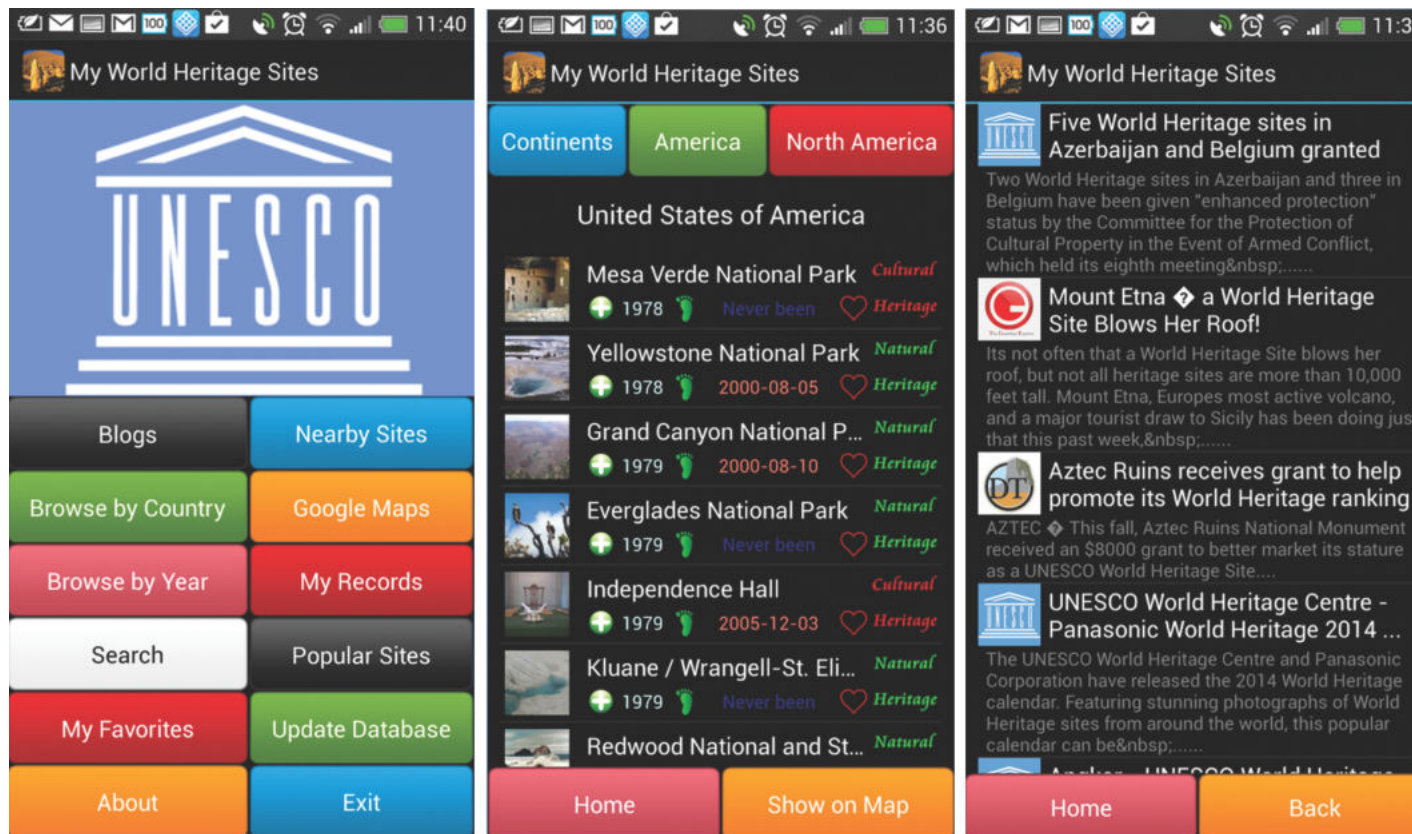


Fig. 5 - Screenshot of the App

## 2. Heritage walks

A lot of organisations are well known for organising heritage walks. The walks aim to raise awareness about the city's architecture and heritage monuments. They include pre-planned and personalised walk packages. Some of the famous ones are **The Bombay Heritage**, **Raconteur Walks**, **Lonely Planet**, **Mumbai Bicycle tour** etc.

## 3. Audio Compass

This audio app best experienced while sightseeing, has thousands of top quality audio stories that bring alive the history, culture and heritage of the monuments or destinations you're visiting. [Fig. 6]

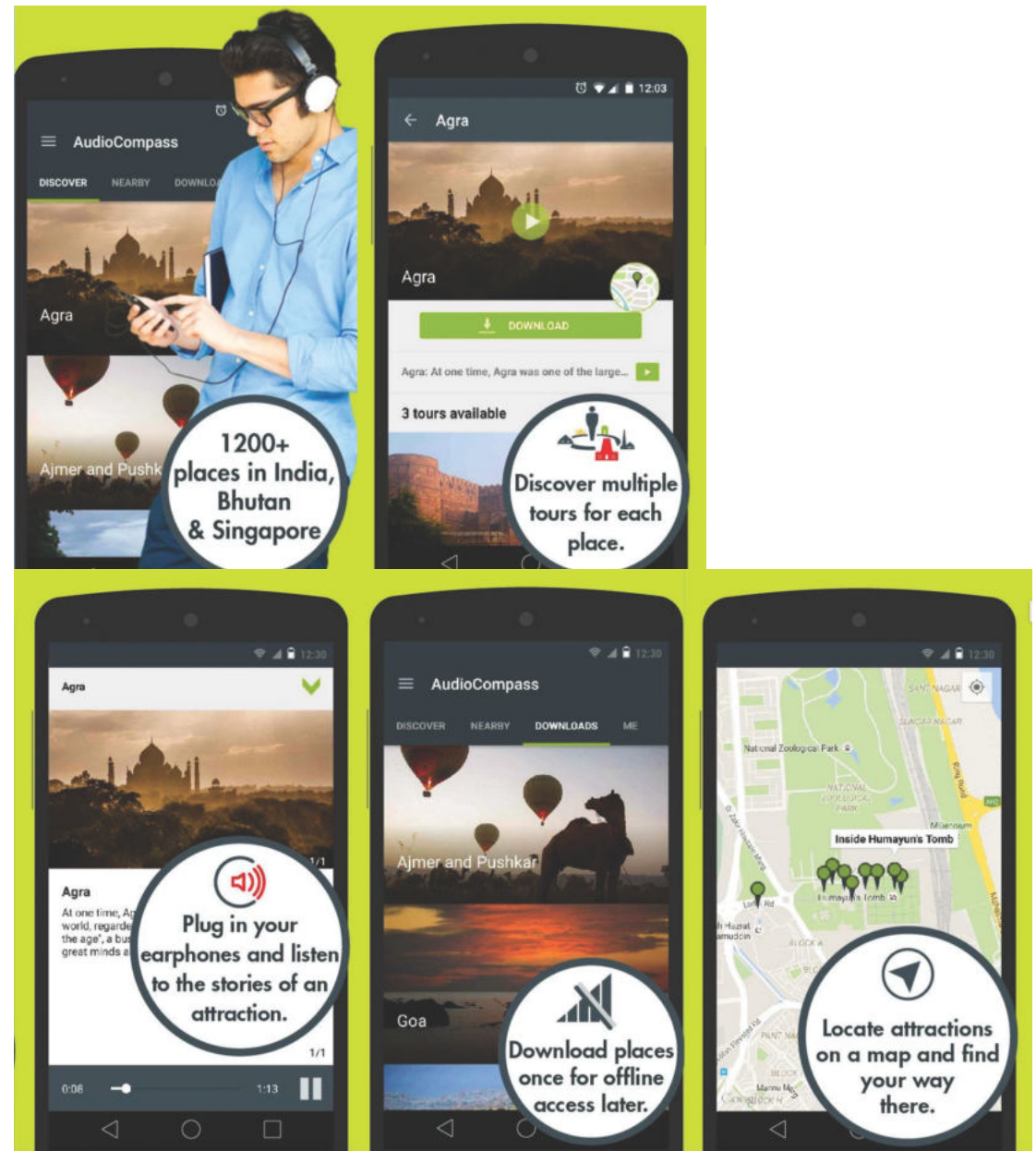


Fig. 6 - Screenshots



## 4. Other inspiring work

### Streetmuseum: Londinium [Fig. 7]

Important sites are overlaid onto the current map of the city to learn its development over the centuries. The app's interactive features like 3D drawings, Video and audio recordings lets users explore the marked places of interest on the map

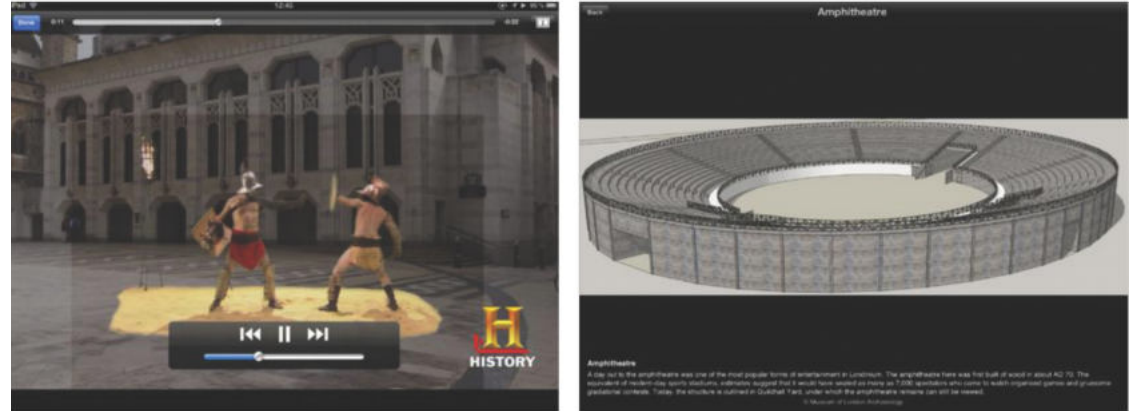


Fig 7. iPad app screenshots

### Pyramids 3D [Fig. 8]

This app lets one take a 3D aerial tour of the pyramids, with 360-degree views of the surroundings.

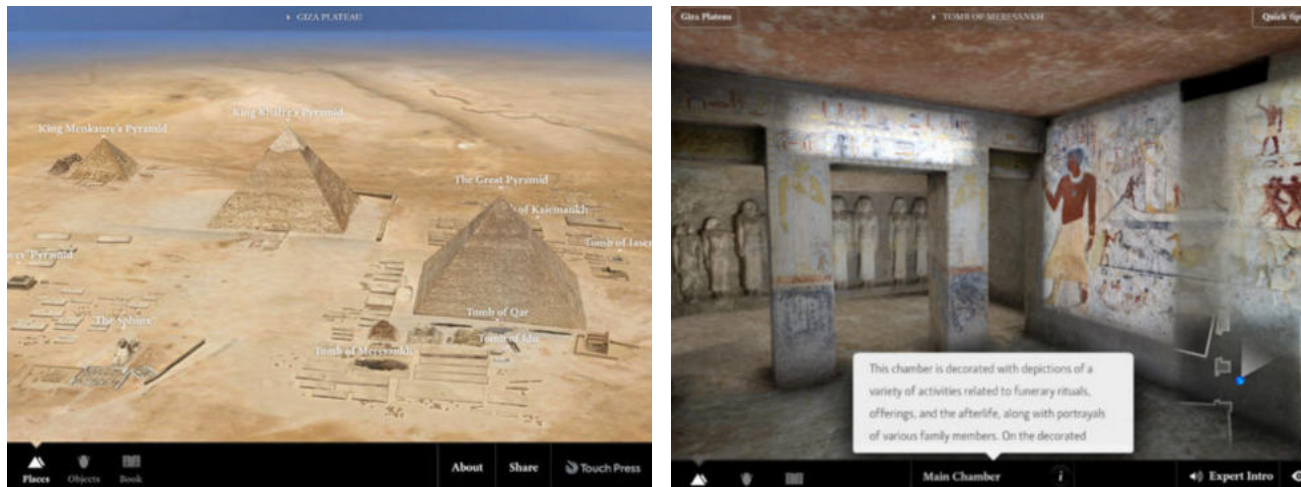


Fig 8. - iPad app screenshots

# VI. Initial design ideas

Mind map with the possible scope of work was made. [Fig. 9]



Fig. 9 - Scope of Work

# 1. Visualisation

The first idea was to use Mumbai map to display information on Mumbai heritage. Information would come across as different different data sets. Data would be segregated based on Grade, Architectural style, Endangered buildings across an interactive map. This digital tool would show structures in a Timeline format based on age and beginning and end of styles eras.

A map was created with Grade I and Grade II heritage sites marked to understand concentration of these sites. [Fig. 10 & 11]

After plotting on maps it was learnt that due to high concentration of heritage sites it was not practical to follow this approach. The maps had excess information and lost focus. On enlargement of a part, it lost context.

There was no guarantee of user learning about the rich architecture or even remembering the history. This concept was put to an end here.

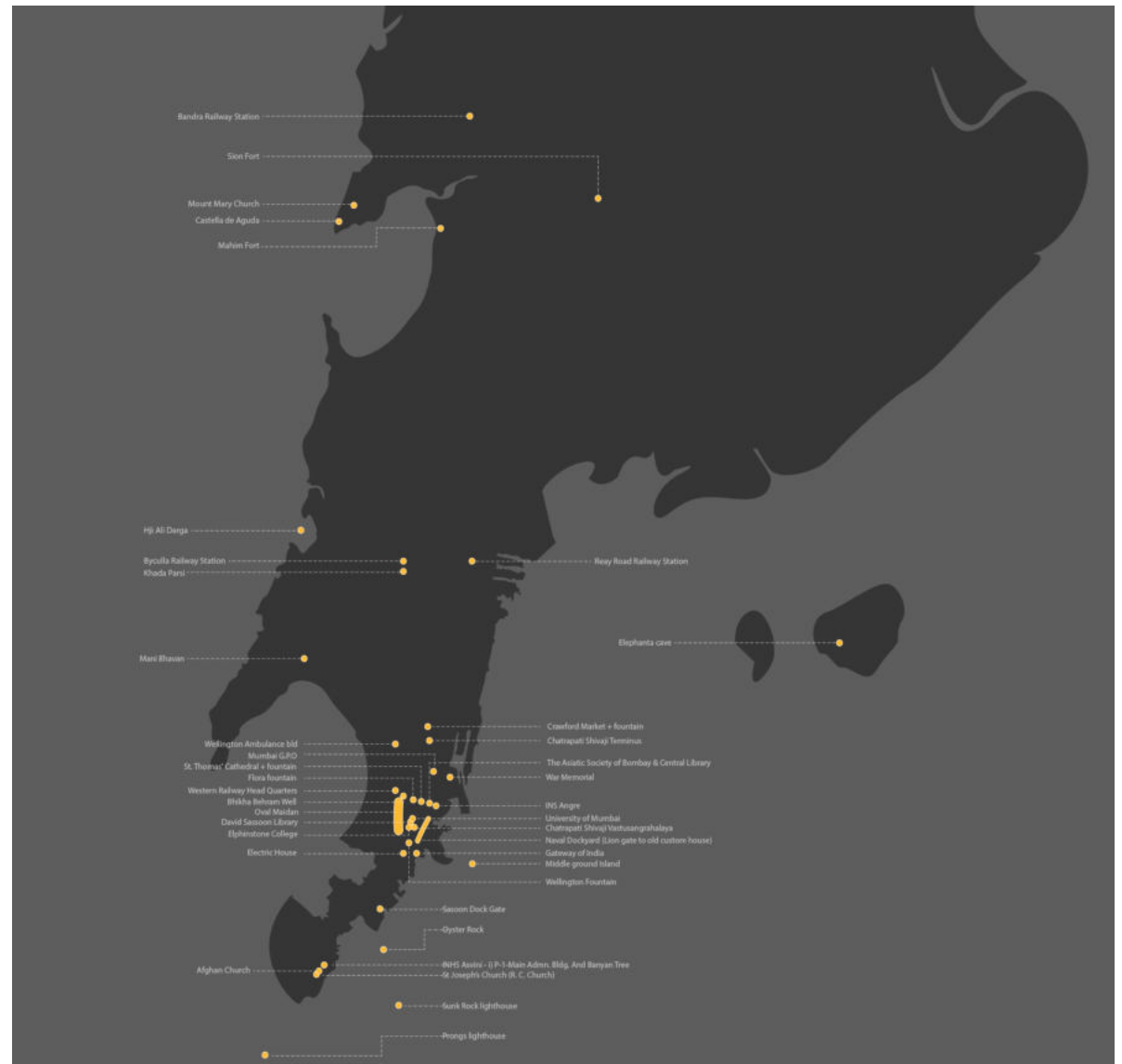


Fig. 10 - Grade I Listings

(Sheet pasted - Image 4)

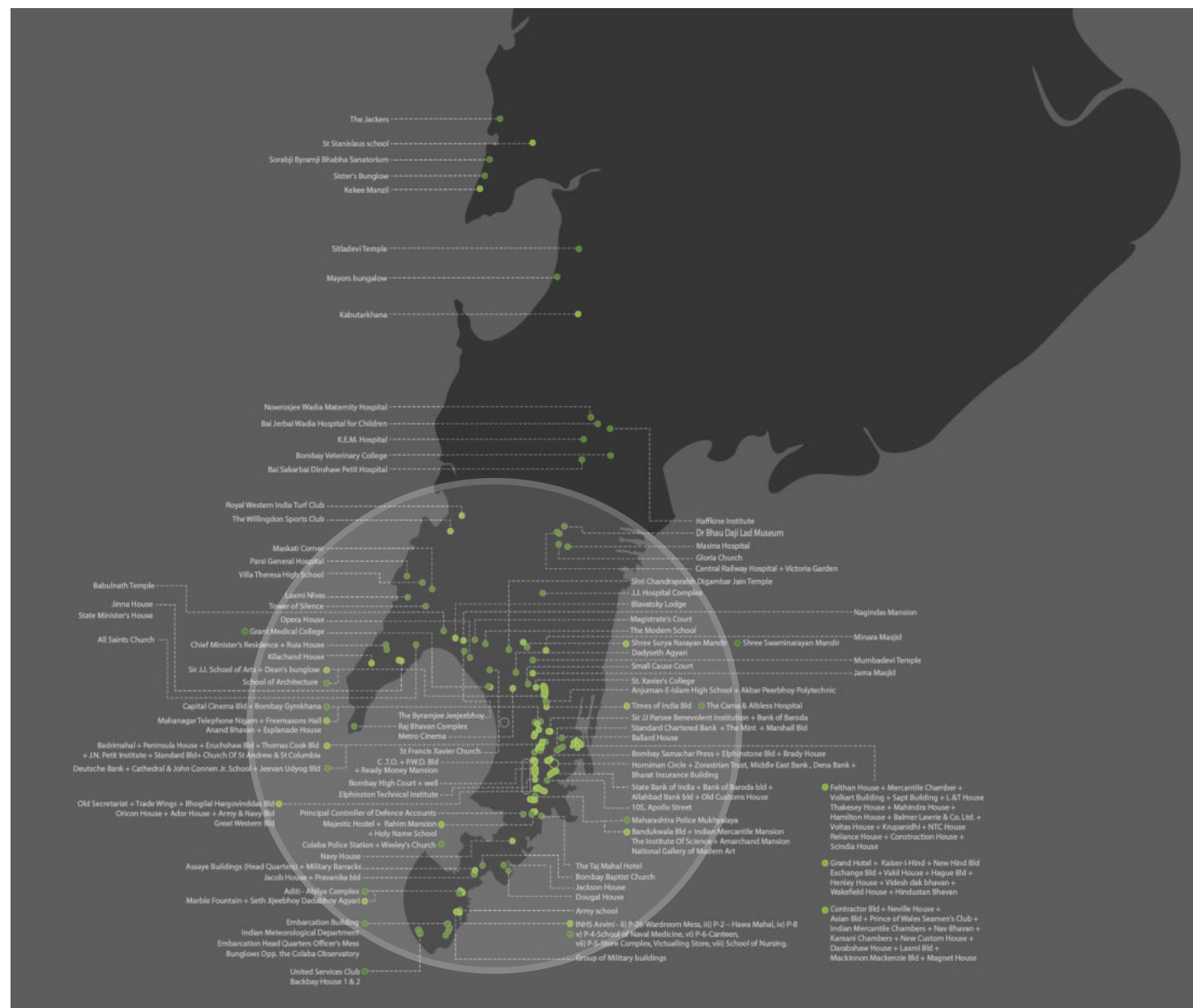


Fig. 11 - Grade II Listings



## 2. Smart Planner

This tool would help in planning customised visits to Heritage sites. User can pick days and dates according to their preferences and have the tour integrated in their daily calendar. The calendar plans the tour smartly considering the location, time and number of day the user is allowed to the tour.

This design idea concentrated more on planning and nudging the people to visit. The aim of the project is to make them aware and bring up the unique, rich architecture of the Mumbai heritage.

## 3. Heritage Album

An app that can notify the user about the surrounding Heritage and show vintage photographs of the location over the years. Along with series of old pictures of the structure, the user also gets brief information of the history and the architectural styles.

This design idea is visually engaging but would require the user to physically be present around these sites to experience a better comparison. If the locals do not have the urge to visit the places, this tool alone with series of pictures would not make it impactful.

# VII. Final design

## 1. Visual exploration

A platform that has information on Heritage structures in a visually appealing manner that teaches the key features of the architectural style it belongs to in a simple and easy way. The history is highlighted and whereabouts with landmarks are displayed to make it easy for the user to reach the site. In addition to that is a timeline view of these heritage structures in the order of their age.

## 2. Approach to Architectural styles

Knowing that the target audience could be from any background, making one make sense of the key architectural features and remember them was essential. Pointing out the key features in the Heritage site would confuse the user since many are influenced by other styles. Thus it showcasing a generic model of the style and pointing out the key features was done.

So the steps taken are:

- **Displaying**: Displaying the a generic model of the architectural style.
- **Highlighting**: Pointing out the key features.
- **Revision**: Showcasing the images of the structure which have most of the key features. This forms a revision for the user when they see the key feature in the photographs.
- **Repetition and relation**: Displaying other heritage sites belonging to similar architectural style.

[Fig. 12]



Displaying the a generic model



Highlighting key feature



Revision



Repetition and relation

Fig. 12

### 3. Presentation of photographs

Different approaches were shown to 10-15 users to get their feedback on it. The decision was made considering the retention, recognition ability and how well the related to the Heritage site.

#### **Line drawing:** [Fig. 13]

This approach required front view of the structure to be photographed or down from the front view. Due to lack of space it is difficult to get a reference photo of all heritage buildings from the front. also, if this project is crowdsourced, not everyone can convert photos into line drawings, causing inconsistency.

Fig. 13 - Navy and Army Bldg



**Black and white images:** [Fig. 14]

This image treatment work only for extremely famous landmarks that people recognise immediately. Some heritage structures have bright/odd colors to which people already relate to. Black and white treatment to such building leads to a delay in recognition.



Fig. 14 - Himadiya Masjid, Bhuleshwar



**‘Then’ and ‘now’ images: [Fig. 15]**

Although a lot of users who were shown black and white images of current heritage sites did not quite appreciate the treatment, each one of them liked to compare the old, vintage pictures to the current state.

Ten users were asked to pick their preference of vintage effect on current pictures and just one of them preferred it. All of them felt that the original vintage effect, drastic difference in the surroundings and the lifestyle that they could see while comparing the ‘then’ (old) pictures and ‘now’ (current) pictures was very appealing. This feature of comparing the two pictures has been incorporated in this project.

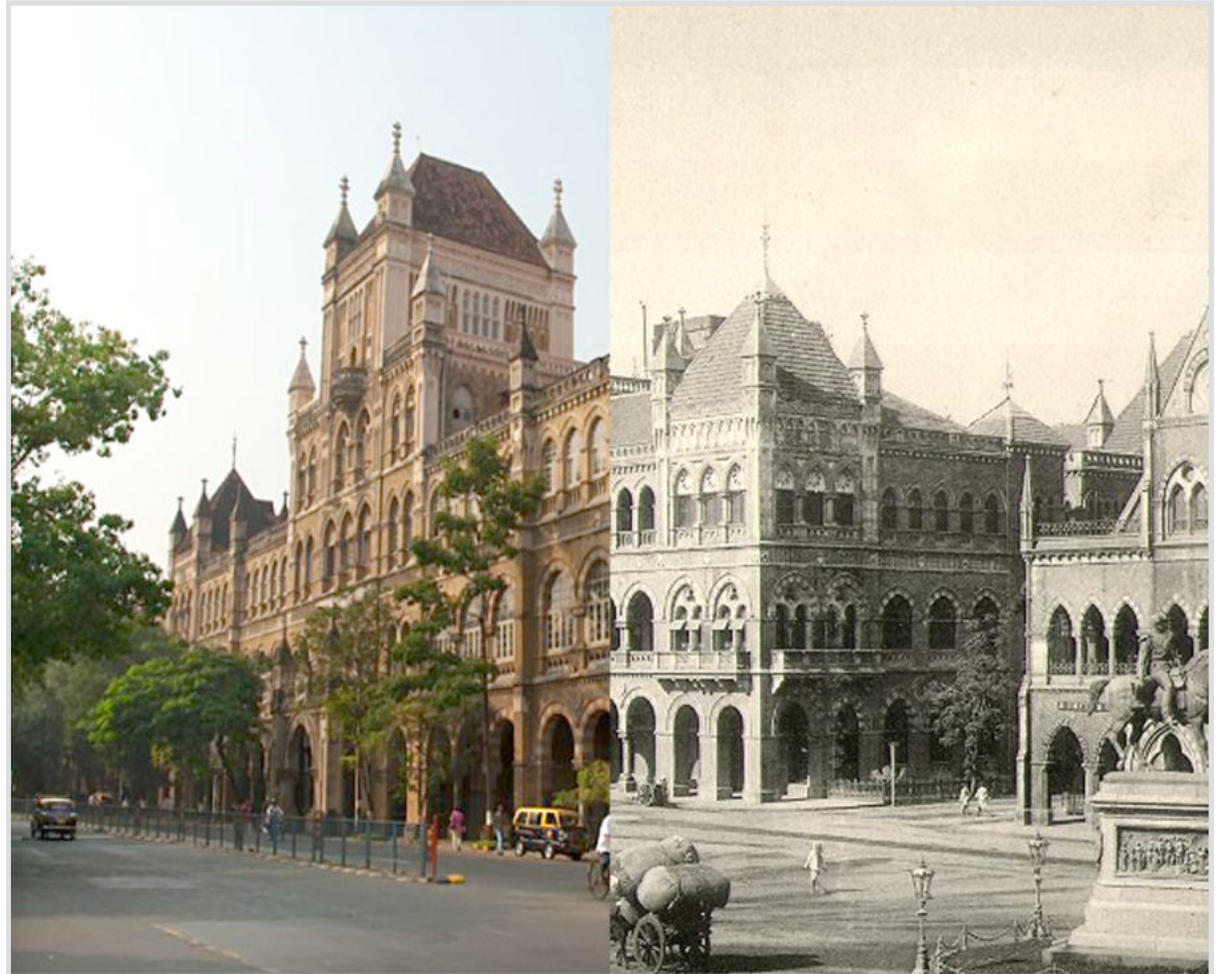


Fig. 15 - Elphinstone college

## 4. Initial sketches of the desktop tool

### Information showcased:

- Definition of Heritage
- Different styles of architecture
- Architectural features
- Similar heritage sites
- Basic history of sites
- How to reach sites
- Nearby heritage
- Maps with sites and landmarks
- Feedback and contribution form
- Timeline view of heritage sites

Low fidelity wireframes were sketched for the desktop tool. [Fig. 16, 17, 18]

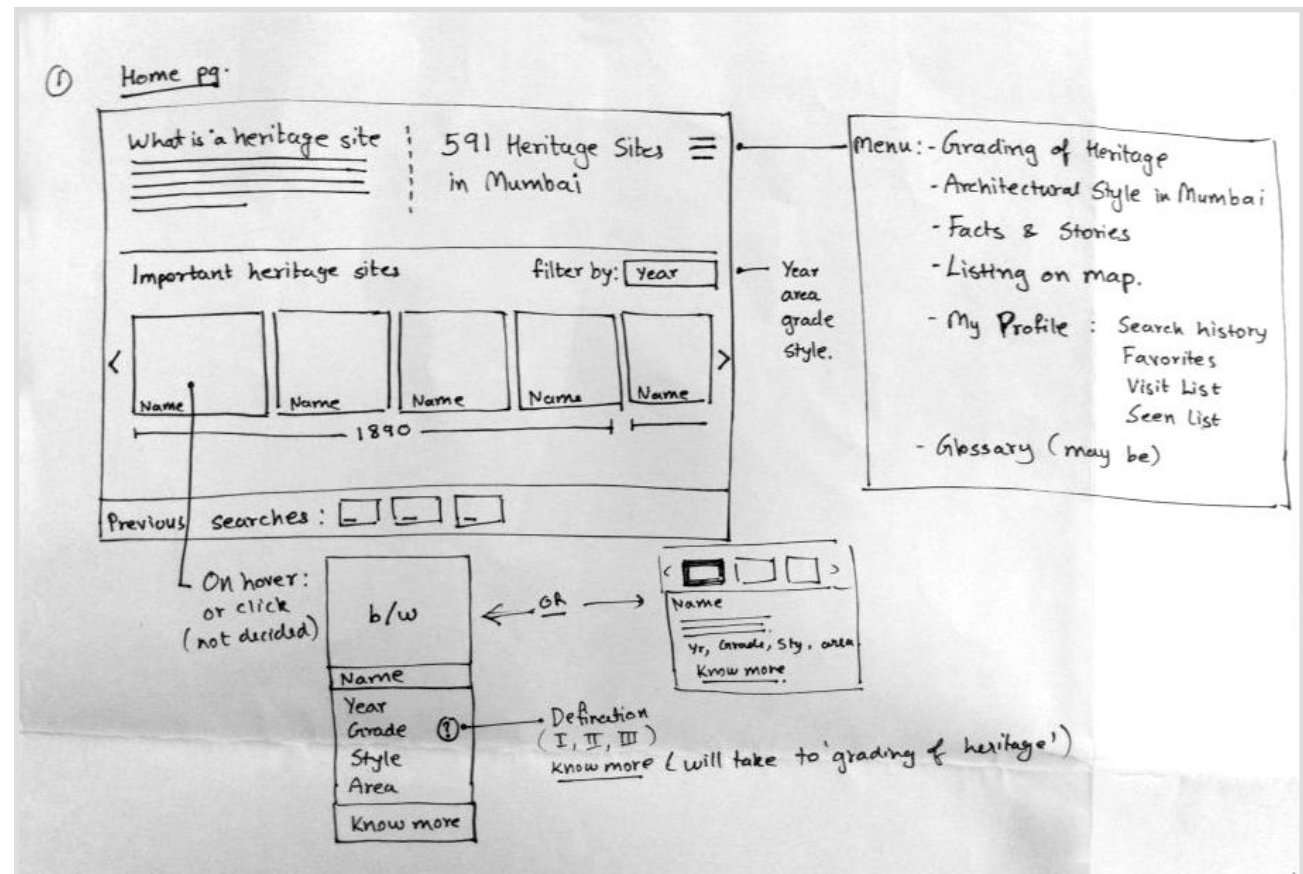


Fig. 16 - Home page sketches

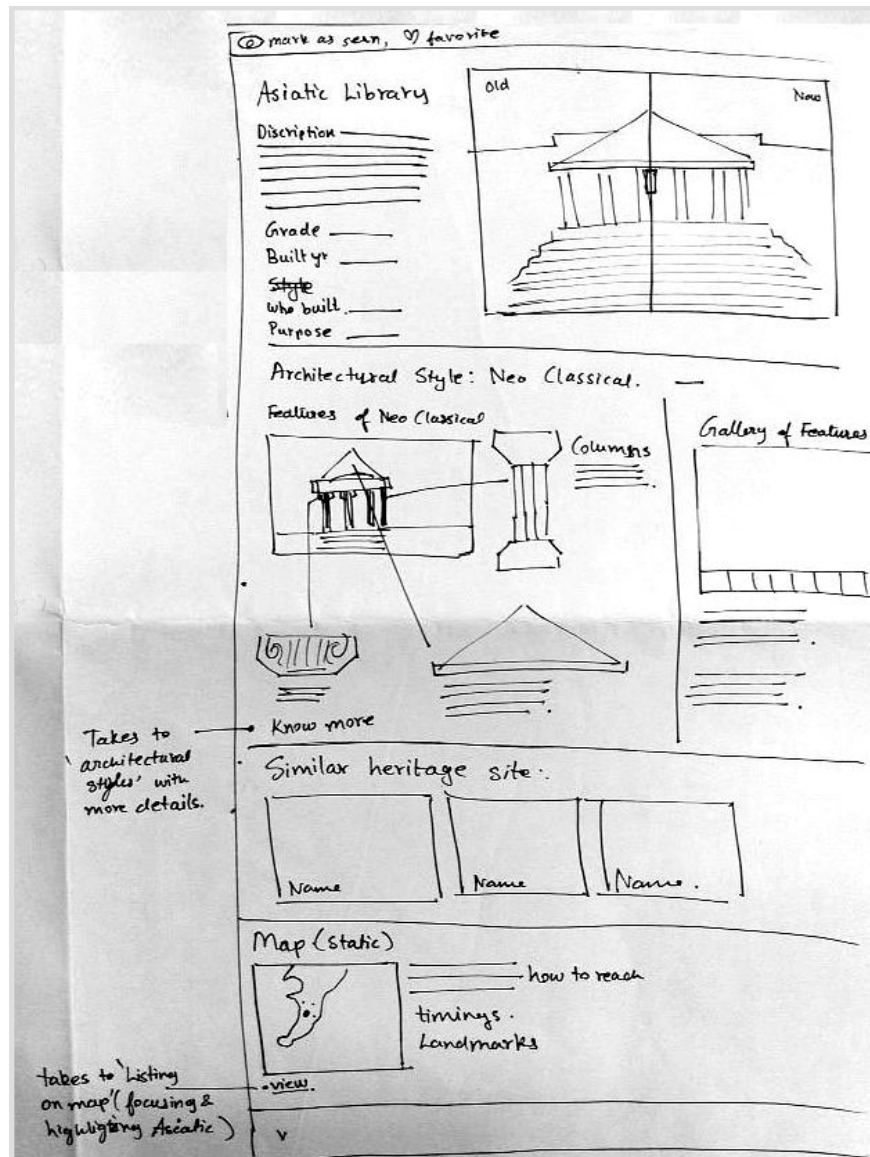


Fig. 17 - Detail page of heritage site

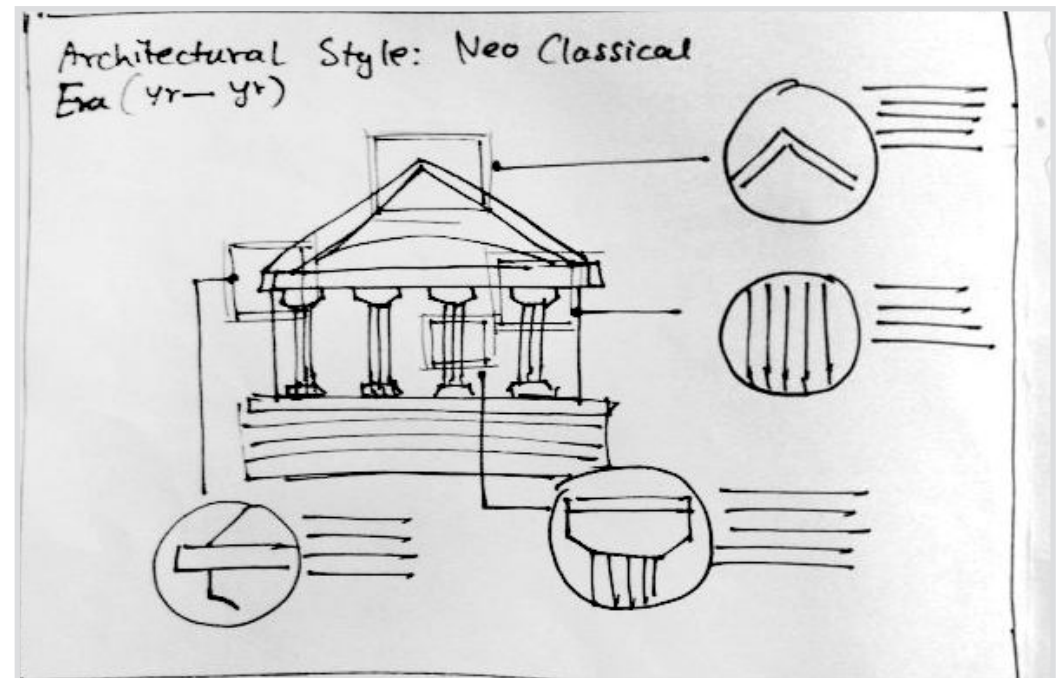


Fig. 18 - Key features of the architecture



## VIII.

# Design deliverables

- A functional desktop prototype using bootstrap along with a high fidelity Mobile app simulation.
- 20 heritage sites have been uploaded on the tool across four architectural styles.
- Admin template for updating and adding new information on sites that is flexible, editable and revisable by expert users.
- Contribution - Images can be contributed by people on the mobile app. Users can also help in content by filling in the contribution form.
- A map with all heritage sites marked with grade-wise serration available on the tool.
- Timeline created using timeline.js with 30 Heritage sites put in an order of their age.

# IX.

## Desktop Interface

Home page [Fig. 19] reflects the motive of this project and encourages contribution. The 20 shortlisted Heritage sites are displayed along with timeline view of 30 sites at the bottom.

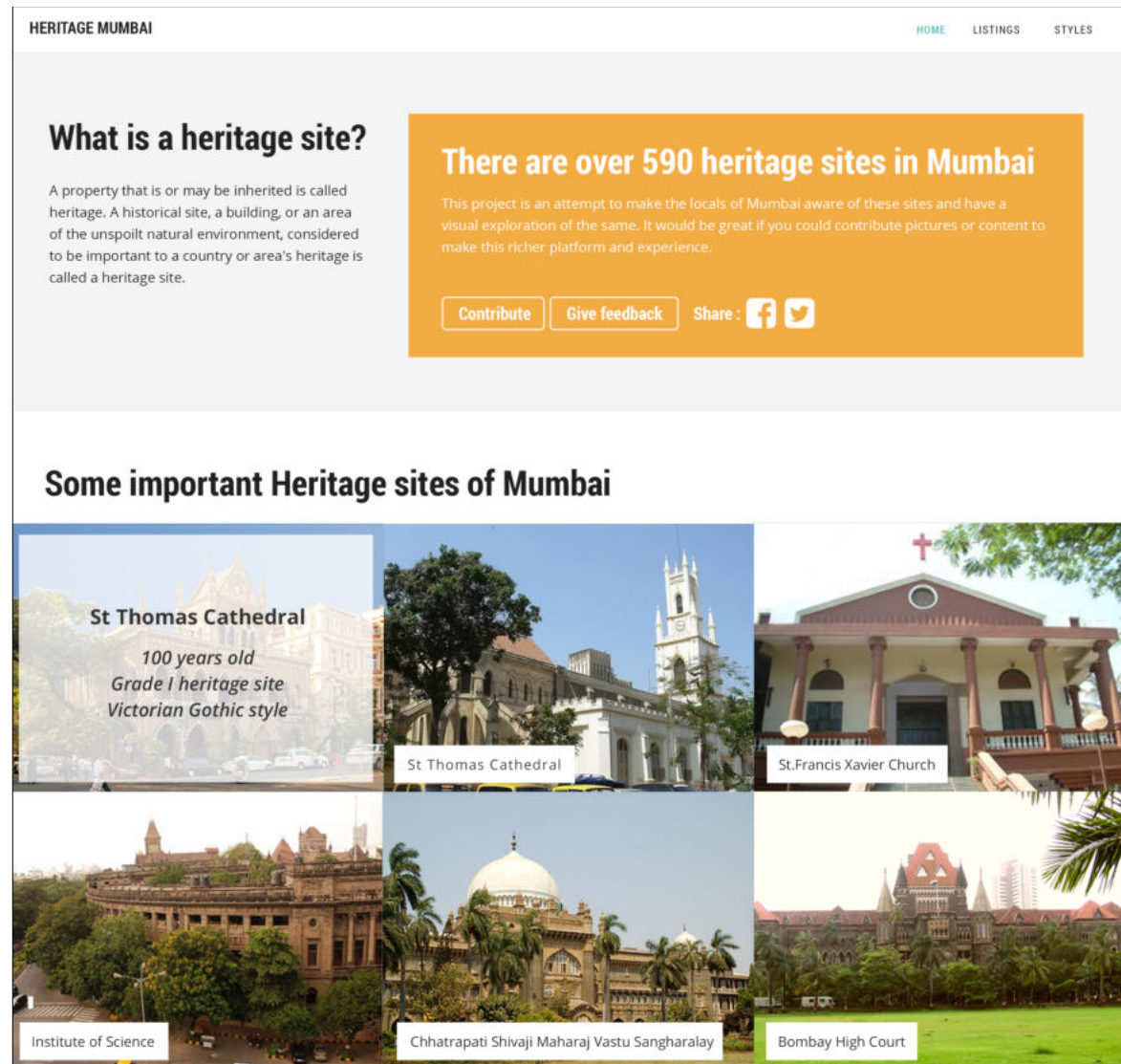


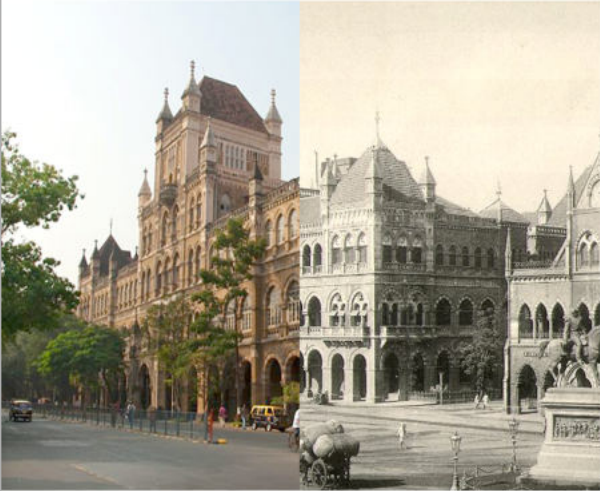
Fig. 19 - Home page

(Entire heritage detail page sheet pasted)

Heritage site detail page displays old and new photograph [Fig. 20] with an introduction to the structure.

There is a slider for comparison of old and the new photographs. The age of the building is an element that users relate to very easily. Thus the mention of it is necessary.

**HERITAGE MUMBAI**



### A bit about it...

Elphinstone College is an institution of higher education affiliated to the University of Mumbai. Established in 1856, it is one of the oldest colleges of the University of Mumbai. It was exalted as a prestigious seat of learning during the British rule and is generally observed for its vibrant alumni.

**Age:** 126 years (1889)

**Style and grade:** Victorian Gothic, *Grade I*

**Present Usage:** Degree College and Department of Archives

### Brief history

Elphinstone College is an institution of higher education affiliated to the University of Mumbai. Established in 1856, it is one of the oldest colleges of the University of Mumbai. It was exalted as a prestigious seat of learning during the British rule and is generally observed for its vibrant alumni.

It is reputed for producing several luminaries like Bal Gangadhar Tilak, Bhim Rao Ambedkar, Virchand Gandhi, Badruddin Tyabji, Pherozshah Mehta, Kashinath Trimbak Telang, Jamshedji Tata and also for a list of illustrious professors that includes Dadabhai Naoroji as well. It is further observed for having played a key role in spread of Western education in the Bombay Presidency.

[Read more](#)

Fig. 20 - Old and new photograph slider

Followed by the architectural style it belongs to. [Fig. 21]  
On clicking on the highlighted areas, the key features are explained further.

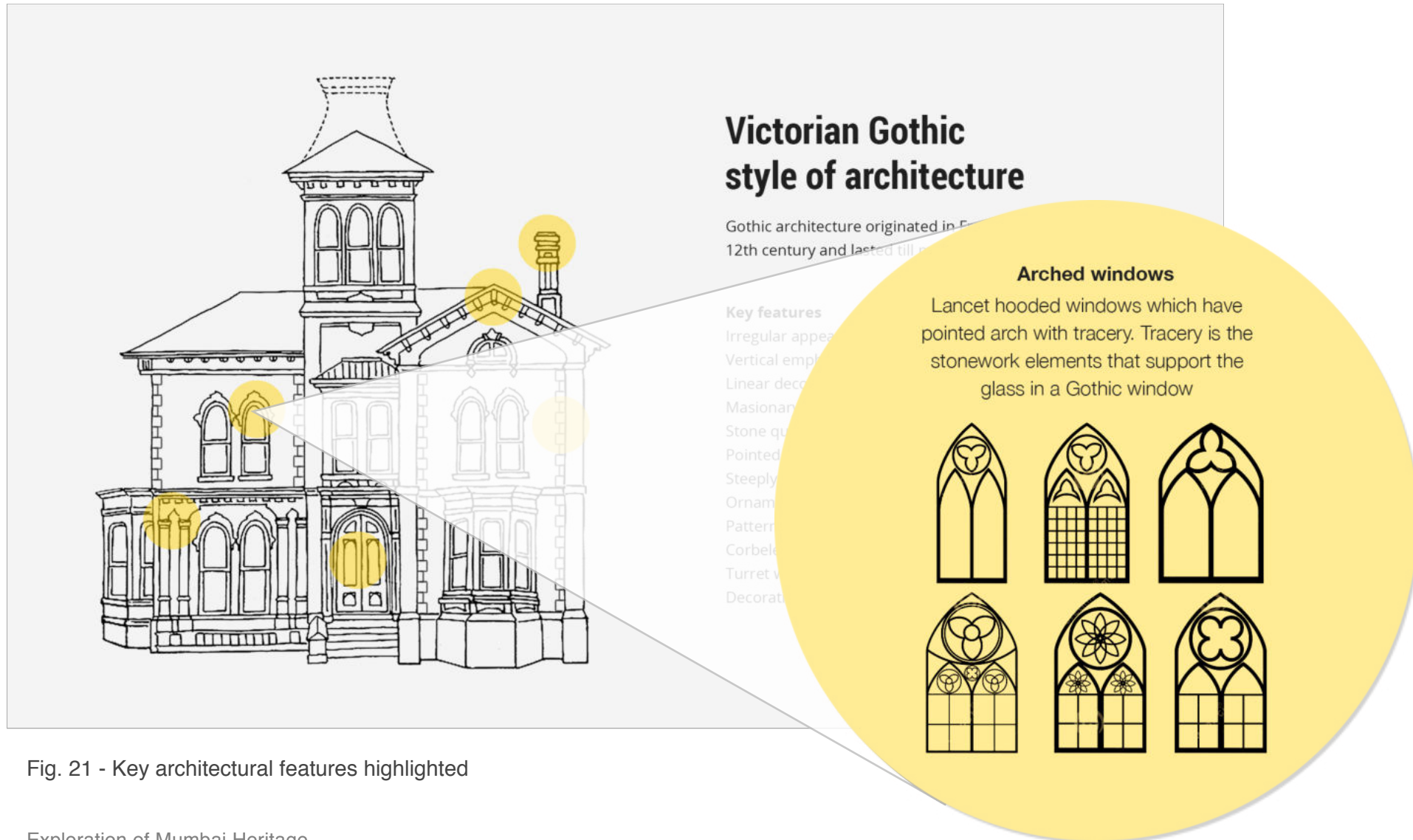



Fig. 21 - Key architectural features highlighted



Gallery [Fig. 22] with unique features of the Heritage site highlighted. This acts like a revision for them right after displaying a generic model.

The similar heritage sites below it makes them apply the features they learnt on them. Due to subtle repetition, their retention ability increases.




### Some key features

The building is designed in the Gothic Revival style, an aesthetical composition of golden basalt (used as the main backing masonry), and lighter coloured Porbunder limestone (used for detailed works).


The well articulated façade has a colonnaded ground floor arcade supporting two floors of arched fenestration and finely detailed cornice bands, punctuated with lofty pyramidal tiled roofs that create a dramatic skyline with turrets.

Finely articulated balconies, brackets and balustrades along with intricately designed surface motifs add to the decorative features of the building.


Carved gargoyle on one of the side buildings




### Sites with similar architecture




David Sassoon Library



St.Thomas Cathedral



St.Francis Xavier Church



Od Secretariat

Fig. 22 - Gallery of Photos

How to reach section [Fig. 23] lets the user see the nearby landmarks and important details of getting to it.

Fig. 23 - How to reach

## How to reach

**Churchgate Station**  
🚗 5 mins by Taxi  
🚶 16 mins walk

**CST Station**  
🚗 10 mins by Taxi  
🚶 32 mins walk

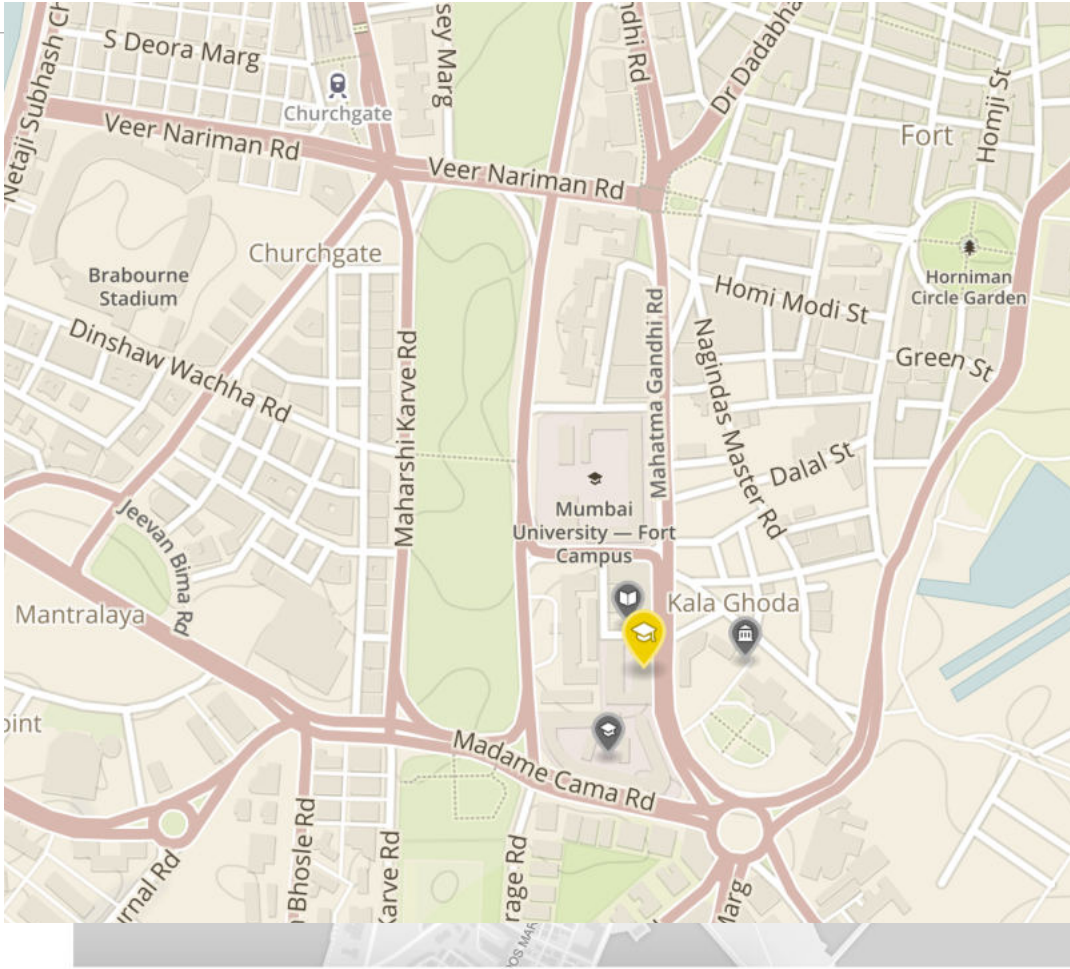
**Nearby Landmarks**  
David Sasoon Library  
Oval Maidan  
High court  
The institute of science

**Address**  
T156, MG Road, Fort, Mumbai,  
Maharashtra 400032  
Tel: 022 2284 4060

**Timings**  
9 am - 6 pm (Monday - Friday)

[Visit](#)

[View nearby Heritage on map](#)





Listing page [Fig. 24] with all Heritage sites segregated grade-wise. It gives the user the ability to see all three grades together or individually.

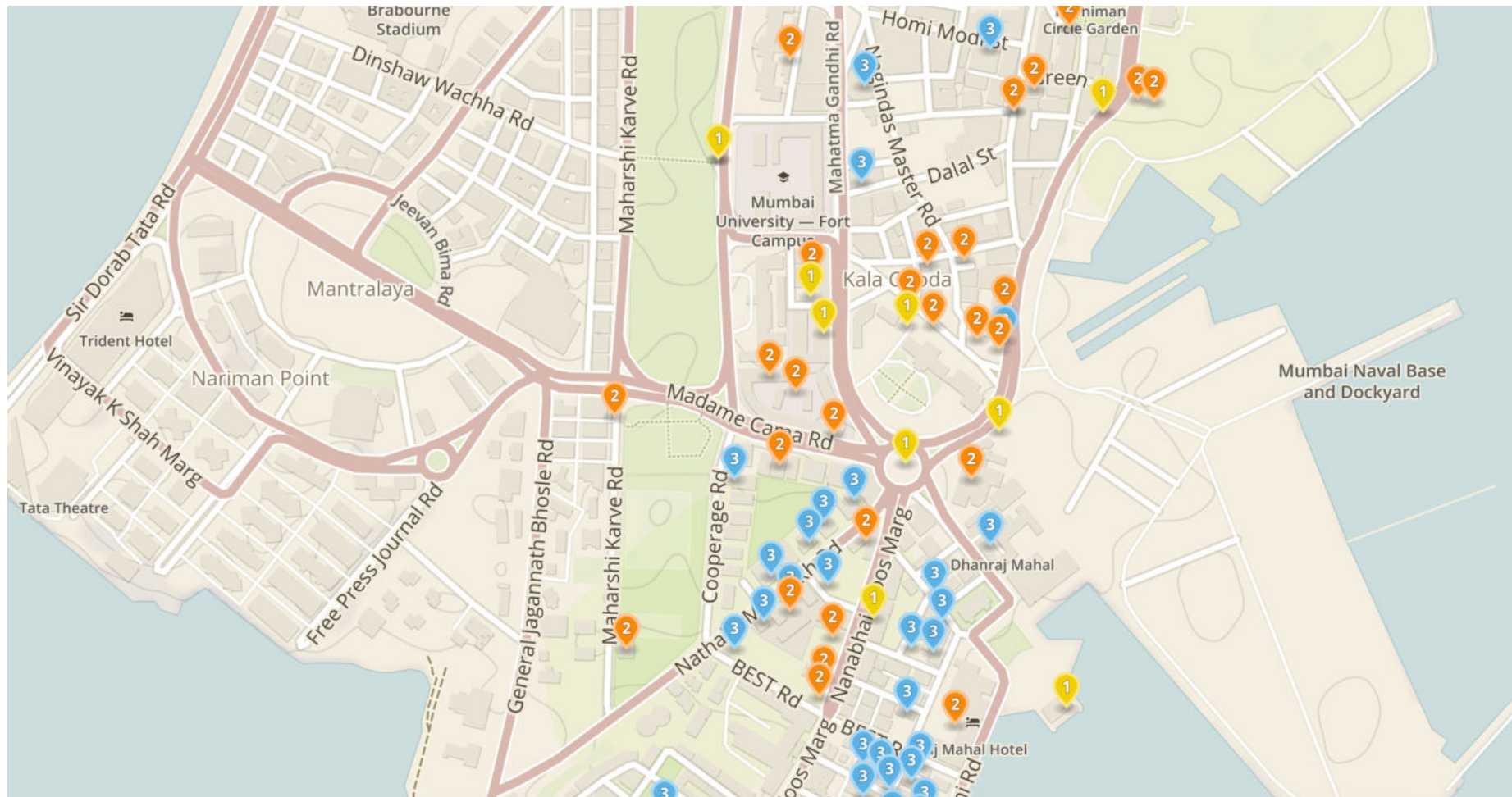


Fig. 24 - All heritage listings in Mumbai



# X.

## Phone App Interface

The phone app has two added features of notifying the user when they are around a Heritage site as well as letting them contribute pictures of the site taken on the phone while travelling. These pictures are then curated by the admin and used.

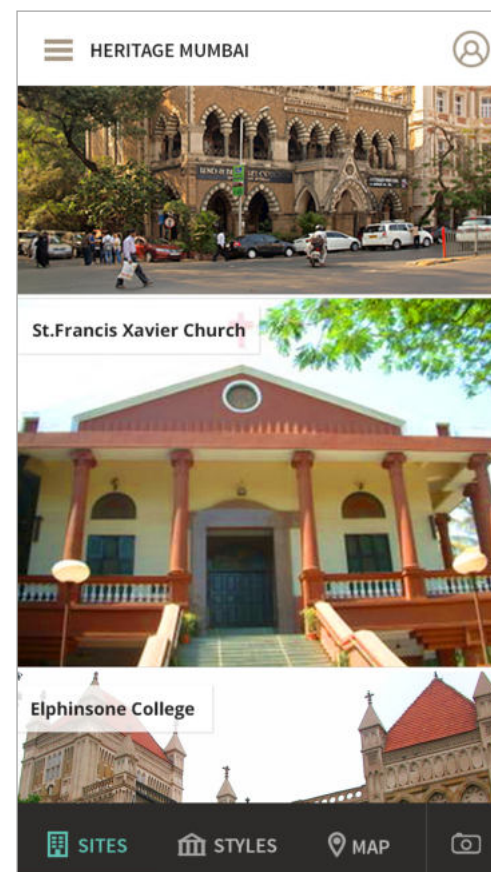
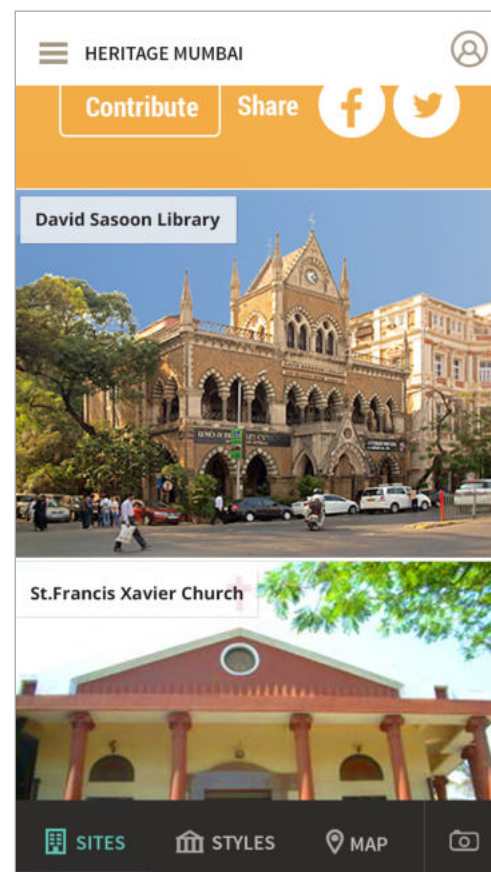
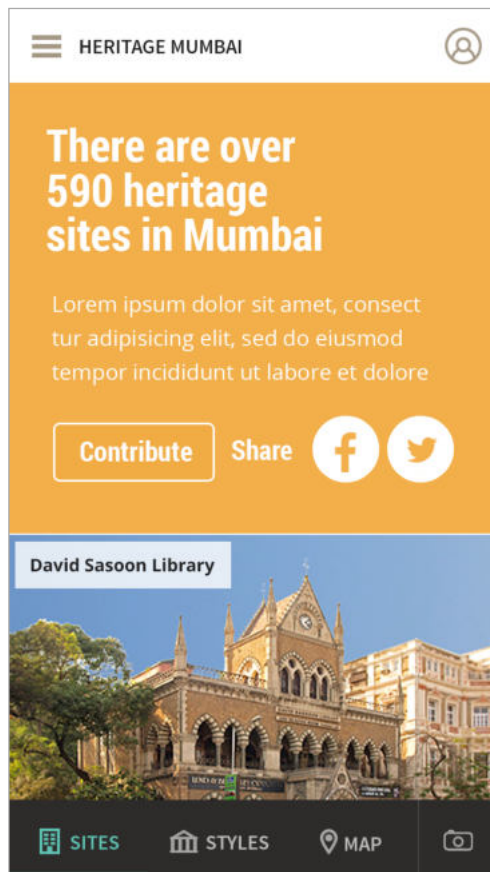


Fig. 25 - Home screenshots

Styles category [Fig. 26] displays all the architectural styles covered in Mumbai along with highlighting key features.

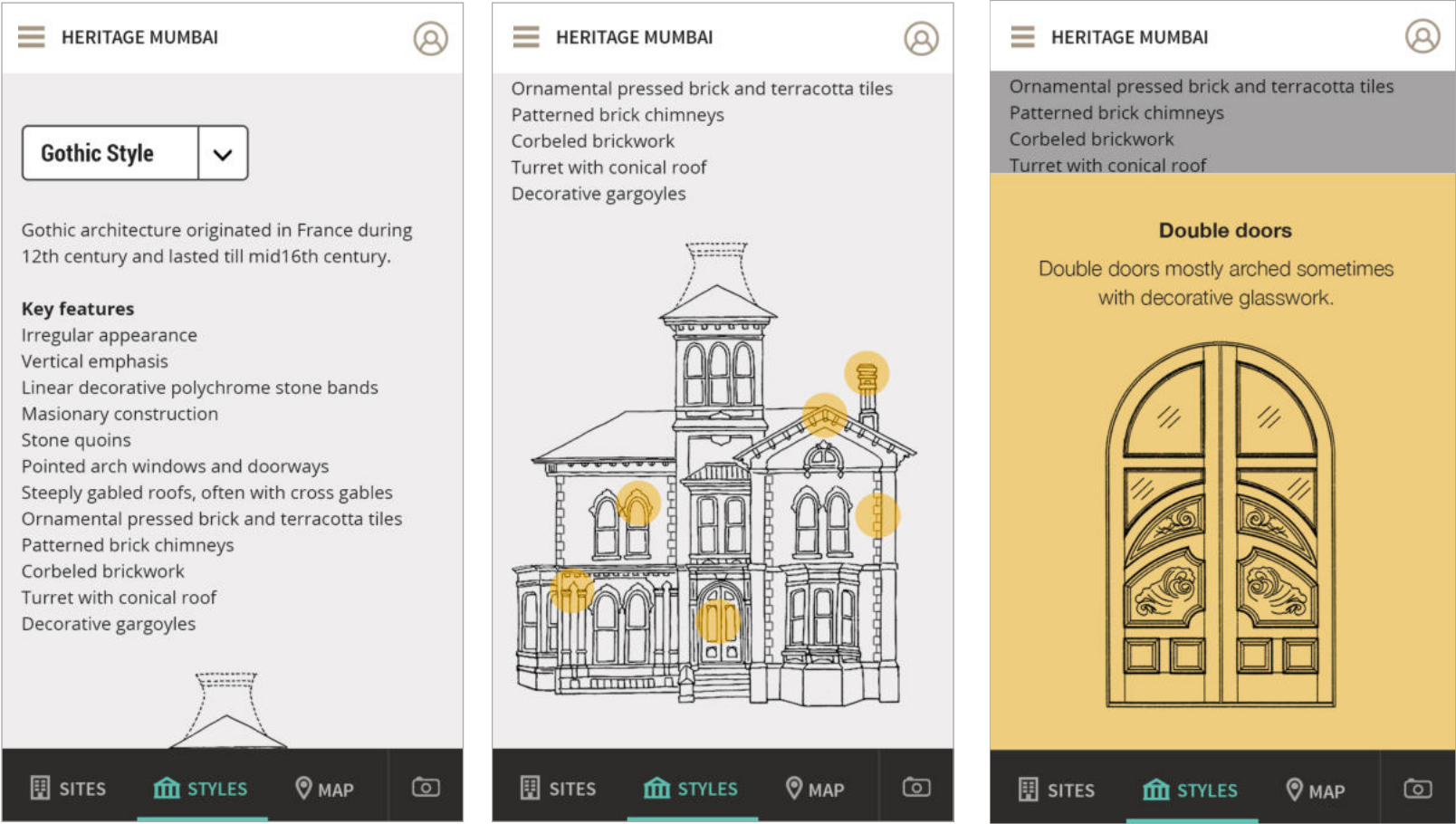


Fig. 26 - Architectural style

User can contribute pictures while on move by submitting the pictures taken on this app. [Fig. 27] They have the option to add other information like Grade and style if they are aware of it.

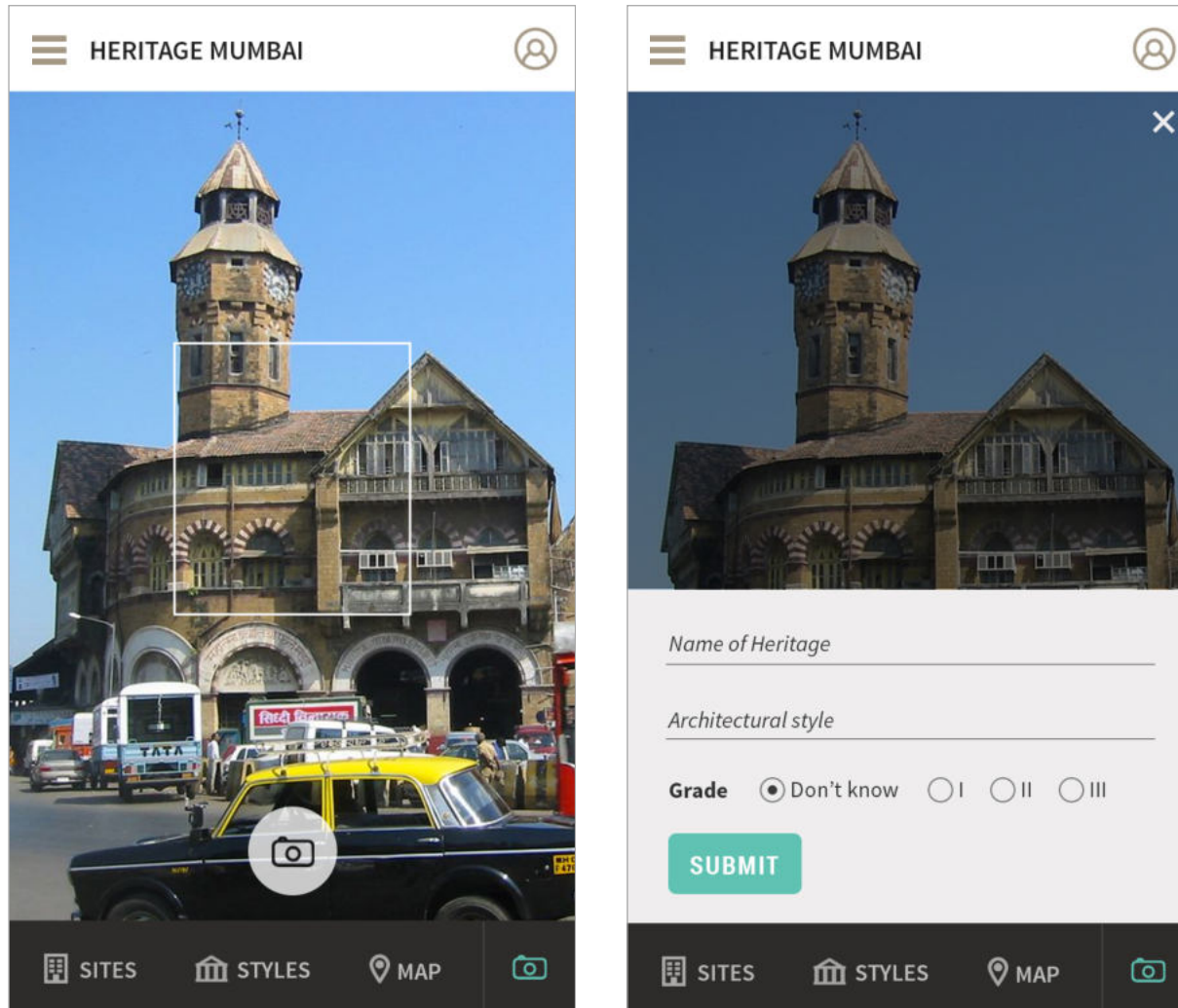


Fig. 27 - Contributing a picture



Site detail page [Fig. 28, 29] has the same content as the desktop tool with an added feature of contributing pictures to the gallery.

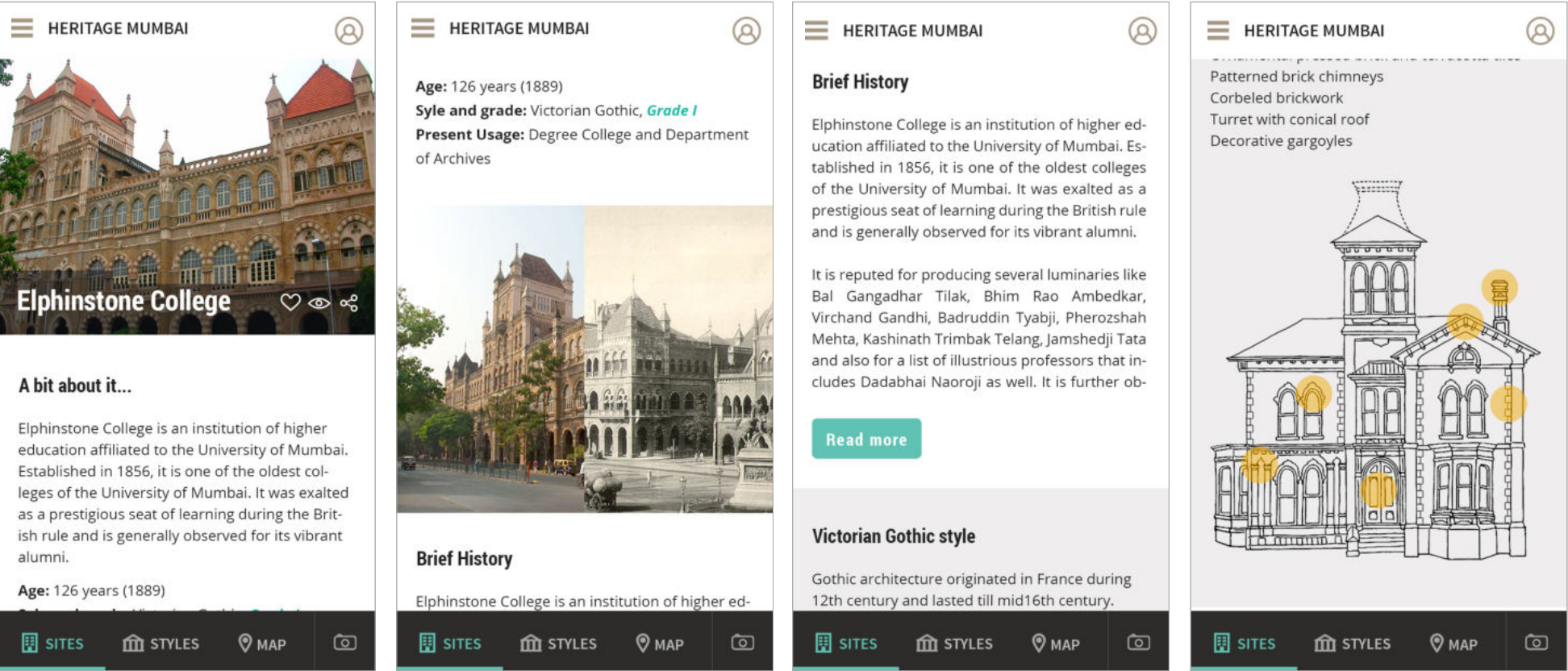


Fig. 28 Screenshots of the heritage detail page.

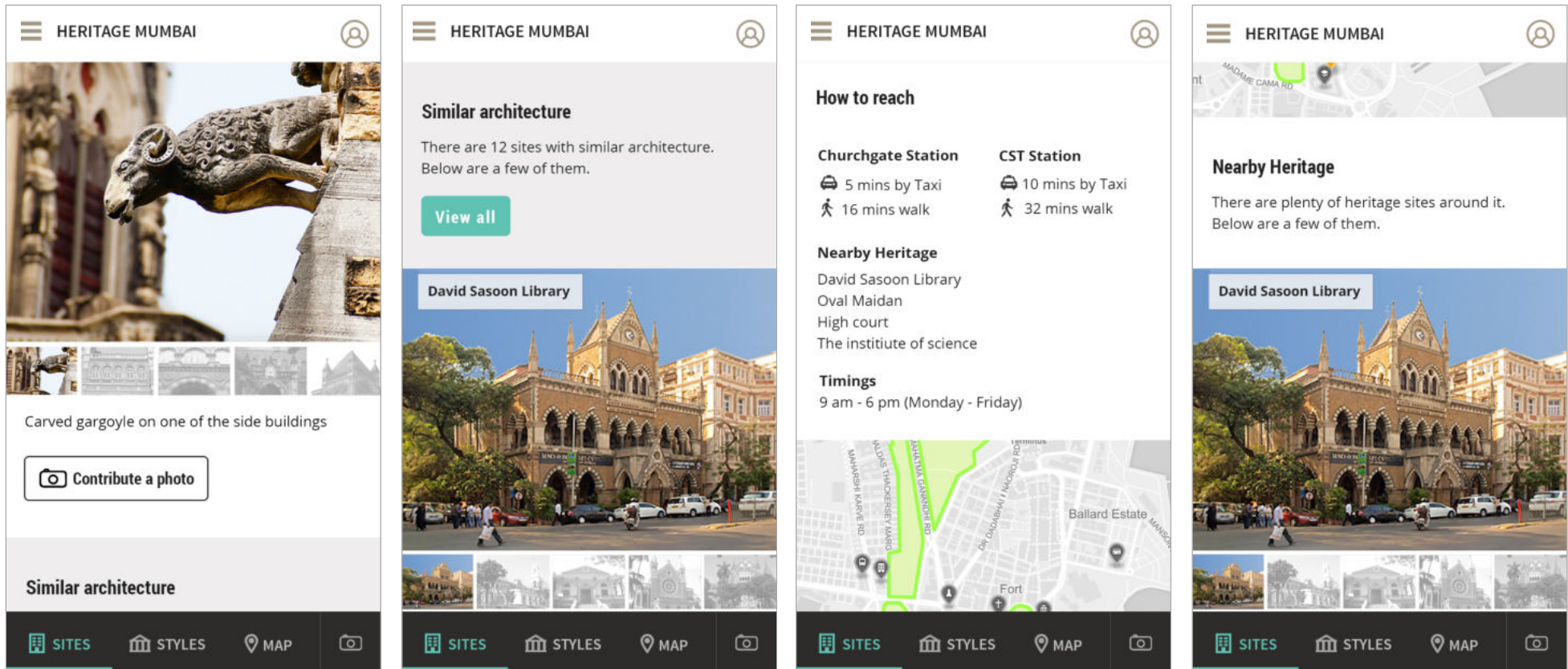


Fig. 29 Screenshots of the heritage detail page.



# XI. Evaluation Plan

## 1. Deployment

A few tasks will be carried out after deployment of the project online. This project will be promoted online through social media and people of various age and backgrounds will be asked to go through the tool and give their feedback.

## 2. Pre test and post test (10 users)

Ten users will be asked general information regarding five famous Heritage sites of Mumbai and their architecture before they use the online tool. Their answers will be recorded. They will then be asked to go through the online site for 15mins and will be allowed to correct their answers if they find the need to.

The purpose of this test is to know if they could find what they were looking for and also to see at what ease could they do so.

## 3. Categorisation of styles (10 different users)

Ten different users will be given a set of 30 cards of Heritage sites across various architectural styles. They will be asked to categorise them according to styles before and after showing giving them access to the tool.

The purpose of this is to see how impactful is the method of teaching the key features of the styles in the tool.

## 4. Think aloud test (20 users)

A think aloud test will be conducted with ten users that belong to the target audience and ten experts (history teachers, practicing architects, photographers) while they browse through the online tool.

Their sessions will be recorded and feedback will be noted to study how impactful, easy, intuitive and informative the tool is.

## 5. Admin role

Three to five experts (the ones who would be eligible to contribute to this platform) will be given access to the admin dashboard and will be asked to feed in data after taking them through it once.

This project will be curated, modified, and updated by a set of administrators. The purpose of this test is to see how error free and less time consuming can this task be for them.

# XII. Evaluation

Three things have been evaluated using different evaluation methods:

- How visually appealing the platform is? - **Likart Scale**
- Are users able to recognise architectural features? - **Card sorting**
- How well do they retain the information showcased - **Pre and post questions**

## 1. Visual Appeal of the interface

- The interface was easy to understand.
- Comparison of old and new heritage is considered valuable.
- Coloured picture for the 'current' site and the original picture for the 'old' site makes it easier to compare.
- A horizontal year based timeline gives a clear idea about when were these sites built.
- A full screen image for each site with the title followed by the introduction is better than introduction first.
- Line drawing for architectural style is better than coloured image.
- Highlighted bubbles in the architectural styles were easy to understand.

## 2. Recognising the architectural styles

30 Cards belonging to three styles were given to the users to categorise before and after looking at the tool. (8 Neo Classical, 13 Gothic, 9 Indo-Saracenic)

### Pre Test (before showing the platform):

- Users got confused between Indo-saracenic and gothic motifs.
- One of them grouped broad buildings with series of windows together, while another grouped all pointed structures together.
- Triangular tops were confused to be in the same category.

### Post Test (after showing the platform):

- All most all got Neo-Classical style correct.
- All motifs with animals, clocks were grouped in gothic but Indo-saracenic jalli was still being confused.
- Indo-Saracenic style was easy to club due to the peculiar dome with finials.

## 3. Information Retention

Set of question were asked to find out if users were aware of the number of heritage structures in Mumbai, World heritage sites in Mumbai and their whereabouts. All the questions were easily answered after the test.

# XIII. Appendix

## MUNICIPAL CORPORATION OF GREATER MUMBAI

CHIEF ENGINEER ( DEVELOPMENT PLAN )

No. CHE / 1271 / DP / Gen Date : 31/07/2012

### NOTICE

**Subject:** Proposed modification to the existing Heritage List and additional listing of structures / sites / Precincts from City, Western Suburbs & Eastern Suburbs; to be included as supplement to the existing Heritage List.

The Municipal Commissioner, MCGM, has decided to publish the following after The Mumbai Heritage Conservation Committee had forwarded a proposal to Hon'ble Municipal Commissioner suggesting certain modifications/additions to existing Heritage list.

- Modification to the existing Heritage List (Task I & II), and
- Additional structures / sites / precincts from City, Western Suburbs & Eastern Suburbs (Task III & IV, V and VI respectively) to be included as a supplement to the existing heritage List.

The structures / sites, for which process under DCR-67(3) has already been completed, such as Mill Lands, Gilbert Hill and Parsi Agiaries have been deleted from the List(s) forwarded by the MHCC.

The details of the abovesaid are being published herewith on the M.C.G.M. Web Site at following link ([www.mcgm.gov.in](http://www.mcgm.gov.in)). The details of the structures / sites proposed to be reviewed / listed (as per available photographs, documentation, listing criteria etc.) can also be inspected by public at office of the Chief Engineer (Development Plan) in the Dy.Municipal Architect (Development Plan) Section, at 6<sup>th</sup> Floor, M.C.G.M. Head Office Annex Bldg., CST, Mumbai-400001, in between 2.00 PM to 5.00 PM on any working day.

Suggestions / objections from the public are herewith invited on the said proposal of modification / review to the existing Heritage List & new listing. The recommendations / remarks of the M.C.G.M. / M.C., after due process is completed in accordance with the provisions of DCR-67(3) after inviting & considering the suggestions / objections, would then be forwarded to the Govt. for approval who would take the final decision in the matter for issuing appropriate Notification.

The suggestions / objections will have to be submitted in writing within one month from the date of publication of this notice to the office of the Chief Engineer (Development Plan), 4<sup>th</sup> Floor, M.C.G.M. Head Office - Annex Building, Mahapalika Marg, CST, Mumbai-400 001.

The suggestions / objections received thereafter will not be considered.

Sd/-  
(Sudhir Y Ghate)  
**Chief Engineer**  
**Development Plan**

## Review of existing sanctioned Heritage List (DCR-67). (Task-I & II)

Sr. No.	Nature of buildings, monuments, precincts, etc.	Location	Ward	Existing Grade	Proposed Grade	Remarks
1.	I.N.S. Angre (Bombay Castle & Other Historical/Aesthetically important buildings and features at ANGRE)	Off. Shahid Bhagatsingh Marg (East of the Town Hall and Asiatic Library Building)	A			
	i) Walls & Bastions.		A	I	I	
	ii) Head Quarters Building		A	I	I	
	iii) Main gate		A	I	I	
	v) Portuguese Sundial		A	I	I	
2.	Naval Dockyard (from Lion Gate to Old Custom House with Clock Tower Opp.Greta Western Building)	East side of Shahid Bhagatsingh Road.	A			
	i) Centre No. 04		A	I	I	
	ii) Building P-1		A	I	I	
	Iii) Clock Tower & Structure supporting it.		A	I	I	
	iv) Lion Gate		A	I	I	
02 (5) & 240	v) Remnants of old Fort wall.		A	I	I	
	vi) Main Administrative Building & Workshop		A	I	I	
	Vii) Three Agencies NAD, CQE, CTS		A	I	II-A	
	Viii) Building on the left of Gun Gate.		A	I	Deleted	
	ix) Building with chimney (No. 49)		A	I	Deleted	
	x) Centre No. - 64/Station No. 1-Main Power House		A	I	II-A	
	xi) Dockyard Apprentice School		A	I	I	
	Xii) Building No. 88, Housing Controller of Defence Accounts.		A	I	II-A	
	Xiii) Building No. 69, Logistic Office		A	I	II-A	
	Xiv) Building on Shahid Bhagat Singh Road (102)		A	I	Deleted.	
	xv) Building on Shahid Bhagatsingh Road		A	I	Deleted	

Sr. No.	Nature of buildings, monuments, precincts, etc.	Location	Ward	Existing Grade	Proposed Grade	Remarks
	(103)					
	Xvi) Centre No. 97, Weapon Equipments Depot and Naval Armament		A	I	II-A	
	Xvii) Centre No. 17, Rigging Shop, Fender Works MOD and HP Deptt.		A	I	II-A	
	Xviii-A) Resource Planning Division, Cash Office.		A	I	II-A	
	Xviii-B) Industrial Relation & Welfare Deptt.		A	I	II-A	
	Xix) Building No. 48		A	I	Deleted.	
	xx) Toilet Block		A	I	II-A	
3.	Principal Controller Defence Accounts (Navy) (Office of Controller of Defence Accounts).	Cooperage Road.	A	II-B	II-A	
4.	Navy House	Shahid Bhagatsingh Road.	A	II-A	II-A	
5.	Assaye Buildings (Head Quarters – Maharashtra & Gujarat area.	Dr. Nanabhai Moose Road.	A	II-A	II-A	
6.	Pavanika (Bungalow South of Assaye Building)	Nanabhai Moose Road.	A	II-B	II-B	
7.	Jacob House (Opp. Assaye Buildings)	Nanabhai Moose Road.	A	II-B	II-B	
8.	Officer's Mess & Bungalow on Duxbury lane.	Nanabhai Moose lane and Duxbury lane.	A	II-B	II-B	
9.	Chaudhary House.	Nanabhai Moose Road.	A	II-B	II-B	
10.	Church of St. John The Evangelist (St. John's Church).	Jn. of Nanabhai Moose Road and Duxbury Road.	A	I	I	
11.	Marble Fountain	Intersection of Dr. Nanabhai Moose Road and Pilot Bunder Road.	A	II-A	Deleted.	
12.	Chief Engineer Bombay Zone.	Pilot Bunder Road	A	II-B	II-B	
13.	Seth Jijeebhoy Dadabhoy Agyari.	Pilot Bunder Road.	A	II-A	II-A	
14.	Training Ship "Jawahar"	Southern end of Pilot Bunder Road.	A	II-B	II-B	
15.	Station Workshop EME	Dr. Nanabhai Moose Road.	A	II-A	II-A	
16.	Complex of Military	Nanabhai Moose	A	II-B	II-B	

3

Sr. No.	Nature of buildings, monuments, precincts, etc.	Location	Ward	Existing Grade	Proposed Grade	Remarks
	buildings embarcation building, Opp. "Ahilya & Aditi" High Rise Buildings.	Road.				
17.	17 & 21 (13) School of Medical Assistants (Part of INHS Ashwini)	East side of Dr. Nanabhai Moose Road.	A	III	II-A	
18.	Bombay Baptist Church.	Dr. Nanabhai Moose Road.	A	II-B	II-A	
19.	JCO Intantry JCO's Mess.	Dr. Nanabhai Moose Road.	A	II-B	II-B	
20.	Army School.	Dr. Nanabhai Moose Road.	A	II-B	II-A	
21.	INHS Ashwini	East side of Dr. Nanabhai Moose Road.	A			
	i) P-1-Main Admn. Bldg. And Baninan Tree.		A	I	II-A	
	ii) P-26-Wardroom Mess.		A	II-A	II-A	
	iii) P-2 – Hawa Mahal.		A	II-A	II-A	
	iv) P-8		A	II-A	II-A	
	v) P-4-School of Naval Medicine. Hyperberic Oxygen Therapy Centre.		A	II-B	II-A	
	vi) P-6-Canteen		A	II-B	II-A	
	vii) P-5-Store Complex, Victualling Store.		A	II-B	II-A	
	viii) School of Nursing.		A	II-B	Deleted.	
	ix) Female Isolation Ward.		A	III	Deleted.	
	x) Jeffreys Wing.		A	III	Deleted.	
	xi) Library (RA Lecture Hall)		A	III	Deleted	
	xii) P-3-Commanding Officer's Office		A	III	II-A	
	xiii & xvii P-13 – School of Medical Assistants.		A	III	II-A	
	xiv) Regulating office.		A	III	Deleted.	
	xv) P-27 Ashwin House		A			
22.	Group of Military buildings Opp. INHS Ashwini.	Major Somnath Sharma Marg (Opp. INHS Ashwini)	A	II-B	II-B	
23.	St. Joseph's Church (known as R.C. Church).	Robert Road.	A	I	II-A	
24.	Defence Cinema	Dr. Nanabhai Moose Road.	A	Deleted	Deleted.	
25.	Embarcation Head Quarters Officer's Mess.	Dr. Nanabhai Moose Road.	A	II-B	II-B	

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Sr. No.	Nature of buildings, monuments, precincts, etc.	Location	Ward	Existing Grade	Proposed Grade	Remarks
26.	Colaba Observatory Complex.	Dr. Nanabhai Moose Road.	A	I	I	
27.	Bungalow's Opp. The Colaba Observatory.		A			
	1) 32 Napier Road.	Nanabhai Moose Road.	A	II-B	II-B	
	2) 17-Napier Road.	Dr. Nanabhai Moose Road.	A	II-B	II-B	
	3) 33-Napier Road.	Dr. Nanabhai Moose Road.	A	II-B	Deleted.	
28.	Marble Fountain	Dr. Nanabhai Moose Road ( Inner bungalow Opp. Colaba Observatory)	A	I	I	
29.	INS Trata Complex.	Southern end of Dr. Nanabhai Moose Road.	A	II-A	II-A	
30.	Embarcation Building (Red Brick bldg. West of Afghan Church).	Bakery lane (Behind Afghan Church towards Jn. Of Homi Bhabha lane)	A	II-B	II-B	
31.	Complex of Military Buildings.	Dr. Nanabhai Moose Road.	A	II-B	II-B	
32.	Engineer Officer's Mess.	Dockyard Road.	A	II-B	II-B	
33 & 34	Military Barracks Head Quarters Maharashtra, Gujarat & Goa area Signal area.	Major Somnath Sharma Marg.	A	II-B	II-B	
35.	Officer's Mess (Maharashtra & Gujarat area)	Major Somnath Sharma Marg.	A	II-B	II-B	
36.	Colaba House	Major Somnath Sharma Marg.	A	II-A	II-A	
37.	Fleet House.	Major Somnath Sharma Marg.	A	II-A	II-A	
38.	Air Force House	Major Somnath Sharma Marg.	A	II-A	II-A	
39.	Gun House	Major Somnath Sharma Marg.	A	II-A	II-A	
40.	MES Inspection bungalow.	Major Somnath Sharma Marg.	A	II-B	II-B	
41.	a) No. 16 Robert Road bungalow.	Robert Road.	A	II-B	II-B	
	b) Army Wives Welfare Association (Bungalow Opp. No. 16)	Robert Road	A	II-B	II-B	
42.	Staff Residential bungalows.		A	II-B	II-B	
43.	Malhotra House	Robert Road.	A	II-B	II-B	
44.	Bungalow	Corner of Robert Road and Lt. Ahetrupal Road.	A	II-B	II-B	
45.	Magdala House	Robert Road.	A	II-B	II-B	

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Sr. No.	Nature of buildings, monuments, precincts, etc.	Location	Ward	Existing Grade	Proposed Grade	Remarks
46.	Kumar Mangalam House.	Robert Road.	A	II-B	II-B	
47.	Staff Sadan	Hoshiyar Singh Marg.	A	II-B	II-A	
48.	Tech House (22, Napier Road).	Hoshiyar Singh Marg.	A	II-B	II-A	
49.	Knight House and James House.	Hoshiyar Singh Marg.	A	II-B	II-B	
50.	INS Trata Complex (NAMAC & INS Kunjali Canteens & other Training Institutes along old Tomstone)	Southern end of Dr. Nanabhai Moose Road.	A	II-A	II-A	
51.	United Services Club	Southern end of Robert Road.	A	II-B	II-B	
52.	Backbay House No.1 & 2	Robert Road.	A	II-B	II-B	
53.	No. 6, Maude lane (Dogra House)	Maude lane (Off. Major Sharma Road).	A	II-B	II-B	
54.	No. 5 Maude lane	Off. Naudelines.	A	II-B	II-B	
55.	Bungalow West of No. 6 Naude lines.	Maudelines	A	II-B	II-B	
56.	Dockyard House.	Off. Naudelines	A	II-B	II-A	
57.	Residence of Bishop of Bombay	Duxbury lane	A	II-B	II-A	
58.	The Prong's Lighthouse (and the Mangrove area extended between it and Colaba point).	On Prong's Reef, exposed at low tide, 0.8 Km. To the South west of the Southern tip of Mumbai Island/Colaba Point.	A	I	I	
59.	Middle ground Islet	Island in the Harbour accessed by Ferry.	A	I	I	
60.	Oyster Rock Islet	Island in the Harbour accessed by a Ferry.	A	I	I	
61.	Son Rock Lighthouse	Lighthouse North-East of Prong's Lighthouse.	A	I	I	
62.	Dumayne Road Complex a) Jackson House	Dumayle Road	A	II-B	II-B	
	b) Dougal House	Dumayle Road.	A	II-B	II-A	
63.	Triveni Station JCO's Mess.	Major Somnath Sharma Marg.	A	II-B	II-B	
64.	Kendriya Vidyalaya School Grave Stone (Colaba Cemetery)	Dr. Nanabhai Moose Road.	A	II-B	III	
65.	Meterological Deptt. Offices.	Dr. Nanabhai Moose Road.	A	II-B	III	
66.	Tech House (Bungalow NO. 22)	Hoshiyar Singh Marg.	A	II-B	II-B	
	Bungalow No. 18 & 23	Napier Road	A	II-B	II-B	
67.	Mahindra & Mahindra Bldg.	Jn. of Kavi Bhushan Road & Steaven's Street.	A	III	III	

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## XIV. References

1. Oxforddictionaries.com,. 'World Heritage Site - Definition Of World Heritage Site In English From The Oxford Dictionary'. N. p., 2015. Web. 14 Nov. 2015.
2. Admin, UDRI. 'Monographs - Through The Looking Glass - Grade I Heritage Structures Of Mumbai '. Udri.org. N. p., 2015. Web. 14 Nov. 2015.
3. Handbook of Conservation of Heritage Buildings by Addl. Director General (Arch.)
4. Tourismofindia.com,. 'Tourism Of India - History'. N. p., 2015. Web. 14 Nov. 2015.
5. Wikipedia,. 'Neoclassical Architecture'. N. p., 2015. Web. 14 Nov. 2015.
6. Craven, Jackie. 'Is Neoclassical Architecture Really NEW?'. About.com Home. N. p., 2015. Web. 14 Nov. 2015.
7. Galuzin, Alex. 'Neoclassical Architecture'. Worldofleveldesign.com. N. p., 2015. Web. 14 Nov. 2015.
8. Wikipedia,. 'Gothic Architecture'. N. p., 2015. Web. 14 Nov. 2015.
9. Exploring-castles.com,. 'The Seven Key Characteristics Of Gothic Architecture: From The Gargoyle To The Flying Buttress'. N. p., 2015. Web. 14 Nov. 2015.
10. Athenapub.com,. 'Gothic Architecture'. N. p., 2015. Web. 14 Nov. 2015.
11. Wikipedia,. 'Indo-Saracenic Revival Architecture'. N. p., 2015. Web. 14 Nov. 2015.
12. Heritagehotelsofindia.com,. 'Examining The Key Elements Of Indo-Saracenic Architecture'. N. p., 2015. Web. 14 Nov. 2015.
13. Gktoday.in,. 'Indo-Saracenic Style - General Knowledge Today'. N. p., 2015. Web. 14 Nov. 2015.
14. Centre, UNESCO. '3Rd Edition Of 'The World'S Heritage' By UNESCO Publishing And Collins Features All 981 Sites'. Whc.unesco.org. N. p., 2013. Web. 14 Nov. 2015.
15. Centre, UNESCO. 'The World's Heritage Co-Published By UNESCO And Collins'. Whc.unesco.org. N. p., 2014. Web. 14 Nov. 2015.