

**Animation and Film Design
Degree Project Report**

ROLE PLAYING GAME

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Indian Institute of Technology, Bombay 400076

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Index

Certificate

Declaration

Acknowledgement

Abstract

Introduction

Project Brief

Pre-Production

Research

Indian History

Maratha Empire

Maratha Forts

Sinhagad Fort

Maratha Warriors

Maratha Weaponry

Story

Concept Art

Script / Narration

Storyboards

Short breakdowns

Character Design

Environments

Production

Modelling

Characters

Game assets

Environment/ Bg/ Layouts

Texturing

Rigging

Animation

Lighting

Level Design

Softwares Used

Bibliography

Certificate

The Animation and Film Design Degree Project submitted by Ravi Rao Yamijala, M.Des Animation [126340004], is approved in fulfillment of requirements for the award of the Masters of Design Degree at Industrial Design Centre, Indian Institute of Technology, Bombay.

Project Guide

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Internal Examiner

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External Examiner

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2. _____



Mr. B. K. Chakrabarty
[Head of Department]

21 / 07 / 2015, Mumbai.

Declaration

This project report, 'Role Playing Game' has been prepared by me, Ravi Rao [126340004], as a student of M. Des [Animation] at Industrial Design Centre [IDC], IIT Bombay. This project has been prepared under the guidance of Prof. Sumant Rao and Prof. Phani Tetali, both faculties at Industrial Design Centre [IDC], IIT Bombay, under ANP604.

This project is a written submission of my study and my own ideas in my own words, prepared in good faith for academic purpose only. Where other's ideas or words have been included, I have adequately cited and referred the original sources. This project also includes study from Internet research, which is widely accessible for any and everyone to use.

For this project, I have adhered to all principles of academic honesty and integrity and have not misinterpreted 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 evoke penal action from the sources, which have thus not been properly cited, or from whom proper permission has not been taken when needed.

This report will be submitted to the internal and external examiners at Industrial Design Centre [IDC], IIT Bombay, but thereafter may not be copied or distributed except with written permission from Industrial Design Centre [IDC], IIT Bombay.

Ravi Rao Yamijala [126340004]

____ / ____ / _____, Mumbai.

Acknowledgement

Firstly, I owe my sincere gratitude to Prof. Sumant Rao and Prof. Phani Tetali for showing undoubted trust in my capabilities in designing this project and me. I am thankful for their patient counsel, aspiring guidance, invaluable constructive criticism and friendly advice that has helped me execute this project with confidence.

I would like to thank Prof. Shilpa Ranade, Prof. Nina Sabnani, and Prof. C. P. Narayan for their invaluable feedback, suggestions and insights during the course of the project.

I would also like to extend my special Thanks to Mr. B.K. Chakrabarty (Head of the Department, Industrial Design Centre, IIT Bombay) who believed in me and extended all his support and advice towards my academics.

I express my warm thanks to my parents for their love and motivation and constant unquestioning moral support that kept me going.

Lastly, I would like to thank all my friends who helped me and encouraged me at every step during the research and execution of this project, or I would have never found the resolution to go on.

Thank You: Shrishti Gupta, Akshay Murthy, Antariksh Jain, Ashwin Vasudevan, Jay Menon, Gauthaman Koyamparambath, Sundeep Thusu, Vidyadhar Bhawe, Keerti Chowdhary, Jaishrish Udai, Mridul Basumotari, and Dharma.

Abstract

“Man is the Storytelling Animal, and that in stories are his identity, his meaning, and his lifeblood.”

- Sulman Rushdie

This project roots back to my experiences and my passions as a child, today which I pursue as a student of M.Des (animation) at IDC, IIT, Bombay.

I have always enjoyed the process of storytelling, especially in its visual medium. May it be Puppetry, Drama, Films or any other form of narrative, they have always caught my interest. Also early as a child, I developed a keen interest in the possibilities offered by the digital technologies and new age media. I sought new challenges and passion in computer softwares and the creative opportunities that were possible. I undertook formal education in human-computer interaction, communication and design and passionately pursued animation studies as a medium to tell stories.

Going forward, for this project, I thought upon various topics of my interest that I would have liked to narrate with an animation film. I have always been mesmerised by ruin structures and the magnificent architecture of these historical monuments. It fascinates me to learn more about the kingdoms that once ruled these places, their strategies in building forts and empires, their

battles and wars, and their rise to peak and eventual fall.

Having keen interest in both history and architecture, I have travelled to several Indian ruined forts or sites of historical and archeological importance. I recollect, on several such visits, I would enjoy the process of visualising the place in its full glory. For those few moments, imagining kingdoms, ruling kings and their battles would bring the place and its history to life, that I desired to experience somehow in first person.

This got me to thinking how I could converge narrative with an experience for myself and audience like me; leading to the obvious, interactive storytelling. I enjoyed playing computer games like all my other friends; while they were more into strategy gaming, role playing or first person shooters, I played games because I was intrigued by the gaming experience, the environment, the characters, structures and the lesser told stories.

I decided to create a role playing game focused on educating the gamer/ audience on certain aspects of history of India. While role playing gaming is popular amongst avid gamers for obvious reasons, interactive and experiential learning (of events in history) would prove more efficient over learning by simply studying history from books.

Introduction

“The reason most kids don’t like school is not that the work is too hard, but that it is utterly boring.”

- Dr. Seymour Papert, Prof. at the MIT

This project addresses the learning aspect of gaming industry; i.e. why is learning by experience often more efficient than learning by studying? Computer games and games in general, used for educational purposes, offer variety of knowledge and create opportunities that apply this knowledge within a virtual world, thus supporting and facilitating the experiential learning process. This innovative education paradigm draws connection between the collaborative social context of education with game-based learning

Despite decades of research, experts claim that we still experience a lack of appropriate and interesting content that would engage learners and improve their learning process. Keeping this in mind, the education experts have to invent radically new ways of learning that mesh with the new world, style, and capabilities and Human-Computer Interactions (HCI) of new generations of so called computer “natives”.

As early as the 80s and 90s, many scientists, innovators and visionaries professed that computers and later hypermedia would become an important medium of interaction. They stated digital and multi-media to become

an important cognitive tool in learning, also outlining a number of other potential advantages that computer aided learning would offer. Among the researchers of hypermedia applications for education, the following basic questions were proposed: How to design effective learning opportunities?

Since then, cognitive learning has come a long way and taking advantage of the various opportunities hypermedia offers today, computer games are widely preferred for educational purposes.

Project Brief

My project is an initiative in interactive learning for educational and entertainment purpose, which collaborates animation and computer gaming with traditional storytelling technique. I am designing a role-playing game, focused on engaging and educating the gamer/ audience, using techniques of interactive and experiential learning (of events in Indian history), a more efficient tool over studying history from books.

Pre-Production

Research

I started with the thought of creating a fictional story woven around a fictional place, inspired by the existing famous ruins in India, where the player could design and experience his own fantasy in first person. The idea was to engage the player in a learning technique outside textbooks and classrooms. While the player would be a part of a fantasy story, engaged in animation and computer gaming, he would subconsciously learn about our glorious history, our kings and kingdoms who once ruled us and our beautiful historical architecture.

In my concept and story development meetings with my guides Prof. Sumant and Phani, they suggested I pick an existing story/ legend and ruin from History, preferably Indian that would justify all my keen interests along with the learning aspects of the role-playing game.

Working on this feedback, I started my journey by recollecting and reading upon the stories of Indian kings and kingdoms that I had learnt in my days of schooling. It was important for me to join all loose ends and pick a story that addressed the following characteristics.

- It had to be an historic event from our education curriculum that would address the experiential learning process of dull and text heavy subjects like history outside textbooks and classroom.

- It had to involve vast empires, forts and ruins so the player could find interest in Indian historical architecture and its magnificence.

- It had to portray the key qualities of goal achieving and valor in the game, which any player would relate to.

I was keen on selecting Indian history because I wanted to tell the story of our ancestors and our land to every player and the world. At many levels this game and project felt difficult to put together but I knew it was a definite success model as an initiative in interactive learning for educational and entertainment purpose.

Research: Indian History

“India is the cradle of human race, the birthplace of human speech, the mother of history, the grandmother of legend, and the great grandmother of tradition. Our most valuable and most astrictive materials in the history of man are treasured up in India only!”

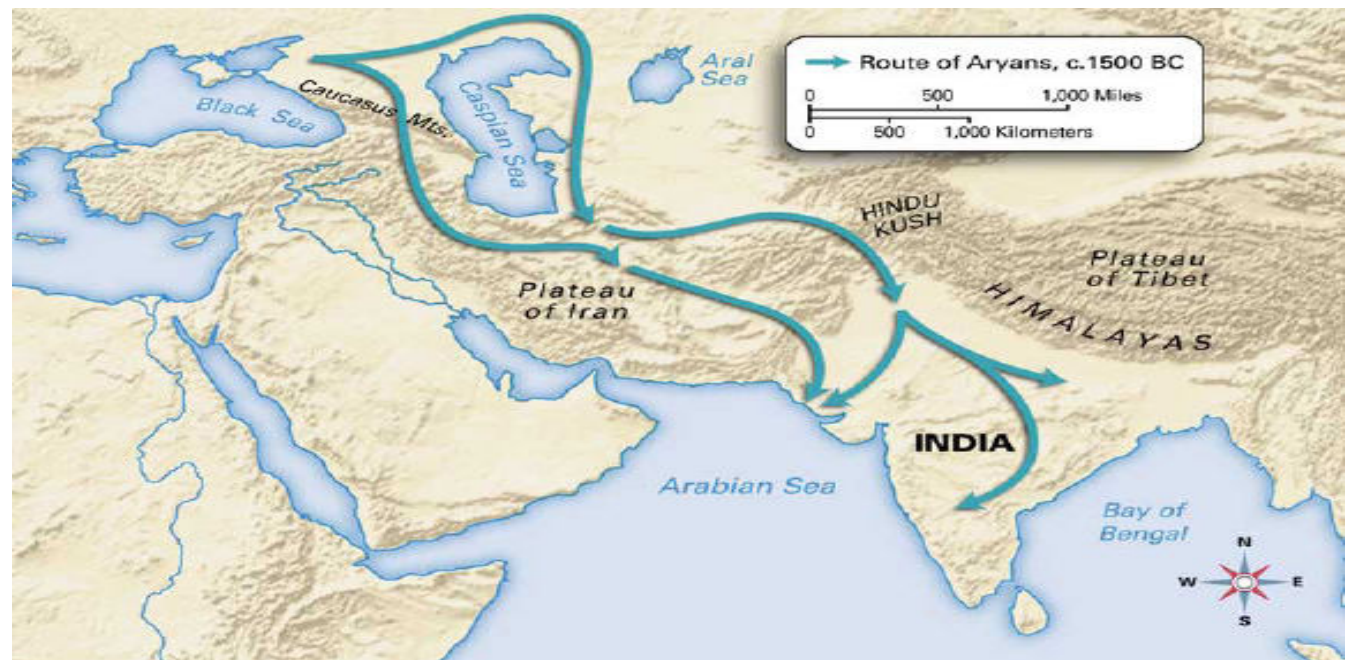
- Mark Twain

Incredible India and its magnificent history are intimately tied to its geographical spread across the Asian continent. The East and West, and its natural inaccessibility have helped India evolve as a middle ground, rich in heritage and legacy, giving it its people its rulers, its culture, its history, etc. India, while has always been a

paradise for all its invaders, has allowed many colonies to migrated into its mountain passes or sea bodies to influence and transform her several fascinating religions.

Harappa and Mohenjo-Daro civilizations (of 3000 BC) along the Indus valley are known to be one of the world’s oldest and advanced civilizations, and they existed at the same time as the civilizations of Egypt and Sumer.

Indian subcontinent is first known to be invaded by a group of Northerners called Aryans in 1500 BC.



Research: Indian History

Since then, strong Aryan cultural traditions became the way of life of Indians; miraculously today, it still remains the dominant force. Persian kings Cyrus and Darius led the second known biggest invasion in Indian subcontinent around 500 BC. Spreading their reign all the way upto the Indus Valley Civilization, they ruled India for 150 years, only to be later conquered by Greek ruler, Alexander the Great. Unlike the Greeks, the Romans never made it to India, preferring to expand west instead.

In the next few years, the ruler of one of the greatest dynasties worldwide, the Mauryan king Chandragupta from Magadha (Bihar) won most of the Indian subcontinent back from foreign invasions, spreading its rule all the way upto Afghanistan. Under the great king Ashoka in



the year 268-31 BC, the Mauryan empire conquered nearly the entire subcontinent, extending itself as far south as Mysore.

In the 5th century BC, Siddhartha Gautama founded the religion of Buddhism.

Research: Indian History

Post the decline of Maurya dynasty; sometime in the beginning of AD era, the Indian subcontinent was broken into several stable and unstable smaller kingdoms and dynasties. Enjoying relative autonomy for the next few years, these kingdoms often fought amongst themselves, taking over neighboring land and its people and spreading their diverse religious beliefs, thus contributing in making India a truly diverse land like it is today.

India witnessed several small and massive attacks from the Chinese nomads, Arabs, Portuguese, British and other colonies. Arab traders, for almost 500 years tried several strategies to invade Indian subcontinent via west, until in 1192, Mohammed of Ghor's armies attacked majority of North India, ruining the Buddhist temples of Bihar and taking over settlements across River Ganges.

Mongol rulers invaded India in 1397, but the Mughal Dynasty witnessed its birth and rise only in 1526-27 when Mughal monarch Babur came to power. His heir Humayun in 1530, then the next heir Akbar, then Jehangir in 1605 and Shah Jahan in 1627, all successively invaded East, West and South of India, until they subdued maximum of Hindu Kingdoms who were in power then.



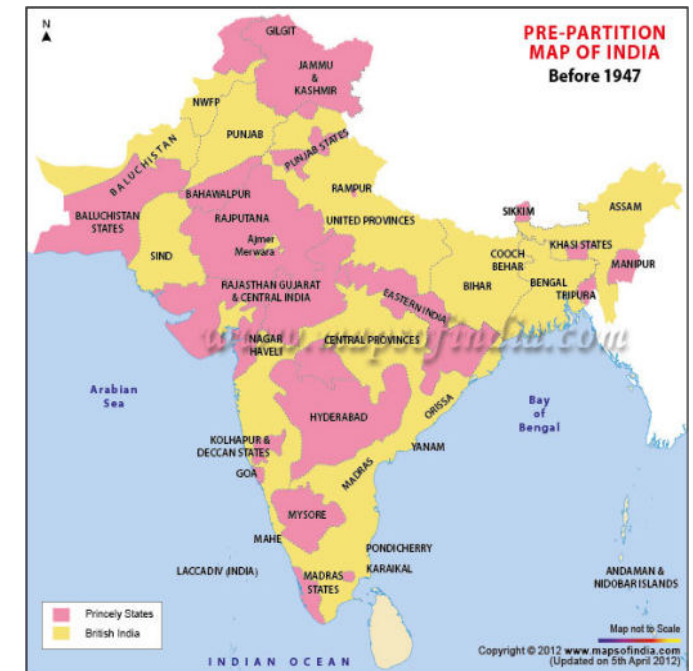
Unlike his ancestors and predecessors Aurangzeb tried very hard to eradicate the aboriginal traditions but faced fierce local resistance. Though he expanded the Mughal dynasty over the entire Indian subcontinent, he could not conquer the Maratha Empire. Maratha legend from the Deccan Indian region, Chhatrapati Shivaji Maharaj, fought and resisted Aurangzeb until his death in 1707, marking the decline of the Mughal sultanate and dynasty.

Research: Indian History



Shivaji, a symbol Hindu resistance and nationalism, during his rule won 70% of the Indian subcontinent back under Hindu and Maratha power.

While the Mughal kingdoms spread themselves all over North, West and East, Portuguese invaded Goa as early as 1510. 100 years later, the British slowly invaded India, formed the East India Company, thereafter single handedly ruling India for the next 300+ years.



In 1769, the East India Company gained control of all European trade in India, competing with the Portuguese, the Dutch, and the French settlements. Eventually, it gained control over the entire nation and used it as a source for their profit.

Desire for independence, India fought back the British Raj for close to 100 years. Finally under the non-violent mass movement led by Mohandas Karamchand Gandhi, India won its independence in 1947.

Research: Indian History

Since history known to mankind, India has had her own tales of survival and collapse. Yet, India has always been simply too big, too complicated, and too culturally subtle to let any one empire dominate it for long.

Intrigued by the great Maratha Kingdom and legendary ruler Chhatrapati Shivaji, I focused my research on historical events on Indian subcontinent from 17th to 19th Century. I researched comprehensively on their reign over the Deccan region, their legendary battle wins and war strategies that contributed to the decline of the Mughal Empire, and their strategies to spread Hinduism in several pockets of Indian territories.



With in-depth research, I stumbled upon some very interesting facts, such as:



- When in its full glory, the Marathas had control of more than 70% of the present Indian Territory.
- Also, the Marathas laid the foundations of the Indian Navy, bringing about considerable changes in naval warfare and introducing a blue-water Navy.

I decided that I would like to design my game on one of the legendary stories of Maratha Empire and I focused my research further on Shivaji and his leadership.

Research: The Maratha Empire



The Marathas hail typically from the western state of Maharashtra in India. The Maratha Empire, also referred to as the Maratha Confederacy, was an Indian imperial power that ruled from 1674 to 1818. At its peak, the empire covered close to 70% of the Indian subcontinent encompassing a territory of over 2.8 million km².



Being a Hindu warrior group, under the vision of Chhatrapati Shivaji Maharaj, the Marathas established the 'Hindavi Swarajya' (self rule of Hindu people).

Shivaji Bhonsle, later came to be known as Chhatrapati Shivaji Maharaj, was the Indian warrior king and a member of the Bhonsle Maratha clan. Shivaji was born at Shivneri, near the city of Junnar in Pune district around the year 1630. His mother, Jijabai, named him after the local deity, goddess Shivai, whom she had prayed for a healthy child.

Shivaji was extremely devoted to his mother Jijabai, who was deeply religious. Owing to this environment, Shivaji had great interest in Ramayana and Mahabharatha, the two great Hindu epics. Dadoji Konddeo made significant contributions in teaching Shivaji basic fighting techniques such as horse riding, archery and marksmanship, patta and others.



Research: The Maratha Empire



Shivaji as a boy was a keen outdoorsman and, though he received little formal education and most likely could neither read nor write, he is said to have possessed considerable erudition.

In the company of his Maval comrades, Shivaji wandered over the hills and forests of the Sahyadri range, hardening himself and acquiring first-hand knowledge of the land, which was to later prove applicable to his military endeavors.

Research: The Maratha Empire



Since the age of 15, Shivaji had deep desire to win his land back. He is known to have persuaded the Bijapuri commander of the Torna Fort, Inayat Khan, to hand over the possession of the fort to him. Ever since Shivaji has never looked back and adopted several warfare strategies to fight the Mughal Empire. In 1674, he carved out an

enclave from the declining Adilshahi sultanate of Bijapur that formed the genesis of an independent Maratha Empire and declared Raigad as its capital. Shivaji established a competent and progressive civil rule with the help of a disciplined military and well-structured administrative organization. He innovated military tactics,

Research: The Maratha Empire



pioneering the guerrilla warfare methods (Shiva Sutra or Ganimi Kava), which leveraged strategic factors like geography, speed, and surprise and focused pinpoint attacks to defeat his larger and more powerful enemies.

Shivaji expanded his empire by conquering and building new forts across his territory. He

secured the coastal areas and build land-based fortifications that helped in keeping the foreign, especially Portuguese and



Research: The Maratha Empire



British naval ships at bay. These were crucial aspects of the Maratha's defensive strategy and regional military history; key reason why Marathas maintained their control and reign over Indian subcontinent for many years.

He revived ancient Hindu political traditions and court conventions and promoted the usage of Marathi and Sanskrit, rather than Persian, in court and administration.



Shivaji had 370 forts in his possession. during his reign

Research: The Maratha Forts

‘संपूर्ण राज्याचे सार ते दुर्ग. गढकोट हेच राज्य,
गढकोट म्हणजे राज्याचे मूळ, गढकोट म्हणजे
खजनि, गढकोट म्हणजे सैन्याचे मूळ, गढकोट
म्हणजे राज्यलक्ष्मी, गढकोट म्हणजे आपले
प्राणसंरक्षण’

– Aadnyaapatra, by Ramchandra Pant Amatya
– the chief minister of Rani Tarabai



Translation – Forts are the very basis of a kingdom. Forts themselves are the kingdoms, forts are the origin of the kingdom, forts are the real treasure of the kingdom, forts are the basis of an army, forts are the wealth of the kingdom, and forts are our best form of defense.

The Marathas gave tremendous importance to Forts, as they were their strongest defense against the marauding invaders.

The Marathas built and maintained the following kinds of forts during their reign across Deccan and Indian subcontinent:

- **Hill forts – ‘Giri Durg’** – built from stone cut out from the high hills and mountains, these forts were considered the most reliable in comparison to land forts. The high altitudes and the steep walls made these forts daunting for the enemy.

Example: Raigad, Rajgad, Purandar, Sinhagad, Pratapgad, Shivneri, Rajmachi, etc.

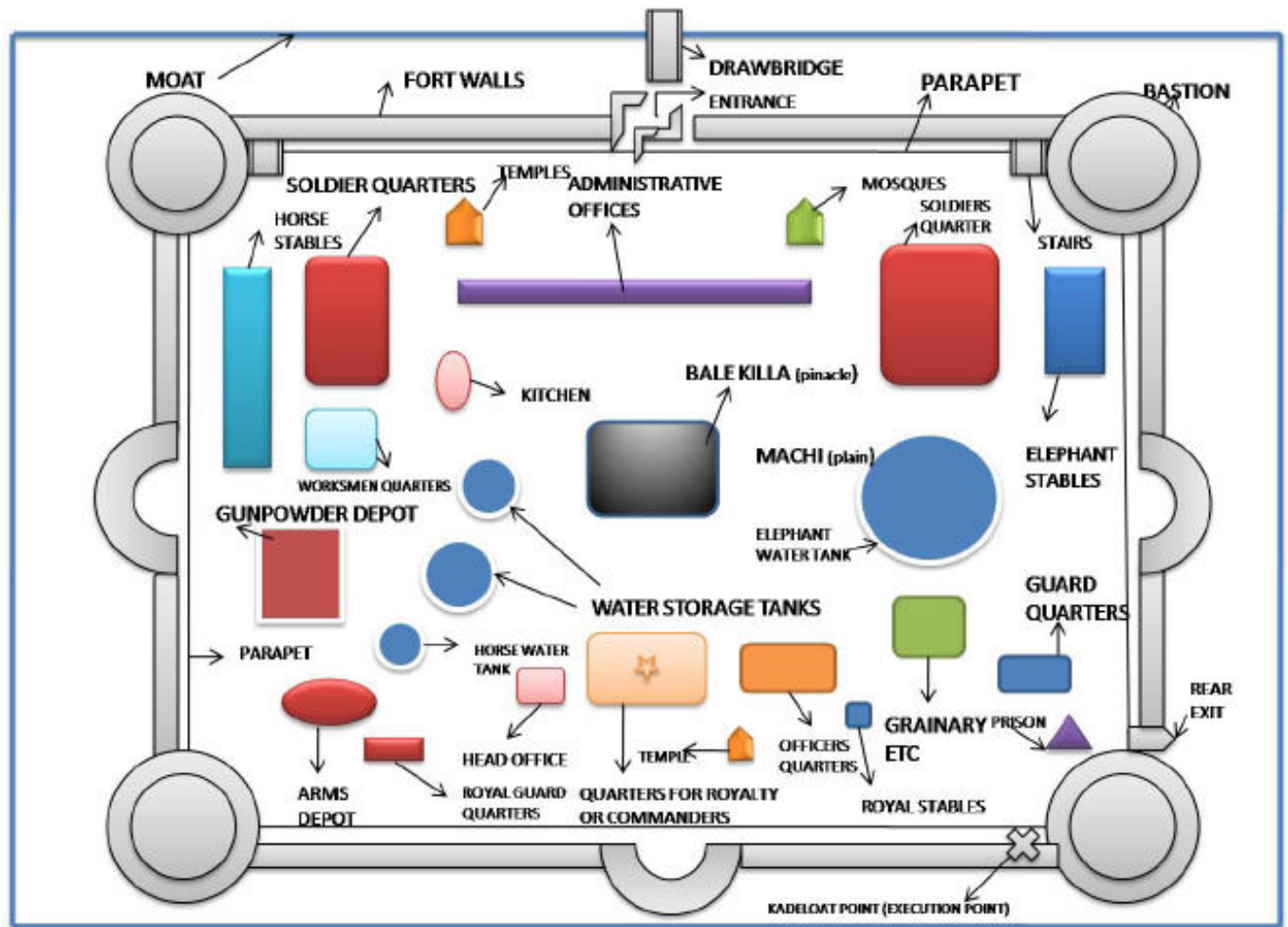
- **Land forts – ‘Bhui Durg’ or ‘Bhuikot’** – built on plains with rocks and mud walls. Example: Chakan fort, Bahadurgad, Solapur fort, Ahmednagar fort, etc.

- **Sea Forts – ‘Jal Durg’** – created in the middle of the sea (at a shallow point with a solid foundation base) and protected by its vicious waves. They provided a efficient base for controlling sea traffic and trade. Example: Janjeera, Sindhudurg, Padmadurg, Khanderi, Underi, etc.

- **Forest Forts – ‘Vana Durg’** – created amidst a dense jungle, protected by the trees, the reptiles and wild animals. Example: Javali, etc.

- **Human Forts – ‘Nara Durg’** – created by human war formations and encampments.

Research: The Maratha Forts



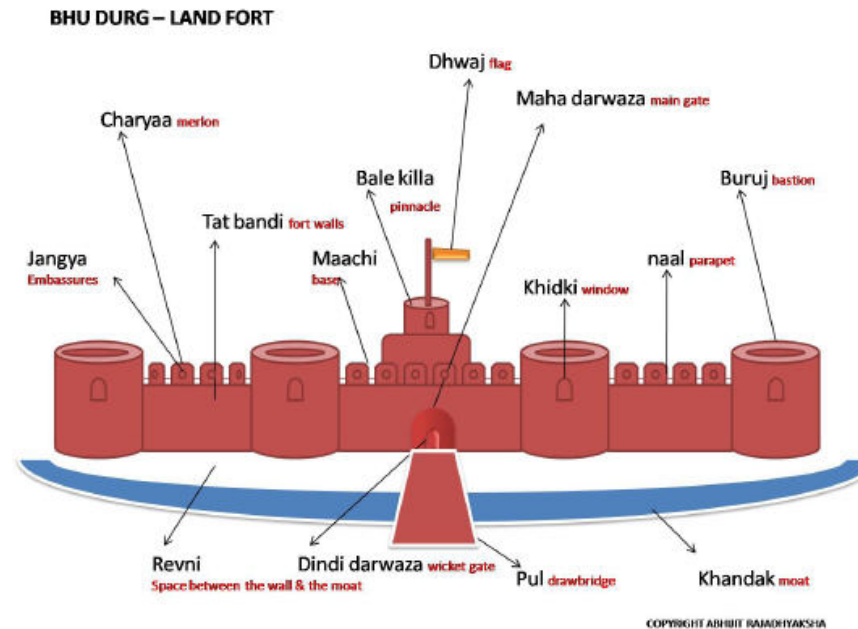
CRUDE PLAN OF A FORT

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Chhatrapati Shivaji spent a considerable part of his revenue on the upkeep of his forts. He refortified and strengthened the forts under his control.

He personally supervised the design and construction of forts and often gave several valuable inputs. The forts weren't as picturesque or aesthetic as their northern counterparts but were most practical under the warfare circumstances.

Research: The Maratha Forts



- **Nagarkhanas** or the drum/ nagar towers,

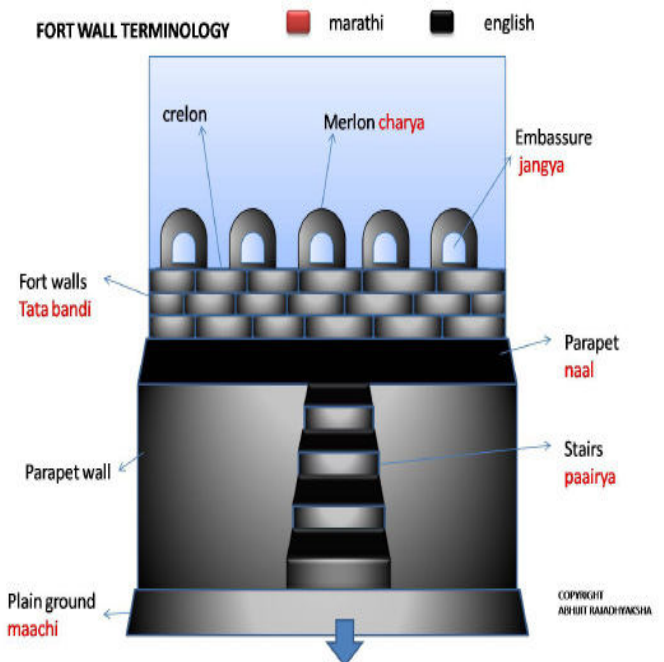
- **Bhuyar** or secret tunnels to escape from the fort,

- **Maachi** or the open vast space in the fort. There used to be residential quarters and administrative offices built on these maachis.

and many others.

Some of the main features of the typical fort are:

- **Ghera** or outermost boundary of the fort,
- **Chowki** or checkpost/ outpost at the fort,
- **Kada** or the vertical cliff on the hill fort,
- **Tat-Bandi** or the high stone walls of the fort,
- **Buruj** or bastions connecting the fort walls,
- **Mahadarwaja** or the main entrance of the fort,



Research: The Maratha Forts

Chhatrapati Shivaji Maharaj, the Maratha king, clearly understood the importance of forts. He laid more emphasis on forts than land below them and ensured that his forts were always in the possession of the king.

Shivaji ensured that each fort had between two to three top-ranking officers (besides the kiledar or fort keeper), all of whom were of different castes: the Maratha '**Sarnobat**' (for guarding the fort), the Brahmin '**Sabnis**' (for general administration), and the Kayastha '**Karkhanis**' (for maintaining the accounts and the treasury). These officers were to be of equal rank, just in case one of them was corrupt and conspired to hand over the fort to the enemy.

Moreover, officers always competed with each other to provide a better administration within the king's jurisdiction, thereby improving the overall administration in the fort. The posts were never hereditary, so one had to rise through the hierarchy to gain one of them. No officers who were related to one another were given command of forts in that were in close proximity to one another.



Research: The Maratha Forts

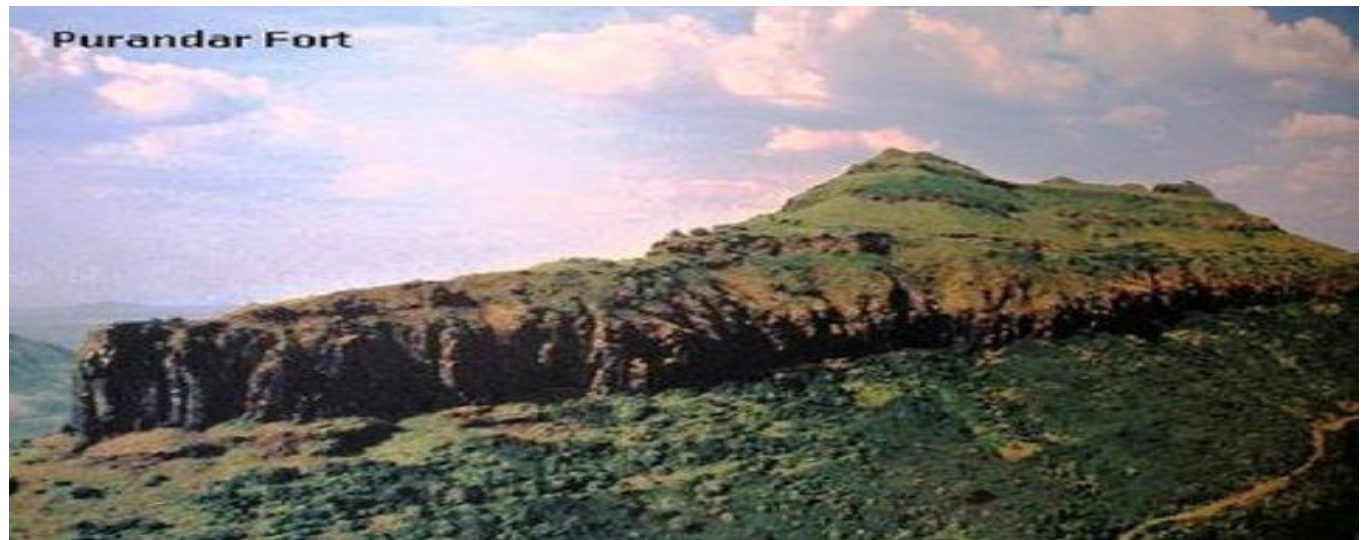


During Shivaji's rule, hill forts were scattered all around the Sahayadri mountain range. Located at short distance from one another, they could be easily accessed by crossing one or few mountains. During warfare, this helped the Maratha army escape from one fort to the other incase the earlier fort was captured by the army.

The Pune district (area 15642 sq kms) itself has around forty forts big and small, while Nasik district (area 15,530 sq km) has approximately fifty-five forts. The Maratha forts were often a combination of land and sea forts, example: Vijaydurg fort, or mostly hill and forest/land forts, example, Daulatabad fort.

Some other notable forts of the Maratha Empire are:

- Torna fort
- Panhala fort
- Pratapghadh fort
- Rajghadh fort
- Shivneri fort
- Sindhidurg fort
- Purandar fort
- Sinhagad fort



Research: The Maratha Forts



Some of the notable features of Shivaji's fort's design and architecture are:

Architectural plans and designs were in accordance with the topography of the region.

There was no repetition or monotony in design
There were no ornate palaces or gardens or
temple complexes

The forts were constructed from stones carved out from the very mountains and joined with the help of lime, rubble, gravel, stones, bricks, molten metal and sand.

At several places the stones appear joint in the male female format devoid of any use of mortar. There are forts where molten metal (lead) has been used to fill up fissures and strengthen the construction. Example: Fort Sindhudurg.

Research: The Maratha Forts

The fort of Pratapgad and Citadel of Rajgad had double line fortification to protect them against attacks and enemy

There was not much geographical distance in the settlements between the higher and lower ranks of the kingdom

The acoustics was marvelous in the fort and place in the capital city

All the fort names were in Sanskrit language, duly respecting his roots.

Shivaji introduced community/ regiment participation in defense army at the forts.

He advocated 3-tier administration of his forts
He laid out a system for inspection of the forts by higher authorities including the king.

Shivaji is known to have a very keen foresight in selection of his sites for building forts.



Research: The Maratha Forts



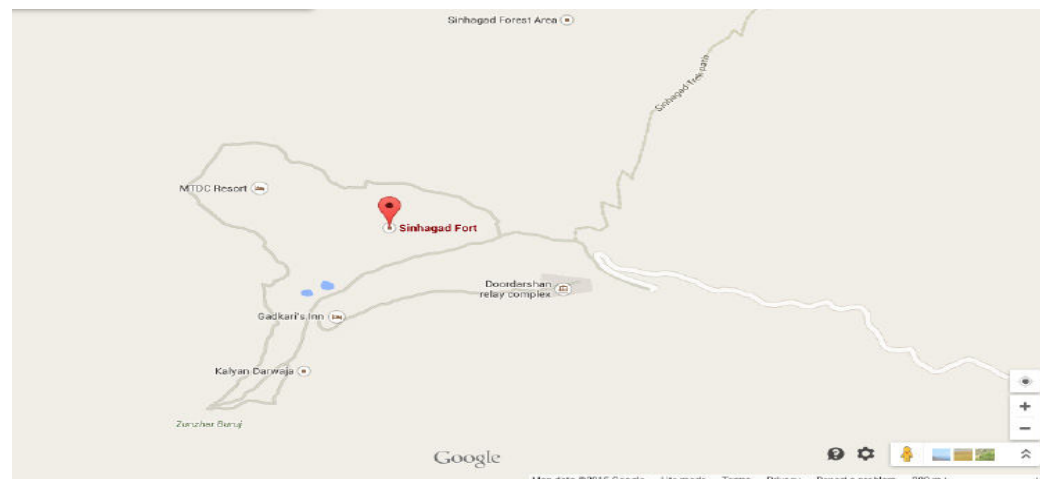
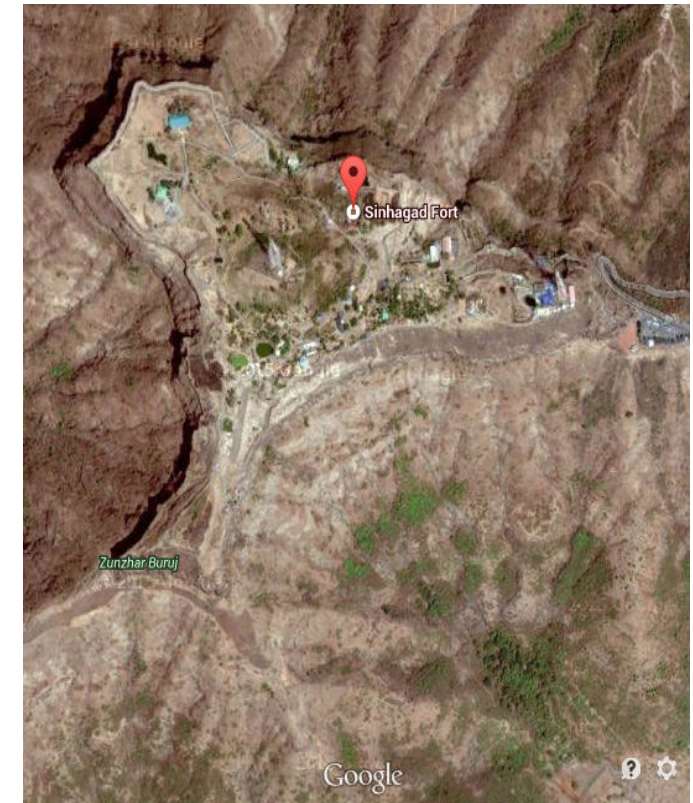
Aerial view of Shivaji's forts taken by Shri Uddhav Thackeray.

Research: The Maratha Forts



Research: The Sinhagad Fort

Sinhagad, (The Lion's Fort), is a fort located about 30 kilometers southwest Pune, India. It was also strategically located at the center other forts in vicinity such as Rajgad, Purandar and Torna. Perched on an isolated cliff of the Bhuleshwar range of the Sahyadri Mountains, its height above sea level is 1380 meters.



It was called 'Kondana' after the sage Kaundinya, who is said to have meditated there. The Kaundinyeshwar temple, the caves and the carvings indicate that this fort had probably been built two thousand

Research: The Sinhagad Fort



years back, its fortification started in the 14th century.

Known as Kondhana (or Kandakala), in 1328 AD, it was captured from the Koli tribal chieftain, Nag Naik, by Muhammad bin Tughlaq. Later the fort came in possession of the Nizamshahi of Ahmednagar and remained with them for a considerable time. Later the fort passed hands to the Bijapuri Sultanate after the eclipse of the Nizamshahi. Shivaji's aide Bapuji Mudgal Deshpande bribed the killedar (fortkeeper) of the fort, Siddi Ambar and secured the possession of the fort. In 1649, Adilshah of Bijapur imprisoned Shahajiraje (father of Shivaji) and Shivaji had to hand over the fort back to Adilshah in order to secure his fathers release. But he captured it once

again in 1656. The fort faced many unsuccessful Mughal attacks, until the Purander treaty, whereby, cornered, Shivaji handed Kondana over to Mirza Raje Jaisingh, the commander of the Mughal forces.

The fort, then was the battlegrounds of one of the most daring exploits in Maratha history when, in 1670 AD, it was recaptured by Shivaji's forces under Tanaji Malusare, who laid down his life in the battle. On his death, a saddened Shivaji said, "The fort is won, but the lion is gone!" Whereupon the fort got is new name: Sinha (lion) gadha (fort).



During the battle of Sinhagad, the steep slopes of the hill served natural protection to the fort. It had bastions and walls constructed only at two key places; including two main gates – the Kalyan Darwaza in the southeast and the Pun Darwaza in the northeast.

Research: The Sinhagad Fort

- Kalyan Darwaza



It also had 'mets' (smaller outposts on flat areas) midway to the fort, manned by locals and tribals like Kolis, Ramoshis, and Maangs who were familiar with the surroundings and could even maintain a vigil at night.

In 1818 AD, finally the British seized the fort from the Peshwas destroying its almost all ancient monuments. Today, the upper surface of the fort is undulating and retains few buildings, ruins of temples, tombs and towers scattered about. Only the traditional gates and broken walls remain now. Near the gorge is a monument (Samadhi) commemorating the bravery of Tanaji. There is also a tiny tomb of Rajaram, Shivaji's son, who died there in 1700 AD.

- Pune Darwaza



- Balle-Killa



Research: The Sinhagad Fort

- Tanaji's Tomb



- Kalyan Darwaza

Research: The Maratha Warriors

The Marathas, sometimes also referred as kunbi, is a group of castes in India, predominantly residing in the Deccan region of India; i.e. states of Maharashtra, Madhya Pradesh, Gujarat, Karnataka, Goa and Tamil Nadu. The word “Kunbi” derives from the Sanskrit “Kutumbin” or “householder” (i.e., a settled person with home and land).



The Marathas have been documented since the time Maratha Empire came to power. Owing to their valor, ferocity and martial skills, they were traditionally chieftains and warriors who claimed Kshatriya descent. They relied mainly on their infantry and cavalry during war.

Research: The Maratha Warriors

The mountainous terrain of the Sahyadris made the Marathas a strong, nimble footed and athletic lot. The terrain also made them use light weaponry especially during the guerilla type of war that they fought. This enabled them to make quick movements and swift strikes on unsuspecting enemies and then disappear into the darkness of the night or the shield of the thickly vegetated mountains during the day.



Of course, with increase in their military power, their guerilla style often made way for the open pitch style of warfare. This also brought in a certain amount of sophistication in their weaponry.

The Marathas fought the Mughal rulers in the 17th and 18th Century. The Empire remained the pre-eminent power in India until their defeat by the British colonists in 1817-18.

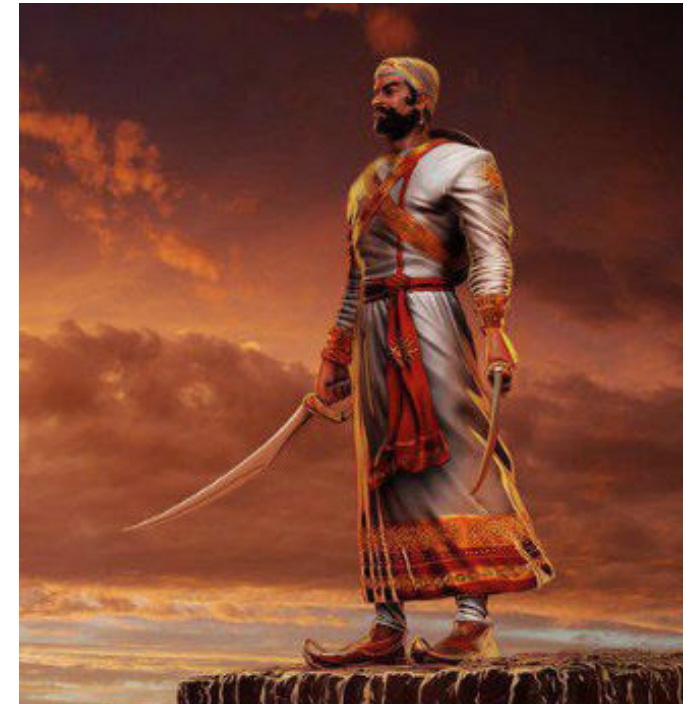


Research: The Maratha Warriors

Under Shivaji's reign, the Maratha Warriors were termed as 'Mawala'. The word "Mawala" is supposed to have arisen because Shivaji's Jagir was from the Mawal region in the Deccan plateau. The Mawala soldiers were a mixed group of 96 Maratha clans and sub-castes.



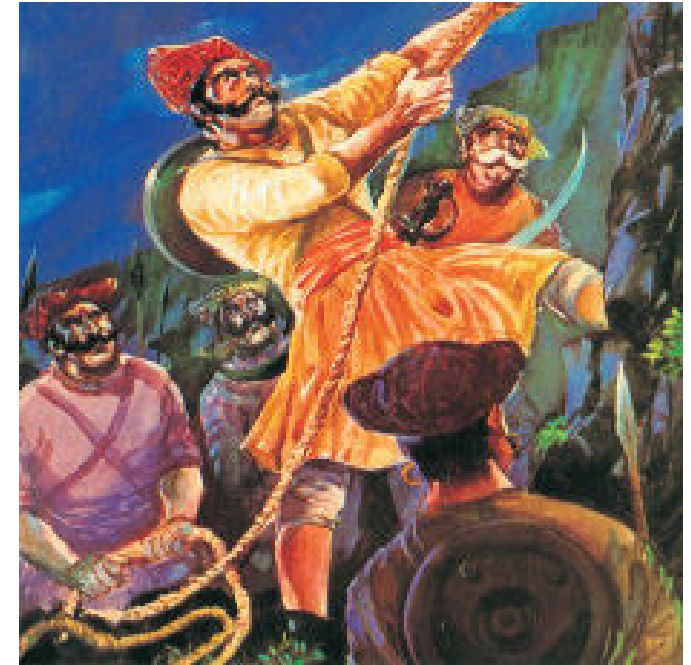
During the Battle of Sinhagad in the 17th Century India, Tanaji Malusare was a Mawala, a military leader in the army of Shivaji, who pledged to recapture the fortress of Kondana near Pune, at Shivaji's request. He was one of Shivaji's closest friends hailing from the Malusare clan; the two had known each other since childhood.



He fought alongside Shivaji in numerous battles such as the Raid of Torana, in the Battle against the forces of Afzalkhan, Battle of Dabhol, Battle of Pali, Battle of Prabhanvalli, Battle of Chiplun, Battle of Sangameshwar, Battle of Shrigarpur etc.

Research: The Maratha Warriors

At the time of his death he was ranked as Subhedar. According to many accounts, he received the summons while at his son's wedding, and immediately left the festivities with his brother Suryaji and his uncle Shelar Mama. He is believed to have said, "aadhi lagin kondhanyacha", which means "its time to marry fort Kondana."



Tanaji and his troops scaled the fort with the help of domesticated monitor lizard. He participated in a fierce combat with fort keeper Udaybhan who managed to rid Tanaji of his shield, and after a lengthy fight, Tanaji was killed in the battle.



Research: The Maratha Warriors

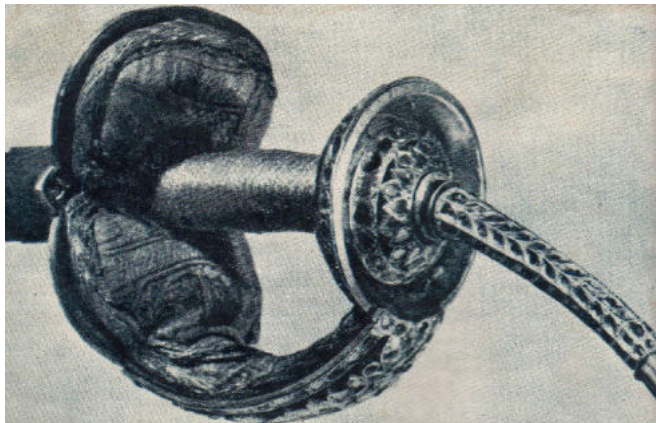


Research: The Maratha Weaponry

Some of the medieval weapons traditionally used by the Marathas were the variants of swords like the talwaar, the firangi, the khandaa, the paataa, and the variety of daggers like the katar, the shamsher, and the jaambiya. Also prevalent were the ancient bhaalaa (spear), dhanushya baan (bow and arrows), kurhaad (battle axe), parshu (axe variant), gadaa / gurz (mace) or unique weapons like the waagh nakh (tiger claws).

These weapons were made as per the quintessential designs borrowed from the Rajputs, the Mughals, the Persians, the Afghans and the Europeans. But were often modified to suit the Maratha style of martial art.

Shivaji Maharaj is known to have brought revolution in traditional Maratha weapons. Maratha Swords developed by Shivaji Maharaj were not like other swords found in the world. It had a unique comfortable hilt with a unique pommel.



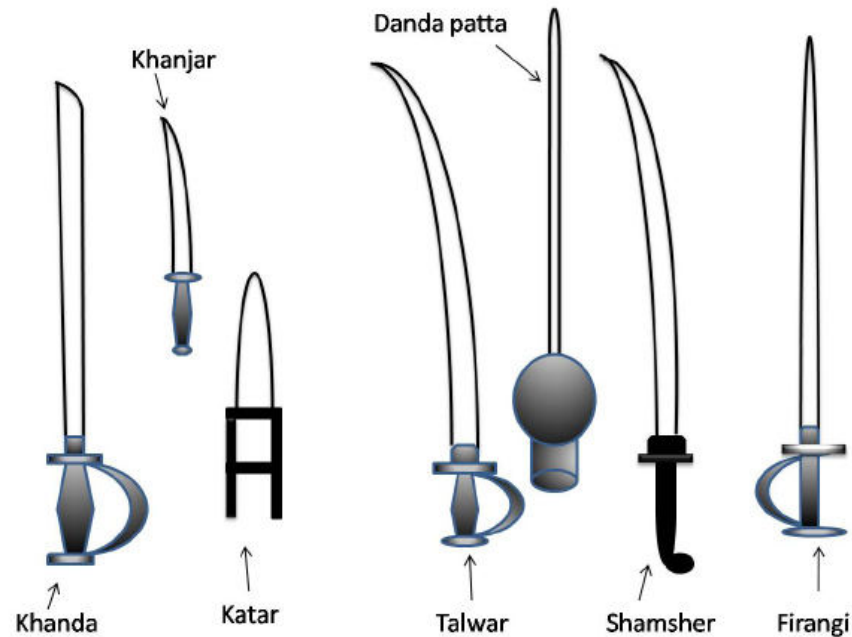
Here are a few Maratha weapons:

Talwar is an Indian sword, with a curved blade, with the hilt covered by the enclosed flange, which extends from the guard to the pommel. It is often double-edged having a pointed tip. Both the infantry as well as the cavalry of Maratha Empire used the talwar because of its effective draw cut. The handle of the talwar often displayed intricate engravings of Maratha style.



Firangi is a sword with a long straight heavy blade like its European counterpart and a pointed tip. It has a full sharp edge on one side and the other side has around six inch sharp edge. The Maratha cavalry used it. The hilt has a knuckle guard (basket hilt). Shivaji's famous 'Bhavani' & 'Jagdamba' talwar were also styled in this fashion.

Research: The Maratha Weaponry



DIAGRAMS OF VARIOUS SWORDS, DAGGERS USED IN MEDIEVAL MAHARASHTRA COPYRIGHT ABHUIT RAJADHYAKSHA

edged with a flange connecting the guard to the pommel and covering the hilt. The tip of the blade is not distinctly pointed.

Sosun Pata is a serrated re-curved blade with a pommel and a knuckle guard.

Danda Pata is a sword that gets integrated in a gauntlet. The blade is often long and flexible (varchi) and tied as a belt and whisked out when wanting to be used. It is said to have been famously used by Baji Prabhu Deshpande to ward off the Siddis army, giving his master Chatrapati Shivaji enough time to escape the



Kirach is a sword similar to the firangi, except that the blade is broad, single edged and comparatively short and having a basket hilt.

Khanda is a sword used in hacking operations. It has a wide blade that broadens in length and is double



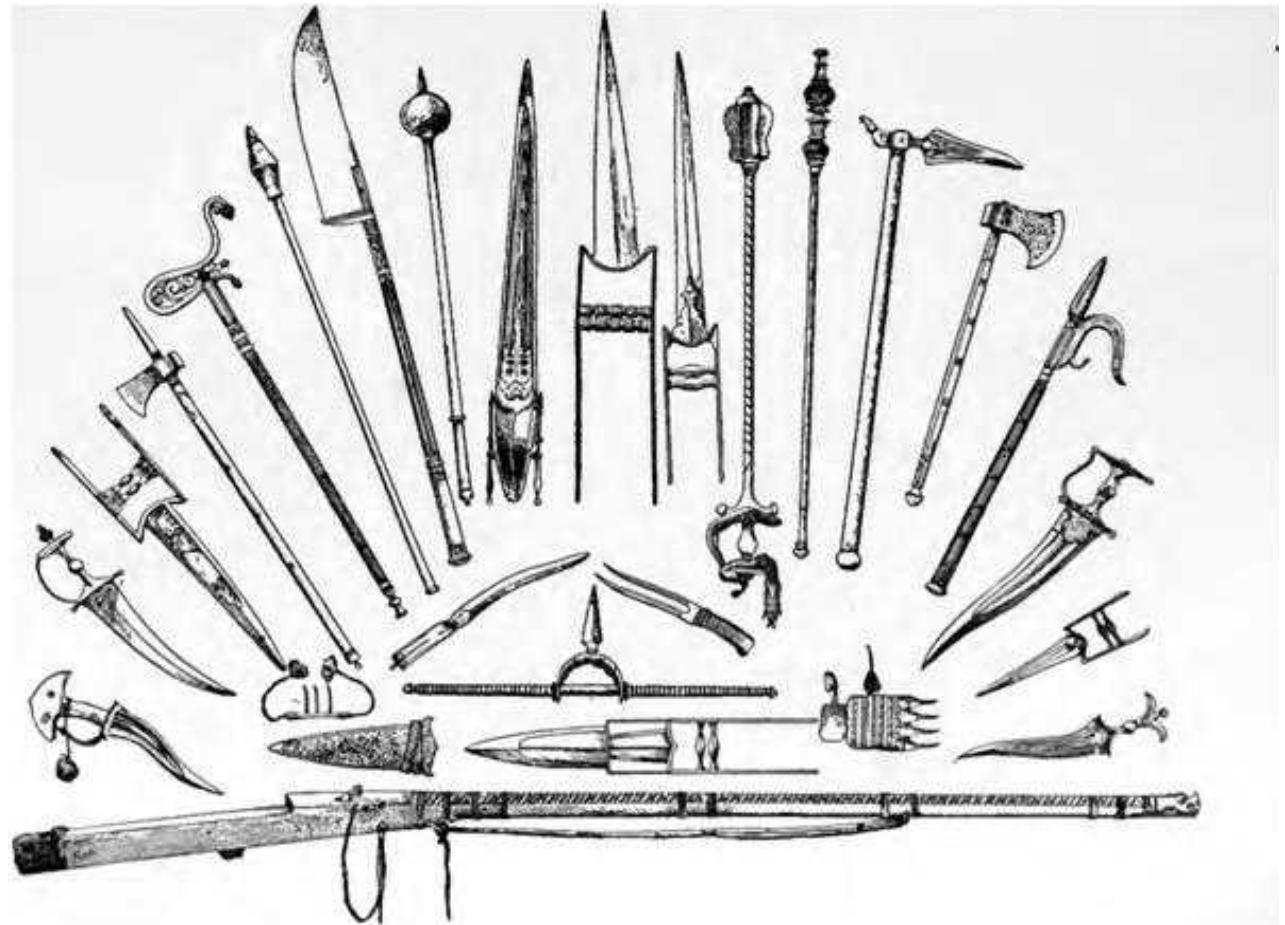
Research: The Maratha Weaponry

fort. Adilshahi general Afzal Khan's bodyguard Syed Banda was said to be an expert with this weapon.

Jamdaad (literally means Yamachi daadi or beard of Yama, the lord of death and the underworld) is a double-edged snake-like wavy sword. It was one of the swords gifted by Mughal commander Diler Khan to Shivaji during

course of negotiations. It is also believed that Afzal Khan carried it when he went to meet Shivaji at Pratapgad.

Khanjar is a dagger originating in the Arabian regions, which found its way to India. The blade is short and double-edged. It is carried in an engraved sheath.



Research: The Maratha Weaponry



Katar is a type of a short punching dagger with a horizontal 'H' shaped handle. It is used when the enemy is close. It often opened up displaying two more blades.



Katyar is a dagger with a curved blade to first stab and twisted around for maximum damage.

Guptis were pointed swords with straight blades concealed in a scabbard resembling wooden stick.



Bhaala is the Marathi term for a spear. It was a wooden shaft with a sharp metallic head. It was used both by the infantry as well as the cavalry. The cavalryman used to throw the spear at the enemy and then followed it up by whisking out the sword.



Research: The Maratha Weaponry

Kurhaad is the Marathi term for a battle-axe. It has a lunar shaped sharp edged small metal tool head mounted on a wooden shaft. Its variant was the 'parshu' an axe with a sharp broad semi lunar shaped blade and pointed curved hook at the other end (the curved hook wasn't present on the kurhaad).

Gurz is a mace like iron club with spikes used to strike on an enemy wearing a helmet and armor.

Madu was a shield with a handle and two pointed antelope horns protruding from both sides. Shamsheer is a sword in its Persian form. The blade is generally curved (but also straight and double edged) like the talwar but less wide. It has a slash cut operation. There is no pommel and the hilt continues in a curve.



Research: The Maratha Weaponry

Bichwa is a doubly curved doubly edged S shaped bladed dagger with a looped hilt.



it reveals barring out sharp edged pointed claws made of steel that can tear apart the human body.



Jambia is a short dagger that originated in Yemen having a curved steel blade. The hilt was often called a saifani hilt and was made of rhinoceros horns. The sheath was made of wood.

Dhanushya Baan is the term for a bow and arrow. The bow is a flexible wooden arc with a strong string tying its both ends. It propels a arrow that acts as a projectile hitting a target.

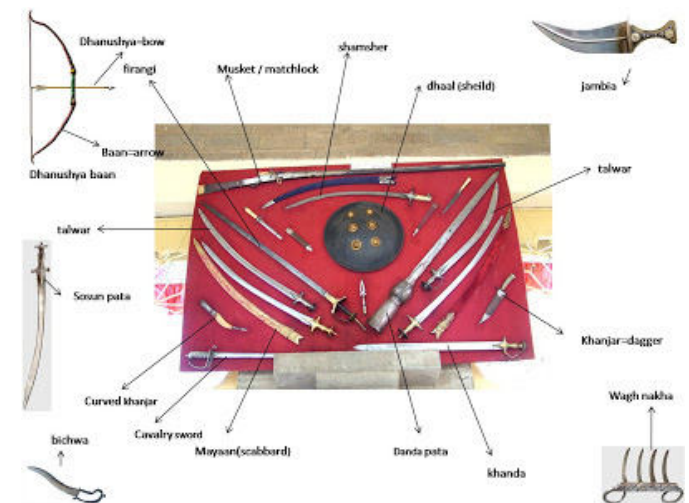
Waagh Nakha was made famous by Shivaji Maharaj when he used it to disembowel the mighty Afzal Khan. It acts as a ring like weapon that fits around the knuckles. It remains concealed when the palm is closed but when the palm opens



Research: The Maratha Weaponry



The Bhavani Talwar is the term given to Shivaji Maharaj's personal talwar. Goddess Bhavani was the tutelary deity of the Maratha leader Shivaji Maharaj, in whose worship he dedicated his sword. It is believed that the Goddess gifted him a sword for success in his expeditions as Shivaji always visited the temple to seek her blessings.



Story - The Battle of Sinhagad

When in the 17th Century AD, most of the regions in India were under the Mughal rule; Shahaji Raje Bhosale brought the House of Bhosale into prominence. He was inherently an excellent administrator and a brave warrior and he founded the Maratha Empire under his fierce military and leadership skills. It is believed that in his entire lifetime, he had not lost a single battle no matter what circumstance.

It was during this time of his reign in the Pune region, when Shahaji was serving the Adilshahi court; Shivaji was born to Jijabai, Shahaji's first wife, at the Shivneri fort near Pune. Shahaji instilled great courage in Shivaji since his childhood and enabled him to become a superior war strategist, an able administrator and an Independent ruler. After Shahaji's death, Adil Shah tried all means to gain control over Shivaji but failed miserably. Instead, Shivaji dreamt of setting up the Hindavi Swarajya that seek to end all Mughal or foreign rule.

Sinhagad fort, then known as Kondhana fort, has been a site for many important battles in the history of Maratha Empire. The Kondhana fort found its name, Sinhagad after the notable battle in March 1670 AD between the Mughal Sultanate and the Marathas; latter of which was led by the young and fearless Shivaji Bhosale. Located 30 Kms southwest of Pune city and at the center of

the string of other Maratha forts: Raigad, Purandar and Torna; strategically it served as the potential capital of the rising Maratha Empire. Jijabai's painful sorrow and tears in her eyes inspired and enabled Shivaji's re-conquest of the fort under the Maratha Empire.



The Kondhana fort, perched upon an isolated cliff of the mighty mountain ranges, and its surroundings; manned by the fort keeper Udaybhan Rathore and an army of about 5000 Mughal soldiers, was under the control of general Mirza Raja Jai Singh of the Mughal Empire. As insisted by his mother, Shivaji commenced upon strategic plans to capture the fort. He called for his childhood friend and army commander Tanaji Malusare, second in command and Tanaji's younger brother Suryaji and an army of

Story - The Battle of Sinhagad

500 Maratha soldiers, who were also known as Mavalas, to devise a plan to capture the fort.. Shivaji entrusted Tanaji with the job to re-capture the fort under the Maratha Empire.



The fort had two major entrances Pune Darwaja and Kalyaan Darwaja, heavily guarded by the Mughal army, and was defended by cannons at each turret. After a detailed recce of the fort, Tanaji found one turret left unguarded, for it was at the top of a very steep cliff, seemingly impossible to scale. Tanaji picked a moonless Friday night in the month of March, the day the Mughals would celebrate festivities late into the night and the security would be weak, to carry out the battle.

The legend goes, with the help of Tanaji's pet Yashwanti, a Ghorpad (namely in Marathi) or a monitor lizard, the army designed a plan to scale up the assumably impossible and steep cliff in order to strike the attack. Since monitor lizards

have an extremely firm grip, Tanaji ordered one of his soldiers to tie a rope around its waist and use it as an anchor to scale up the cliff. While making the climb in the night, Tanaji lost about 67 of his brave and precious soldiers to the limitations of the terrestrial difficulties. When the army reached the turret, the Marathas immediately attacked a fierce battle onto the Mughals, when the Mughals were least expecting it.

During the battle, about 400 odd Maratha men bravely fought close to 5000 strong Mughal soldiers. Tanaji engaged in a fierce swordfight with the Udaybhan, fort keeper, and as a resultant his shield broke. He immediately replaced his broken shield with his headgear by tying it around his arm, but could not fight for too long and succumbed to death with deep injuries.



Realizing their commander Tanaji is dead; the Maratha soldiers began to flee the battle and scale down the anchored ropes from the turret. Tanaji's brother, Suryaji, who was second in command of the army took charge;

Story - The Battle of Sinhagad

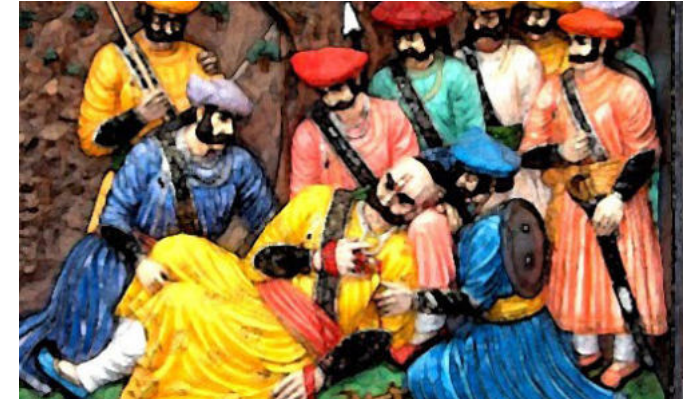
he cut the ropes off the cliff and ordered his men to either jump off the cliff and face death or fight in honor of your motherland and face death. While an honorable Maratha sardar in his 70s, Shelar Mama, took upon Udaybhan and killed him, the other Maratha soldiers fought back in resilience till the fort was recaptured.



Without a leader, the Mughal army was crumbled; many flee to Pune while the others were taken as prisoners in the fort.

As a sign of victory, stacks of hay was put to burn to create smoke, a signal sent back to Shivaji, who was stationed at Pune eagerly awaiting news from the Kondhana fort. When Shivaji heard about the loss of his friend and army commander Tanaji, whom he regarded

as a fierce Lion, he said, “Gadh aala pan sinha gela” [the fort is captured but the lion is dead]. In honor of Tanaji’s sacrifice on the battleground, the Kondhana fort became the Sinhagad fort thereon.



Production

Concept Art



Script/ Narration

Introduction: Narrator's Voice

पुरंदरच्या तहाने शिवाजी महाराजांना २३ कलिले मुघलांच्या स्वाधीन करण्यास भाग पाडले . त्यातील एक कलिला होता कोढाणा . कोढाणा हा गढ धोरणात्मक दृष्टीने मराठ्यांसाठी अत्यंत महत्त्वाचा कलिला . तो कलिला राजगढ, पुरंदर व तोरनाच्या मधोमध होता. म्हणून राजमाता जजाऊ ने महाराजांना स्वराज्याची सुरुआत कोढाण्यापासून करण्याचा आग्रह केल.

Shivaji and Jijabai;s Conversation

जजाबाई : शविबा ... कोढाण्यावर फडकणारा मुघलांचा हरिवा ध्वज माझ्या डोळ्यांत खुब्तोय . मुघलांवरिद्धाची लढाई आपण तुम्ही कोढाणा जकून सुरु करावी असे आमचे मत आहे .

शिवाजी: आई सहेब... आम्ही तर स्वराज्याच्या स्थापनेसाठी दिल्लीवर चालून जायला तय्यार आहोत .

जजाबाई : मग त्यास उशीर कसला राजे ...
स्वराज्याचा सुभेदारांना लगेच नरीप धाडा.

Shivaji to Tanaji

जजाबाई : शविबा ... कोढाण्यावर फडकणारा मुघलांचा हरिवा ध्वज माझ्या डोळ्यांत खुब्तोय . मुघलांवरिद्धाची लढाई आपण तुम्ही कोढाणा जकून सुरु करावी असे आमचे मत आहे .

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Shivaji to Tanaji

तानाजी ... कोन्धाण्यावर शस्त्रबद्ध हल्ला करायला कमिान तीन ते चार महिने लागतील . झडप घालून एका रात्रीत कोढाणा घ्यायचा आमचा वचिर आहे . लगेच तयारीला लागा.

Narrator's Voice

कोढाण्यापर्यंत पोचण्याकरिता तानाजी आणितर मावळ्यांना एक उंच कधेचा सामना करावा लागणार होता, ज्याला पार करणे अवघड नव्हते तर अशक्य होते. पण त्यावर तानाजीकडे एक उपाय होता. तो म्हणजे त्यांनी पाळलेली घोरपड - यशवंती. घोरपडीच्या पंजाचे वैशिष्ट्य म्हणजे मजबूत पकड जी एवढ्या सहजते ने सुटत नहि. हेच लक्षात घेऊन तानाजी ने तच्चिया कमरेला दोरखंड बांधून तच्चिया सहायाने कड्यावर चढण्याचे ठरवले.

Suryaji's Voice

थांबा!

कसला हा भेकडपणा ... असं भेकडासारखे पळून महाराजांना कसे देणार ? तुम्ही तुमच्या सरदारासाठी नव्हते तर तुमच्या मातुरुभूमिसाठी लढत आहात ...हे आपल्या स्वराज्याची लढाई आहे ... एकतर काध्यावरून उडी मारून जीव द्या नाहीतर स्वराज्यासाठी लढून जीव द्या ... हर हर महदेव....

Narrator's Voice

मराठ्यांच्या इतिहासातील हा एक महत्त्वाचा वजिय होता. कोन्धाण्याच्या वजियाची बातमी महाराजांना कळवण्यात आल... याबरोबर तानाजीच्या वीरमारणाची बातमी सुद्धा महाराजांना पोचली. आपल्या बालमतिर आणा विश्वासू सुभेदाराने स्वराज्यासाठी लढतांना आपल्या प्राणाची आहुती दिली हे ऐकून महाराज उद्गारले ...
“गढ आला पण सहि गेला”

अशा सहिसम लढलेल्या पराक्रमी तानाजीच्या स्मरणार्थ कोढाण्याचे पुढे ‘सहिगढ’ असे नामकरण झाले

Storyboards



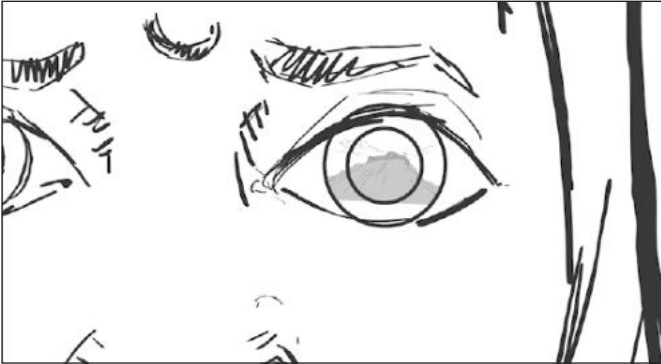
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शविजी: आई सहेब... आम्ही तर स्वराज्याच्या स्थापनेसाठी दिल्लीवर चालून जायला तय्यार आहोत .



जजाबाई : मग त्यास उशीर कसला राजे ... स्वराज्याचा सुभेदारांना लगेच नरीप धाडा.



तानाजी ... कोन्धाण्यावर शस्त्रबद्ध हल्ला करायला कमान तीन ते चार महिने लागतील . झडप घालून एका रात्रीत कोढाणा घ्यायचा आमचा वचिर आहे . लगेच तयारीला लागू .



कोढाण्यापर्यंत पोचण्याकरिता तानाजी आणितर मावळ्यांना एक उंच कडेचा सामना करावा लागणार होता, ज्याला पार करणे अवघड होते. पण त्यावर तानाजीकडे एक उपाय होता. तो म्हणजे त्यांनी पाळलेली घोरपड - यशवंती. घोरपडीच्या पंजाचे वैशिष्ट्य म्हणजे मजबूत पकड



हेच लक्षात घेऊन तानाजी ने तच्चिया कमरेला दोरखंड बांधून तच्चिया सहायाने कड्यावर चढण्याचे ठरवले.

Cut Scenes and Shot Breakdowns

Scene 1 Introduction

Map showing the Maratha Empire. Blimps on the maps showing the forts surrendered by Shivaj.

VO: पुरंदरच्या तहाने शिवाजी महाराजांना २३ कलिले मुघलांच्या स्वाधीन करण्यास भाग पाडले . त्यातील एक कलिला होता कोढाणा . कोढाणा हा गढ धोरणात्मक दृष्टीने मराठ्यांसाठी अत्यंत महत्त्वाचा कलिला . तो कलिला राजगढ, पुरंदर व तोरनाच्या मधोमध होता. म्हणून राजमाता जजाऊ ने महाराजांना स्वराज्याची सुरुआत कोढाण्यापासून करण्याचा आग्रह केल.

Cut Scene 1

Shot 1 Fade in:

Mid Shot of Mughal guards are seen guarding the Kalyaan darwaza

VO: जजाबाई : शविबा ... कोढाण्यावर फडकणारा मुघलांचा हरिवा ध्वज माझ्या डोळ्यांत खुब्तोय . मुघलांवरिद्धाची लढाई आपण तुम्ही कोढाणा जकून सुरु करावी असे आमचे मत आहे .

Fade out

Shot 2 Fade in:

Mid Shot of Mughal guards are seen guarding the Pune darwaza

VO: शिवाजी: आई सहेब... आम्ही तर स्वराज्याच्या स्थापनेसाठी दिल्लीवर चालून जायला तय्यार आहोत .

Fade out

Shot 3: Fade in

Long shot of Sinhagad fort

VO: जजाबाई : मग त्यास उशीर कसला राजे ... स्वराज्याचा सुभेदारांना लगेच नरिप धाडा.

Zoom out of Jijabai's Eye

Shot 4:

Fort's reflection in Jijabai's eye

VO: जजाबाई : मग त्यास उशीर कसला राजे ... स्वराज्याचा सुभेदारांना लगेच नरिप धाडा.

Jump Cut

Shot 5: Over the shoulder Shivaji

Shivaji addressing his courtiers with Tanaji in the front. Tanaji pulls out his sword in acceptance.

VO: तानाजी ... कोढाण्यावर शस्त्रबद्ध हल्ला करायला कमान तीन ते चार महिने लागतील . झडप घालून एका रात्रीत कोढाणा घ्यायचा आमचा वचार आहे . लगेच तयारीला लागा.

Jump Cut

Shot 6: Zoom out

Tanaji addressing his troopers. Troopers chanting 'Har har mahadev'

Cut to

Shot 7: Tilt up

Long shot of the cliff with a few falling rocks.

VO: कोढाण्यापर्यंत पोचण्याकरिता तानाजी आण्डितर मावळ्यांना एक उंच कधेचा सामना करावा लागणार होता, ज्याला पार करणे अवघड नव्हे तर अशक्य होते.

Cut to

Shot 7:

Close up of the Lizard's eye

VO: पण त्यावर तानाजीकडे एक उपाय होता.

Cut to

Shot 8:

Mid shot, lizard walks into the frame.

VO: तो म्हणजे त्यांनी पाळलेली घोरपड - यशवंती.

Cut to

Shot 9:

Mid shot, lizard walks into the frame. Hisses.

Camera zooms out to reveal two hands tying a rope around its waist. The hands lift the lizard and throws towards the cliff.

VO: हेच लक्षात घेऊन तानाजी ने तच्च्या कमरेला दोरखंड बांधून तच्च्या सहायाने कड्यावर चढण्याचे ठरविले.

Cut Scenes and Shot Breakdowns

Level 1 begins

Cut Scene 2 End of level 1

Shot 1

Mid Shot

Player is at the turret and is pulling the rope over it.

Cut to

Shot 2

Long Shot

Other soldiers climbing up the ropes

Cut to

Shot 3

Mid Shot

Mughal soldier notices and runs inside the fort to notify others

Cut to

Shot 4

Long Shot

Maratha Soldiers running towards the camera

Cut to

Shot 5

Top Shot

Maratha Soldiers running camera lowers down and goes over the shoulder.

Level 2 Begins.

Cut Scene 3 End of Level 2

Shot 1

Tanaji is being stabbed by Udaybhan. Tanaji collapses.

Shot 2

Maratha soldiers start fleeing

Shot 3

Maratha soldiers fleeing away

Level 3 begins

Cut Scene 4 End of Level 3

Shot 1

Maratha soldiers fleeing away and running towards the camera. Camera zooms out and reveals suryaji standing at the turret

Suryaji: थांबा!...कसला हा भेकडपणा ... असं भेकडासारखे पळून महाराजांना कसे देणार ? तुम्ही तुमच्या सर्दारासाठी नव्हे तर तुमच्या मातुरभूमिसाठी लढत आहात ...हे आपल्या स्वराज्याची लढाई आहे...: एकतर काध्यावरून उडी मारून जीव द्या नाहीतर स्वराज्यासाठी लढून जीव द्या ... हर हर महदेव....

Level 4 begins.

Cut Scene 5 End of Level 4

Shot 1

Udaybhan collapses

All the soldiers cheer “Jay bhavani jay shivaji“

Shot 2

Long Shot

Fire lights up at the sinhagad fort

VO: मराठ्यांच्या इतिहासातील हा एक महत्त्वाचा वजिय होता.

Shot 3

Mid Shot

Shivaji looking out of the window

VO: कोढाण्याच्या वजियाची बातमी महाराजांना कळवण्यात आली....

Shot 4

Long Shot

Shivaji looking at Tanaji's body kept at the pyre for funeral

VO: याबरोबर तानाजीच्या वीरमारणाची बातमी सुद्धा महाराजांना पोचली. आपल्या बालमित्र आणविश्वासू सुबेदाराने स्वराज्यासाठी लढतांना आपल्या प्राणाची आहुती दिली हे ऐकून महाराज उद्गारले ... “गढ आला पण सहि गेला”

अशा सहिसम लढलेल्या पराक्रमी तानाजीच्या स्मरणार्थ कोढाण्याचे पुढे ‘सहिगढ’ असे नामकरण झाले

Production: Assets

Characters

Shivaji
Jijabai
Tanaji
Suryaji
Shelar Mama
Maratha Soldier
Minitor Lizard [Ghorpad]
Udaybhan
Mughal Soldiers

Props

Maratha Sword
Maratha Shield
Fire Torch [Mashaal]
Spearhead [Bhala]
Mughal Sword
Mughal Shield
Ropes

Environment/ Backgrounds

Kalyan Darwaza
Pune Darwaza
Fortress [Gates, walls, stairways etc.]
Cliff Flora & Fauna [Shrubs, bushes trees]
Shivaji Courtyard
Shivaji Throne

Special Effects/ VFX

Sparks
Fire
Smoke

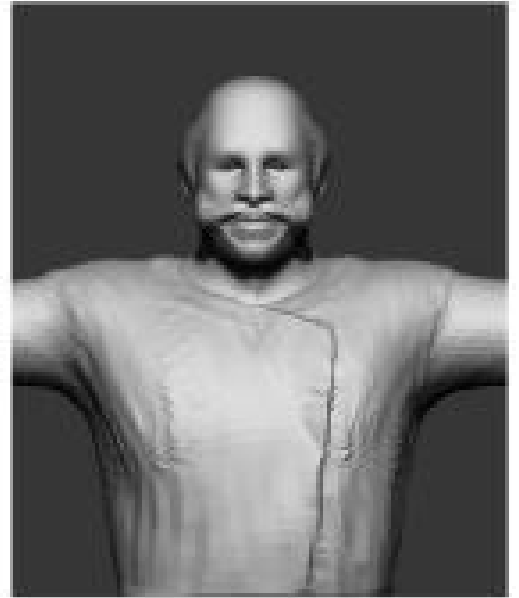
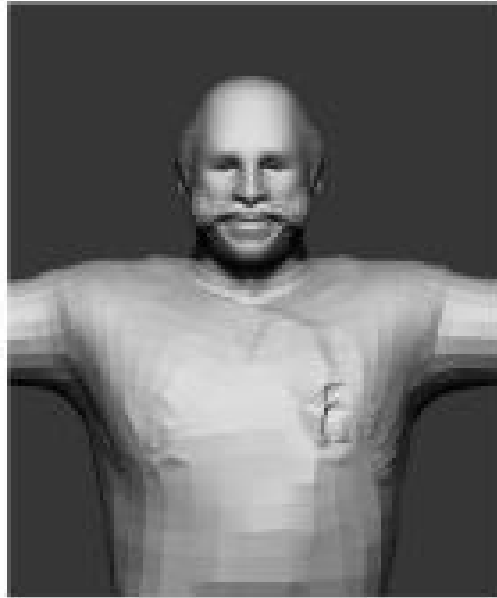
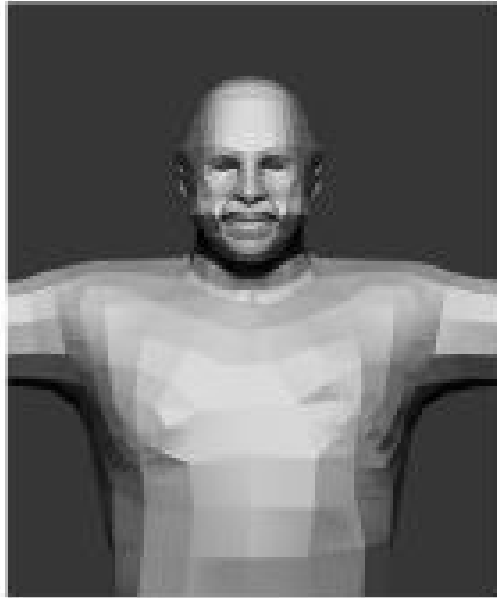
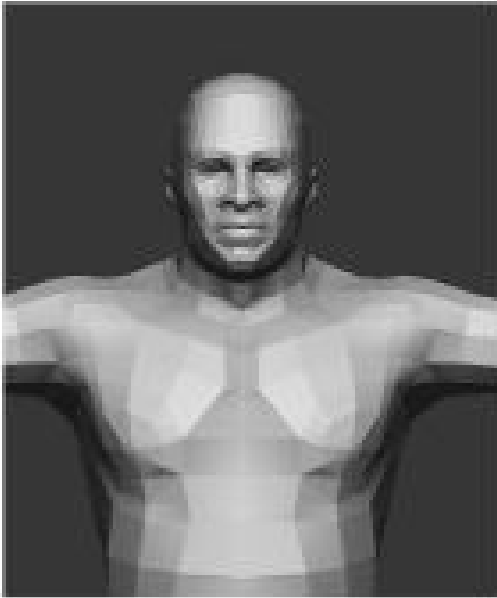
Animations

Idle pose
Walk
Walk Start
Walk and turn right
Walk and turn left
Walk and stop
Walk Backwards
Run
Run Start
Run and turn right
Run and turn left
Run and stop
Jump
Sneak
Combat
Sword hit [5 variations]
Kick
Defeat [5 variations]
Death
Climbing
Rope Climbing
Push back
Push back Left
Push back Right
Fall

Sounds

Footsteps
Walk
walk on mud
walk on rocks
walk on grass
Walk slow
Run
Run on mud
Run on grass
Run on rocks
Jump
Sword hit cling [5 variations]
Sword hit person [5 variations]
Sword hits shield
Soldier effort
Soldier gets hit [Screams]
Soldier falls on ground
Wind
Crickets
War cry

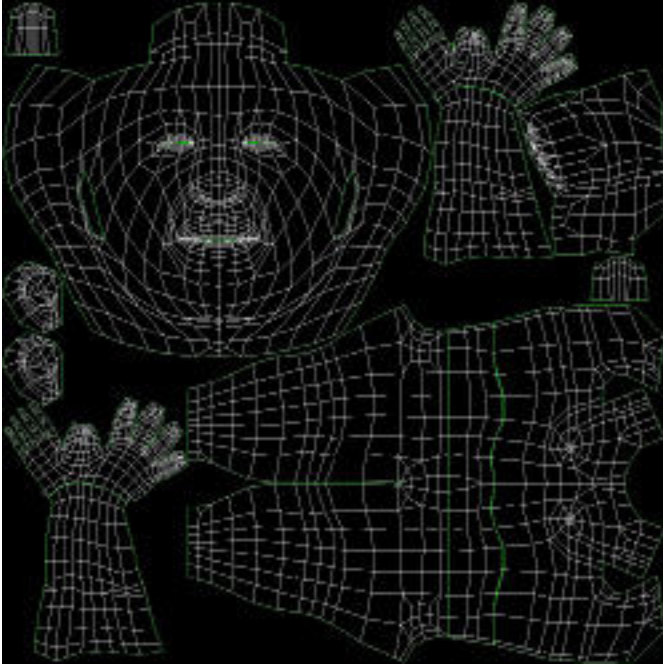
Production: Modeling



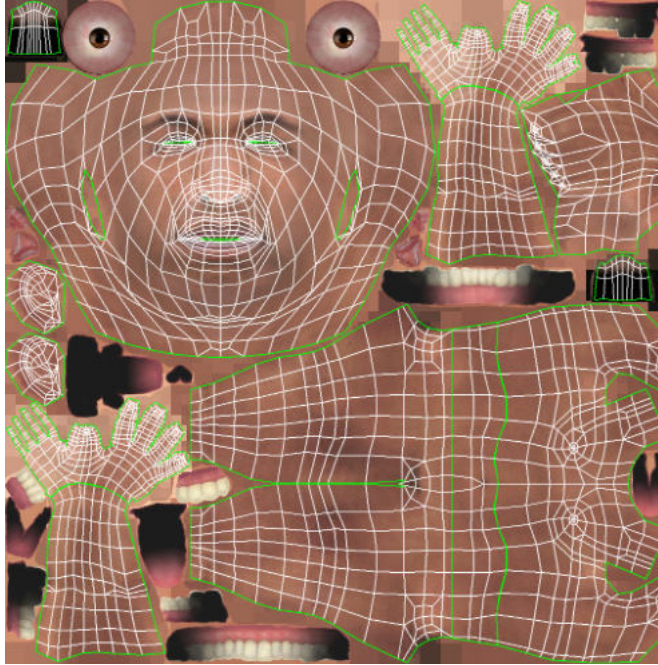
Production: Modeling



Production: UV Mapping



UVW Unwrap



UVW Mapping



Base Texture

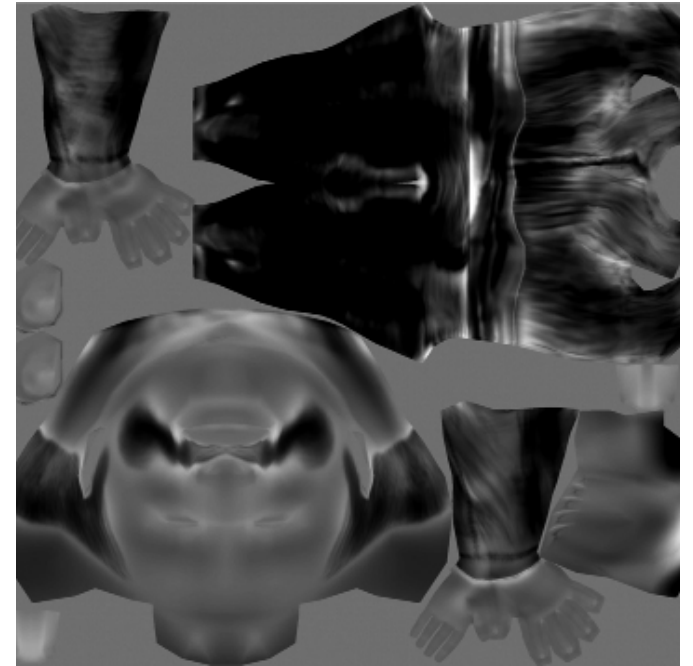
Production: Texture Detailing



Cloth Texture

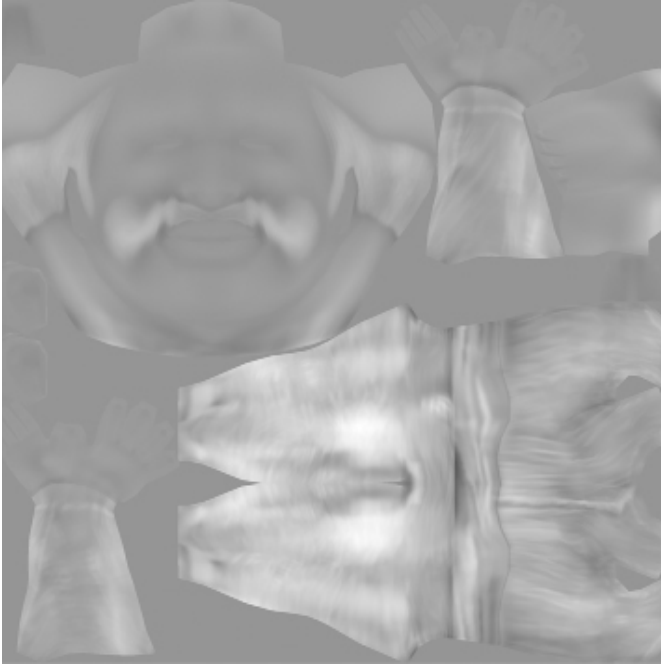


Baked Shadow Details

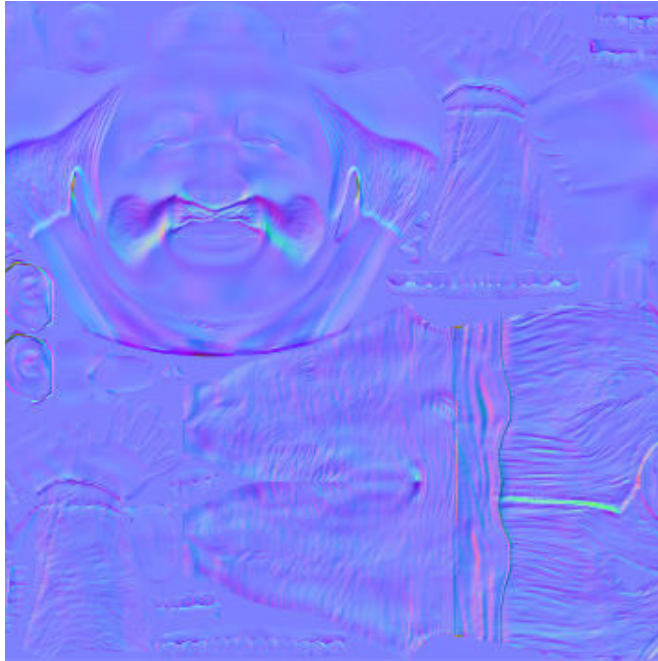


Specular Map

Production: Texture Detailing



Height Map



Normal Map

Production: Rigging



Production: Animation and Lighting



Softwares Used



Autodesk 3DS Max
Modeling, Texturing, Rigging



Adobe Premiere



Autodesk Maya
Rigging, Skinning, Animation



Adobe After Fx



Pixologic Zbrush
Sculpting, UV mapping,
Texturing



My Paint
Ideation/ Doodling



Photoshop
UV mapping, Texturing



Unity 3D
Game Engine

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Animated Series - Tales of Shivaji - <https://www.youtube.com/watch?v=A14ohCRoInM>

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A History of the Marathas, by James Grant Duff

World History: Observations and Assessments
from Creation to Today: High School Level

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Chhatrapati Shivaji Maharaj Vastu Sangrahalaya,
Mumbai

The Maratha History Museum-cum-Archives of the
Deccan College

Kelkar Museum, Pune

Personal interviews and chats with Historians and
noble scholars in Maratha literature.