



FABRICATION OF FOLDABLE CYCLE WITH CLEANING ATTACHMENTS

Student name: Sanidhya Nagar koti, Saurav Tiwari, Harshit Singh Bisht, Devendra Singh Parihar
Department of Mechanical Engineering



Mahatma Gandhi Missions College
of Engineering & Technology

Introduction

❑ A Folding Bicycle with Cleaning Attachment is a bicycle designed to fold into a compact form, facilitating transport, eco friendly, and cleaning equipments are added for more versatile purpose such as cleaning.

❑ When folded, the bicycle can be more easily carried into buildings, on public transportation, and more easily stored in compact living quarters or aboard a car, boat or plane and the detachable parts like mop can be used to clean the surface .

❑ Folding mechanisms vary, with each offering a distinct combination of folding speed, folding ease, compactness, ride, weight, durability, and price.

❑ Cleaning attachment are added on the front and rear wheel of bicycle for cleaning the rough and smooth surface.

Project Objectives

MAIN OBJECTIVE OF THE PRESENT WORK

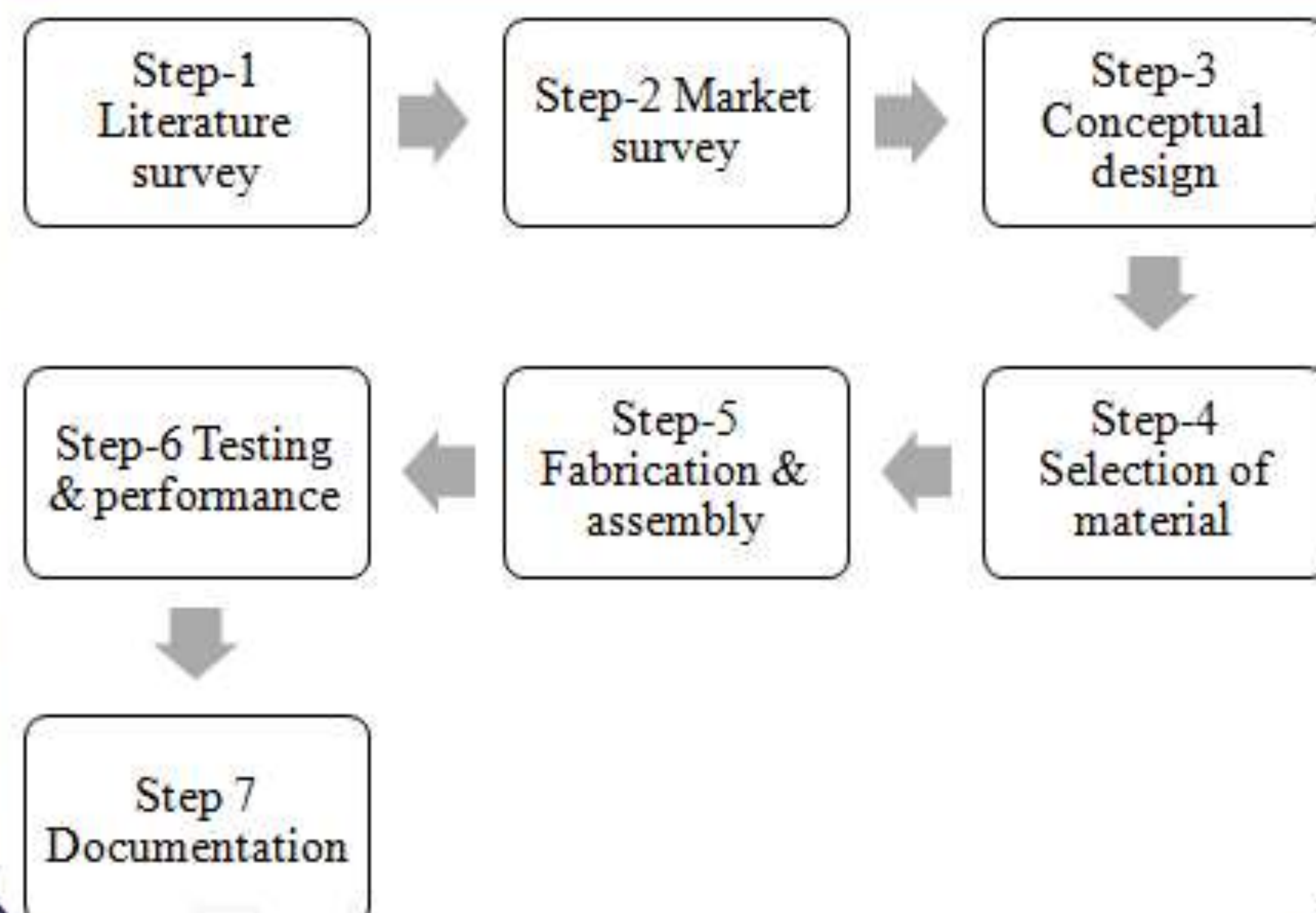
❑ To achieve cleaning with foldable bicycle and cleaning attachments so whenever the bicycle moves, the cleaning can be achieved.

❑ To achieve cleaning in different ways such as dry (on front wheel by brushes) and wet (on rear wheel by mop).

❑ To attain folding mechanism with each offering a distinct combination of folding speed, folding ease, compactness, ride, weight, durability, and price.

❑ To make the foldable bicycle that can be more easily carried into buildings, on public transportation, and more easily stored in compact living quarters or aboard a car.

Methodology



Expected Results and Discussion

- This project works implements the manually operated eco friendly road cleaner for road cleaning that reducing the cost, human efforts as well as time.
- Folding mechanism is introduced so it can be easily carried from one place to another.
- Cleaning attachments such as dry cleaning and wet cleaning are done in the front and the rear wheel of the bicycle.

For this purpose mild steel is used

Folding time for the bicycle= 25 seconds

Speed of the motors on front wheel = 100 RPM

Speed of the motor on rear wheel = 60 RPM

Area covered by the dry cleaner which is attached on the front wheel= 18 cm

$$\begin{aligned} \text{Area} &= (3.14 \times 9 \times 9) \text{ cm} \\ &= 254.34 \text{ cm}^2 \end{aligned}$$

Area covered by the wet cleaner which is attached in the rear wheel= 13 cm

$$\begin{aligned} \text{Area} &= (3.14 \times 6.5 \times 6.5) \text{ cm} \\ &= 132.66 \text{ cm}^2 \end{aligned}$$

Design parameter

S.NO	System Component	Dimension
1	Wheel diameter	21"
2	Wet mops	80 mm
3	Dry brushes	80 mm
4	Angle	4 mm x 8 mm
5	Hinges	2.5"
6	Chain length	58"

DIFFERENT VIEWS



Conclusions

- In the fabrication of foldable bicycle with cleaning attachment the cycle is easily folded and the cleaning can be done with the help of wet and dry cleaners.
- Bicycle can be carried easily from place to place without any problem and is more convenient.

References

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GUIDED BY : MR. RAVINDRA RAM
ASSISTANT PROFESSOR
(DEPT.OF MECHANICAL ENGINEERING)