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EUPVC Cycle

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Abstract: Electric cycle has gone from being an old-fashioned recreational product to a less polluting means of transport and a compact, ultra-light personal mobility tool. This is how electrical bicycles will be used as the pillar that could support individual public transport in large cities worldwide. The objective of this manuscript is to detect how worldwide research on the electric bicycle is being developed, and, especially, around which scientific domains is it clustered, to finally identify the main trends in the field.

Keywords: Electric motor, Controller, battery and upvc material etc.

I. INTRODUCTION

An electric cycle, or e-bike, is a bicycle with a battery-powered motor that have a small electric motor and a battery as well as made up upvc pipe. Electric cycles without pedals, often referred to as "electric scooters" or "electric mopeds," represent a unique category of personal transportation. These devices are designed for users who prefer not to pedal. Instead, they feature a throttle mechanism that allows the rider to control speed without any pedaling effort. A pedal- less electric cycle, often referred to as an electric bike (e-bike) without pedals, is designed to provide convenient and efficient transportation without the need for traditional pedaling. These bikes come equipped with an electric motor that propels the vehicle, allowing riders to travel at higher speeds with minimal effort. Typically operated with a throttle, riders can control their speed just like a motorcycle or scooter. Electric cycles without pedals are great for urban commuting, offering an eco-friendly alternative to cars and public transit. They often feature rechargeable batteries, which can provide a range sufficient for daily commutes, errands, or leisurely rides. Additionally, many models are designed for ease of use, making them accessible for a wide audience, regardless of fitness level or cycling experience.

II. LITERATURE SURVEY

A literature survey on electric bicycles (e-bikes) without pedals (also known as throttle-controlled e-bikes or electric scooters) involves examining a range of studies and reports that focus on their design, technology, user perception, environmental impact, and policy implications. Here's an outline of the key topics and findings typically covered in such surveys,Safety, speed, crowding, and user conflict are common concerns related to bicycles generally, and these concerns are heightened for e-bikes. Recreation conflict literature suggests that most conflict follows an asymmetrical pattern, and research on e-bikes shows that experience informs perceptions.

III. PROPOSED SYSTEM

There are multiple proposed systems for electric cycles, including self-powering bikes, pedal-assist bikes, and electric-assisted bikes. A "without paddle electric cycle" proposed system would essentially be a fully throttle- controlled electric vehicle resembling a bicycle in design, where the rider does not need to pedal to move, relying solely on a motor powered by a battery and controlled by a throttle mechanism to propel the bike forward; essentially functioning more like a small electric scooter than a traditional bicycle. Designing an electric cycle or e-bike system involves several key components and considerations to ensure efficiency, safety, and usability. Below is a proposed system for an electric cycle, outlining its main features, components, and functionalities. All of the electronic components of an electric bicycle have been connected via the control unit. It would be linked multiple sensors, the battery, the motor, the throttle, the display, and other components. The brain of the electric bike would be controller or tiny computer.

IV. PROBLEM STATEMENT

Electric cycle can have problems with weight, handling, battery, and safety.

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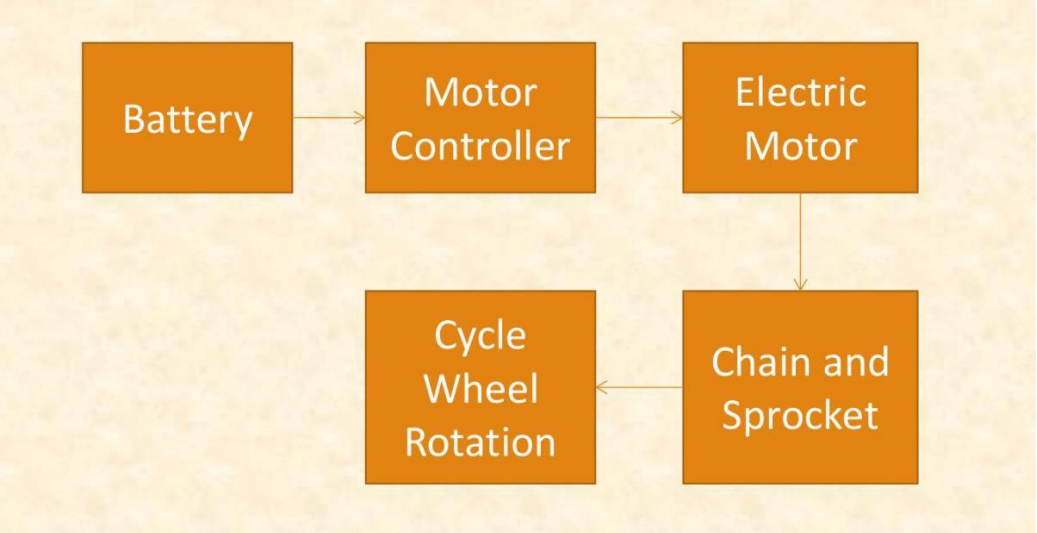
V. EXISTING SOLUTIO

By changing material are used UPVC (Unplasticized Polyvinyl Chloride) pipe.It is less weight and high mechanical strength as well as tension strength and cheap in cost.



Fig(1). Block Daigram

VI. HARDWARE DESCRIPTION

❖ **Component used:**

1) Geard Motor
2) Battery Charger 3)Throttle
4) UPVC Material
5) Charge Controller

1) Geard Motor:

In this project are used for geard motor. Motor are convert electrical energy into mechanical energy are more torque. This motor are fixed in wheel

2) Battery Charger:

Charger are used for to charge the battery. Charger are convert AC quantity into DC quantity Suitable battery level.

Parameter	Value
Voltage	24V
Current	11 amp

Table1:Specification of charger

3) Throttle:

The throttle is easy to use and great for those that want to keep the original handle bar grip. Typically the thumb throttle is used on bikes that twist gear changing system. It is used to control the speed of the motor. The throttle is used for acceleration purposes in the electric bicycle.

4) UPVC Material:

UPVC material means it is a less weight material and more mechanical strength i.e upvc pipe,upvc elbow,upvc tee,upvc fourway. This structure of cycle is made up upvc material.

5) Charge Controller:

It is essential to regulate the voltage output from the dynamo before it is supplied to the battery.

A charge controller is a power converter which has a greater output DC voltage than the input DC voltage. This is used to regulate an input voltage to a higher regulated output voltage above rated voltage of battery for charging purpose.

VII. ADVANTAGES

i. Less weight of cycle as compare to other electric cycle.
ii. More battery backup due to less weight.
iii. More efficiency.
iv. Lesser maintenance cost.
v. Throttle is simple to operate and less strain on hands.

VIII. FEATURE

i. Used less weight and more mechanical strength UPVC (Unplasticized Polyvinyl Chloride) pipe.
ii. Less weight of cycle.
iii. Cheap in cost.
iv. Long life due to plastic material used.
v. Energy-efficient.
vi. Transportation with numerous physical and mental health benefits

IX. CONCLUSION

A "without paddle electric cycle," essentially a fully throttle-operated e-bike, offers convenient, effortless transportation for short distances, but lacks the exercise benefits of traditional cycling, raises concerns about potential over-reliance on electric power, and may face limitations in certain terrains or legal restrictions depending on local regulations; while it can be useful for individuals with mobility challenges, prioritizing a pedelec (pedal-assisted) e- bike that requires some pedaling is generally considered a more balanced and sustainable option for most users.

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