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Design and Development of Elliptical Bicycle

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Abstract: ***This project deals with the design and development of the elliptical bicycle.*** **Now-a-days due to** ***the societal and personal burden, we don't have time for Physical activity. Physical activity including exercise, walking, running, etc. The treadmills are used as exercise machines for running or walking in one place, we are utilizing same principle with some modifications for travelling a shorter distances. A new type of bicycle is introduced which has its advantageous impact on human life which is called as the "Elliptical Bicycle". This bicycle can be helpful for peoples to travel short distances as well as used for exercise. Using this elliptical bicycle, allotting a separate time for their exercise is not needed.***

Keywords: Treadmill, Bicycle, Elliptical, Exercise, Short distance

I. INTRODUCTION

The purpose of this project is to design and development of an elliptical bicycle which can run faster compared to normal bicycles with less pedalling force to drive it. An Elliptical bicycle has less effort to drive rather than normal bicycle. Elliptical bicycle is innovative thing of a normal bicycle.

Treadmills are used as exercise machines for running or walking in one place, we are utilizing same principle with some modifications for travelling a shorter distances. This bicycle can be helpful for peoples to travel short distances as well as used for exercise. Using this elliptical bicycle, allotting a separate time for their exercise is not needed. It also posed access challenges to people with disabilities, chronic conditions, etc.

Implementation of low-cost modifications successfully reduced barriers and the need for assistance, enabling greater access for people who could benefit from using the devices for functional training and fitness.

It consists of a frame which is the foundation of the cycle as it is where the other components of cycle are installed such as handlebars, seat part, saddle, headset tracker, tyres and wheels, bottom bracket and crank set. The bicycle works on physical system because there are several parts which work together to perform a function known as 'cycling'. It is a traditional method for travelling. These innovations have continued with the advent of the modern materials and computer aided design, allowing for a specialized bicycle type. By developing the low effort run cycle can deliver high performance with minimum input.

This cycle is easy to ride and more stable than it looks. Riding this kind of cycle requires the same amount of balance as it required to ride traditional cycle. Because of its design it is aerodynamically efficient.

II. PROBLEM STATEMENT

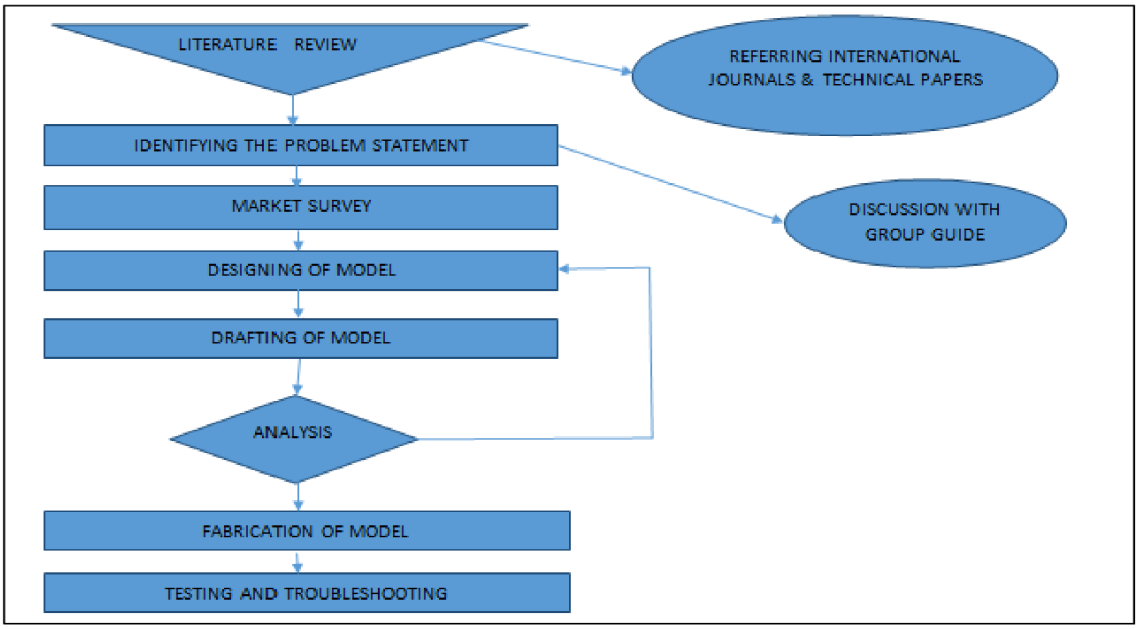
The treadmills are heavy in weight and stationary at the gym so people get bored while running on it.

A. Treadmill is no longer way mobilize farm operation, but an effective exercise alternative for challenge like weather, hectic schedule and physical limitation busy street and crowed area.
B. In our day to day life the people mostly uses of cars, bikes, etc to get pollution prevent in environment pollution and fuel pollution.
C. People who travel in nearby offices below 5-7 Km they can used treadmill bicycle.

III. OBJECTIVES

A. To design out outdoor low effort run cycle.
B. Develop cost effective cycle.
C. By this the rise in pollution can be greatly minimized and also make people exercise while they travelling to various destinations.
D. It has also played a predominant role in global warming and also took up some part in fuel less transportation method.

IV. METHODOLOGY



V. DESIGN

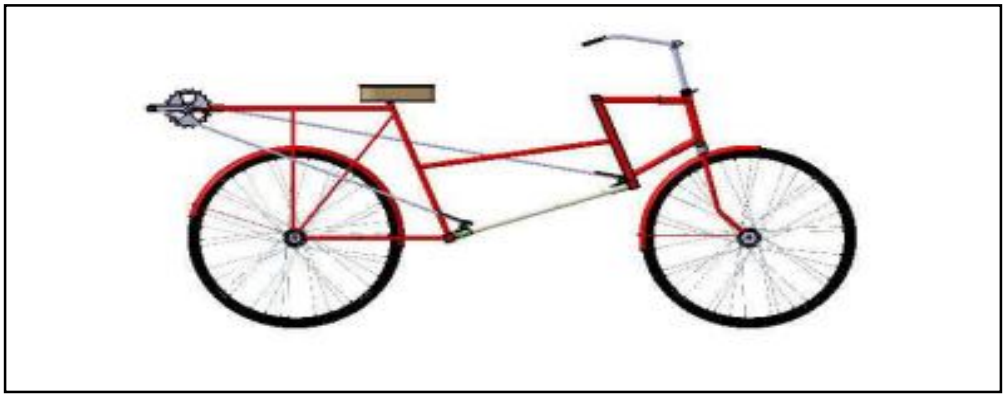


Figure1. Side View

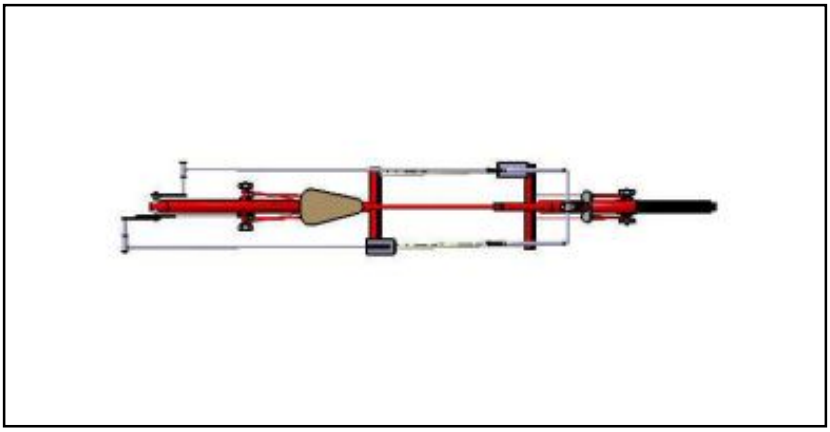


Figure2. Top View

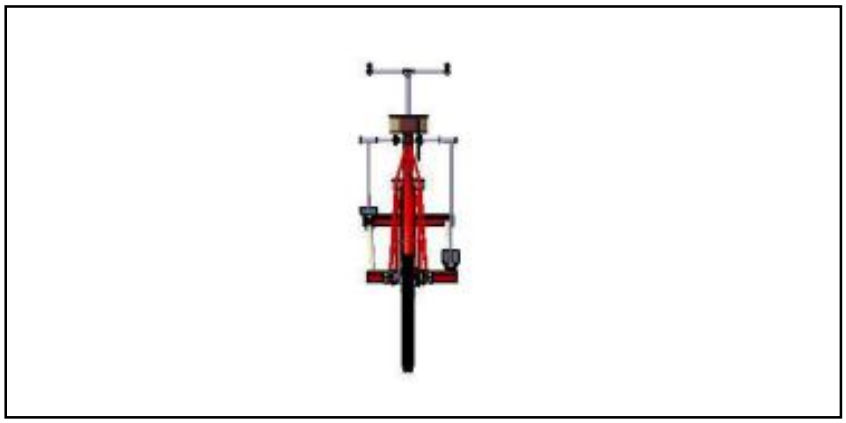


Figure3. Back View

Figure4. Isometric View

VI. FUTURE SCOPE

A. No need of separate time for exercising.
B. No need of skilled operators to operate this machine.
C. The cost of the system is less.
D. Less maintenance is needed.
E. Easily portable.

VII. APPLICATIONS

A. Fitness and gym.
B. Those who are interested in evening walks.
C. Two wheeler Application.
D. Light vehicles.

VIII. CONCLUSION

Elliptical bicycle can perform multi operation in minimum time. Elliptical bicycle is completely manual operated. Elliptical bicycle provide more exercise for human. Elliptical bicycle does not used any organic fuels so it is very eco-friendly. Elliptical bicycle does not promote any type of pollution. In This bicycle can be helpful for peoples to travel short distances as well as used for exercise. Using this elliptical bicycle, allotting a separate time for their exercise is not needed.

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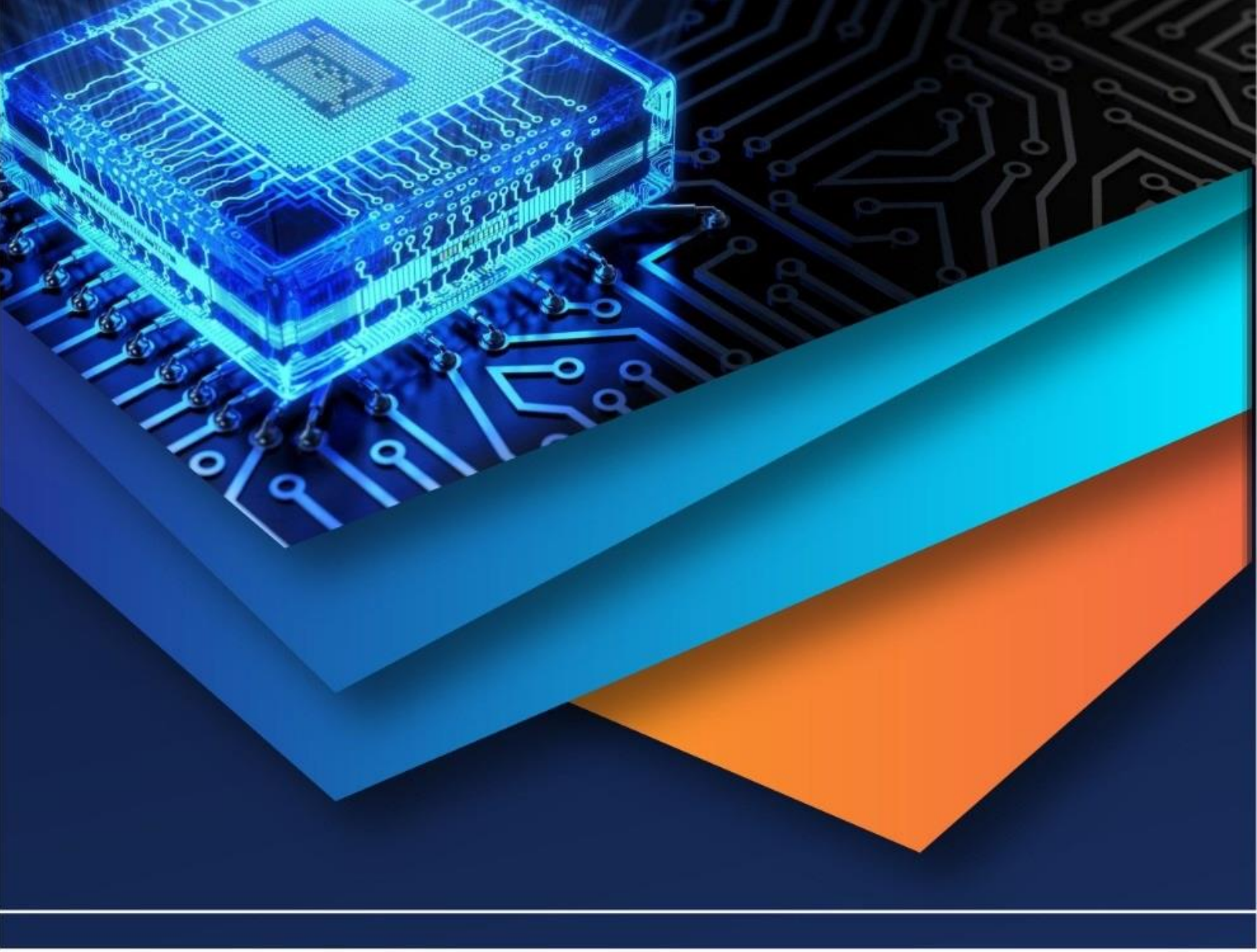

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