CASE STUDY

STATIONARY **EXERCISING SCOOTER**

INDUSTRIAL DESIGN & DEVELOPMENT

STATIONARY EXERCISING SCOOTER

INDUSTRIAL DESIGN AND DEVELOPMENT

BACKGROUND

A physiotherapist, after seeing some kids riding a scooter came up with the idea of converting this scooter action into a stationary exercising unit so that it will benefit the people suffering from body joint pains, rehabilitation after surgery etc. Stationary Exercising Scooter or SES is a physio-workout equipment, which replicates the scooter playing action on a stationary platform. SES is targeted towards the patients suffering from post-surgery ankle, knee, and hip patients, various ankle and knee conditions that do not need a surgery, back pain patients, arthritis, etc

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The client approached Onio for working on his idea and converts it in to a functional product.
The client defined the requirements for product as follows.

1. This will be an exercising machine that will provide leg and hip as well as some abdominal muscles with sufficient amount of exercise
2. The user of all age group will use it
3. Speed regulation, inclination adjustment should be possible

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INDUSTRIAL DESIGN AND DEVELOPMENT

The work started with initial product analysis to study the rider's behaviour while riding the scooter, balancing at varying speeds and motion analysis. Depending on the results various options were tried to combine the scooter with the existing treadmill.

Various tests were conducted on the scooter

Combining scooter with treadmill was a real task

STATIONARY EXERCISING SCOOTER

INDUSTRIAL DESIGN AND DEVELOPMENT

ONIO'S SOLUTION

The final solution was reached keeping in mind the brief specified by the client and the outcome of the initial study such as:

1. Keeping the footprint as small as possible
2. Keeping front wheel free so that user will feel true scooter riding experience
3. Ease of use for young as well as elderly people

The final design included following features:

1. Single belt treadmill with scooter mounted on one side
2. Lever mechanism to change the side of the scooter for riding with both the legs
3. Simultaneously
4. Adjustable speed
5. Inclination adjustment
6. Speedometer, calorimeter, pulse meter

A full-scaled working prototype was made which is then tested for its performance before it was delivered to the client.

Wooden mock up model and final working prototype (below right)