A Review on Application of Flyboard Air

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Abstarct

The purpose of this research is to do detail study of flyboard it's functioning , uses, scope in future , meachanism , components , impact on enviroment , stability and saftey. It is a specially designed air based product (FLYBOARD) with improved capacity and stability which make it ideal for platform previously which were thought to be impossible. It's approach is capable of being scaled in various platform and meet variety of utilities . Especially application which requires, incredible speed and power that this flyboard can achieve.

It has many scope in fields related to Defense , Industry , Transportation, Entertainment and Recreation.
Defense:
>Increase reaction rate.
>Penetration in Denied Area.
>Provides mobility to individual special Ops.
>Rescue and Recovery.
>Entertainment and Recreation:
>Air shows.
>Recreational uses.
>Film and T.V

INTRODUCTION

we are living in a world which is making itself better each and every day, Every day a new thing is invented and manufactured to make or life safe and comfortable .Today we are chasing impossible to make it possible , Every idea is used in positive way for our society and future of our society.

FLYBOARD

Today I am talking about , The Flyboard by Zapta Racing , created in 2011 by a genius Franky Zapta connected to PWC turbine which allowed user to sky above the ground where birds open their beautiful wings , diving and jumping out of water and performing free style. In less than 15 days the video uploaded by Zapta Racing was viewed by more than 2.5million times on you-tube. After only one year of exploitation , 2500 machine were sold around the world. In 2015 Zapta Racing introduced pro series which revolutionized the hydro sport. It redirect the water pressure to nozzles placed oneithersideoftheflyboard.

FLYBOARD AIR

In 2016 they introduced the new product in the market flyboard air it is a type of jetpack/hoverboard which is powered by a gas turbine .It is use of turbine engine propellers and the use of intuite flight control over human body. Which achieved a guinneis world record of fastest flight by hoverboard of 2,252.4m .

It is claimed that it can reach the altitude of 10,000 feet with top speed of 150 km/h . It has also 10 minte autonomy. It is claimed that it can reach the altitude of 10,000 feet (3000) ,with top speed of 150 km/h (93km/h) It also has 10 minute autonomy It is hoverboard powered by jet fuel, which is present inside the backpack strapped to the back of the rider . It is packed with 4 beautiful and powerful 250-horse power turbo engine to you flying , two more on the sides of hover board to provide extra stability.

- Zapta has developed a special algorithm for stabilization . Each engine can be operated individually to change the thrust and angle . It can even fly over three engines , making it possible to land safely if one engine fails during the flight.

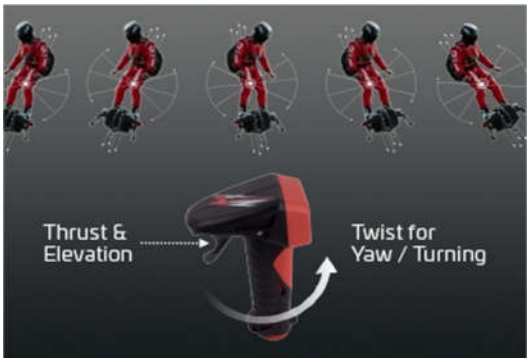
SPECIALITY
*Turbine powered Engines:
>Turbine powered engines should be 10 x (the power to weight ratio) of other power sources.

>You can put a lot more power into the restricted place.
>Efficient of converting chemical energy into powerful upthrust.

*Combination of thrusters :(fig 5.2)
> incredible increases in it's velocity.
>have the chances of engine repetitiveness.
>in case of lose of an engine cab be compensate but with the help of E.C.U. and adjustments of pilot.

*Self-generated Flight Controls:(fig 2.3)
> easy to run.
>Designed to run without training of a pilot.
>Humans friendly design and their natural ability of balance.
>safely train upon the water propulsion flyboard.

Combinations of thrusters (fig 5.2)



Intuitive flight control (fig 5.3)

SAFTEY AND REDUNDACY

>Whenever engine is out of power, If Flyboard Air lose one of it's engine and than also it can continue the task .If 2 engines are out ,then Flyboard will make a smart decision and controlled movement down to lower place.
>Auto pilot mode is allowing the pilots to maintain firmely a fixed altitude without any management of throttles.
>It has separated turbines with better (cooling) + (lubrication) which increases the engine reliability with increased life span.
>It has embedded stabilization which independents the flight control.
>Any electric malfunction can effect only one of it's engine at a time and the flyboard will still fly safely.
>Supply of fuel to the engines are independent.
>Tri inessential air-unit control-doubly wired system , and one accompaniment of wireless program.

* Unmanned Application:
# First response:
>Free drone evacuation.
>Mass casualty Restock and emptying.
>Emergency admittance for medical distinctive.

>Saving and Betterment.

Industry Application:

>Specillized trouble-shoot platform.
>checkout of Infrastructure.
>Specillized arrangement.
>Recovery.
>Security.

PERFORMACE SPECSC:

Capabilty	Demonstrated
Maximum speed	140 km/h
Maximum Altitude	150 meter
Flight Time	6 minutes
Maximum capacity	100 kg

SUMMARY

- It is jet powered personal aerial vehicle powered by gas turbine and 250 horse power turbo engine capable of VTOL and unmatched individual mobility .It is a thing which inventors has been chasing for decades the personal flight but zapta has achieved it their unique and innovative approach has came from their experience in hydro flight .
- It consists of four 250 horse power turbo engine.
- Its body is made up of carbon fibre with help of 3D printers.
- It has also wireless backup for emergency.
- It use jet aviation fuel.
- It can even fly if one of its engine run off due to its speacially designed algorithm for stability.

They are leading us toward the future with different view , with creation where believed to be impossible.

It is key to our beautiful future which help in invention and creation of those product which we have dreamed which provide us the freedom to fly in the sky without any wings.

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