**ITWS-2 Project Ideas**

**Idea 1: An automatic cleaning Robot**

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***Abstract Idea :***

Our project aims at creating a mini **automatic** robot to vacuum and mop the floor. The robot will move automatically by sensing the surroundings and obstacles. It will efficiently clean the floor by first vacuuming all the dust and then using water-based mop to wipe the floor. It provides a cheap alternative to conventional home cleaners which are very expensive.

**Justification Scalability and novelty :**

The novelty lies in making the robot automatic so that it can efficiently clean the entire room with minimum human intervention.

The robot should be able to clean a single room efficiently. The lesser the number of furniture and other obstacles in room , the better it will work.

Since people have busy schedule now-a-days this robot will reduce their daily workload by taking care of their house cleaning chore.

***Hardware Components Required :***

* **4 Gear Motors for moving the main chassis**
* **2 chassis**
* **2 conveyer belts to efficiently move the wheels (optional)**
* **2 normal motors for rotating the mop**
* **1 Arduino Board**
* **USB Power bank to power the Arduino**
* **2 small motors for rotating the mini broom to push dust towards vacuum cleaner**
* **Dust cleaning vacuum pump.**
* **2 ultrasonic sensors.**
* **Wifi module for controlling using arduino**
* **2 Servos for rotating the ultrasonic sensors in 360**
* **10 9-volt batteries to power all the motors and the vacuum pump.**
* **Water pump to wet the mop.**

**Components required apart from hardware kit and approximate cost.**

* **Conveyer belts (approx. 350)**
* **(4 wheels and belt combo available for 700 rupees)**
* **12 volt Vacuum Pump (300 rupees)**
* **2 ultrasonic sensors (280 Rs)**
* **2 servos (180\*2 = 360)**
* **Water pump (190 Rs)**
* **10 9 volt battries (25 Rs each)**
* **volt battery clip connector**

**Idea 2: A Complete Home Security System**

**Idea 3: Wireless USB/SD-Card Interface**