

## Motorised cob web, pick pocket alarm and other ideas

### National Third Student



**Ankush Kumar**  
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Young Ankush (17) has a mind beaming with ideas. He has made a number of small utilitarian gadgets that can help in every day life like pick pocket alarm, cob web cleaner, and an alarm system that informs if your little child moves out of a particular range.

Ankush is a student of class twelve. His father used to work in the Food Corporation of India (FCI), Sindri, which is 28 km away from Dhanbad. Unfortunately, the FCI Sindri unit closed down in 2001 due to some administrative reasons. Many families shifted to other places in search of livelihood while many others joined ACC Ltd. (a cement company) or started their own work. His father now works as an insurance agent while his mother gives private tuitions. His younger brother is a student of class ten.

He has been a good student, securing between 70 to 80 per cent consistently in studies. Science is his favorite subject. Since childhood he has had the habit of tinkering with different things specially electronics. His parents though do not mind him doing such things but believe that first he should concentrate on his studies, which are most important. His younger brother



has little interest in such activities and prefers playing games in his free time. When asked about his friends Ankush says, “*Samajh mein nahi ata hai unko isliye nahi batata hu, sb majak udate hai*” (They don’t understand what I do and make fun of me hence I don’t tell them anything). Apart from his family, his science teacher also motivates him to work more. In fact it was he only who suggested Ankush to keep a diary handy so that whenever some interesting idea comes to his mind, he can note it down in it to work on it later.

He also likes watching science related programs on television. In fact, it was through the NDTV program, Avishkar India that he came to know about NIF and got in touch with it. Apart from doing innovations himself, he also actively looks for other such creative children and motivates them to send their entries to NIF. For the IGNITE 08 and 09 competitions (national competition for children’s ideas and innovations), he documented dozens of creative ideas from students and forwarded it to NIF.

### **The motorized cob web cleaner**

How many times we frown at the irritating sight of the cob webs in the corners of our rooms, which refuse to go away completely with the traditional cleaners. Ankush also used to get irritated with these. Once while working with a small toy motor, 9 years old Ankush observed that it was able to wind a thread that was lying close by. This triggered a thought that he could use such a motor to clean the cob webs.

He developed the first prototype within a few days of conceiving the idea years very small using a small DC motor, two torch batteries and a piece of rod. It was a small hand held device made from items available at his home. Then later in 2006, he improved it and developed the second prototype with some improvements by spending Rs. 250/- of his own. This model used two long rods that could be attached and removed as per the requirements. It was this cob web cleaner whose entry was sent to NIF, Ahmedabad for the 5<sup>th</sup> National Biennial Competition. Later in 2007, Ankush developed the third prototype with the financial support of Rs. 500/- from

NIF, Ahmedabad. This was same as the earlier one. In 2009 he has developed an improved version of the same.

The motorized cob web cleaner has a 6 V DC motor, soft plastic brush, long plastic pipe, extendable wires and one electric switch. It uses four pencil cells. The motor is attached to the end of the pipe, which is used to locate the motor at the place of the cobweb. The plastic bush is attached to the motor shaft. When it is switched on, the shaft rotates the bush, which winds up the cob webs. This device can also be operated by domestic AC supply of 230 V using an adaptor having output of 6 V DC. As the weight of the device is under 500 g, it is easy to use and is convenient. The pipe is in three pieces, which are coupled to each other such that they can be folded at the hinges like that in a table lamp.

NIF, which has filed a patent for this device<sup>1</sup> is already working on it to improve the aesthetics and the efficiency. He was also supported financially for prototype development by NIF.

### **Other ideas**

Another innovation of Ankush is the “Pocket Police”, which is a pick pocket alarm and gets activated when someone tries to steal something from the pocket. He developed it in 2006. In this device a red LED bulb is fitted to a spectacle through wire and a sensor is kept inside the purse.



When someone touches the purse, an alarm is sounded and the LED starts to glow in the spectacles. He received an award at Birsa Institute of Technology, Sindri for this device in 2006 when he was in class 9.

Another alarm based anti-theft system is the ‘Guard 2000’ where jewellery or other valuables are placed in a box fitted with an alarm. The alarm is sounded when anyone tries to have an unauthorized access to the box. One of his ideas, ‘Helmet as a Communication Device’ recently got published in the Honey Bee newsletter (Honey Bee 20 (2): 12, 2009). He suggests that a walky-talky speaker can be installed inside a helmet. The antenna



can be affixed on its surface. During an emergency, it would be easy for policemen to connect with their head quarters even while riding a two-wheeler. Another interesting idea from his creative mind is that 'Child detector' as he calls it. Ankush has thought about a system where the wrist watch of a child will have GPS facility, which would be integrated with his/parents mobile. Whenever the parent wishes to know the location of the child, he could use the software in his mobile to find out the exact location. The wrists watch of the child would also have an emergency button, which when pressed would send an SMS to the parent's mobile about the location. This would be helpful in cases of kidnaps for locating the victim.

He has submitted numerous other ideas to NIF as well. He wants to study engineering and develop solutions for the masses. He also plans to start an enterprise based on any of his innovations till date or in the future.

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<sup>1</sup> Manual cobweb cleaners are available in the market along with some semi-automatic ones. Motorised cobweb cleaning devices using electric power (US Patent 5682636), battery operated cobweb vacuum cleaner (US Patent 4748712), battery operated spinning cobweb cleaner ([http://www.elexp.com/kit\\_s100.htm](http://www.elexp.com/kit_s100.htm)); web vac for cleaning ceiling including cobwebs using vacuum (US Patent 6049944). Also automatic cobweb eliminator are available in art (<http://www.touchoforanges.com/clco.html>), Battery-operated hand held duster (US Patent number 7086115), manual cobweb eliminator having a brush ratable by hands (<http://www.bugspray.com/catalog/products/page1228.html>, [http://www.pestproducts.com/cobweb\\_eliminator.htm#Description](http://www.pestproducts.com/cobweb_eliminator.htm#Description)). In the available technologies there are no soft brushes in the rod therefore cob web gets tightly wound around the rod therefore to remove the cob web from the rod is very difficult & time consuming.

