DREAM KIT – INTERNET OF THINGS BASED HARDWARE MODULAR KIT FOR EASY PROTOTYPING

Project Reference No.: 42S_BE_0373

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Keywords:
Internet of things, education system, kids, prototyping, innovation.

Introduction:
We now live in an era that’s driven by innovation and imagination. Over time man’s curiosity has led to four major industrial revolutions. The fourth revolution is on a quest for those who can unleash the power of imagination and contribute to the betterment of the world.

Us being training school students on technology and innovation since 2 years now, we believe that the young minds do get exceptional innovative ideas that can drive the world that we live in. But in many cases, kids in the process of realizing their ideas, they get stuck, may be due to the lack of resources or the know-how about the process. Also on the other end, studies say that the creativity of a child diminishes with age, and one of the factors for the same, is the education system we have today. Fortunately, in our country, India, the education system is having a paradigm shift towards more practical and experience based learning. With facilities and labs setup like Atal Tinkering Labs all over the country in many schools are taking the kids through an immersive learning process, where a child learns through experimenting, reasoning and evaluation the concepts. Parents on the other hands, are more looking forward for a method, with which they could influence their child’s growth without them resorting to lecturing them. Noting these necessities for means of learning, we are building Dream Kit, as a tool with which the young minds can create, build and learn, puddle their creativity and tinker their innovation.

We believe that with Dream Kit, letting the kids create with the cutting edge technology like Internet of things, robotics and having them build on their dreams with these would get us to see more innovators, entrepreneurs and maverick tinkerers, who truly are having the power to bring in a change.

Objectives:
- To bring an easy prototyping kit, with which a child can create and build on his ideas with equipment of engineering and science.
- To be an active part contributing to the changing education system, by building in tools for the students to pursue education and learning in a whole new dimension.
- To be a spark ignitor of the young ideas of the budding talents of our nation. We aim Dream Kit to be used as a platform with which realizing ideas and innovation, are faster, easier and
better. This would lead us in getting in more entrepreneurs, creators, and innovators from the young age group.

**Methodology:**

We have designed and are developing Dream Kit keep in many aspects of a child’s learning process. From the way a child learns his education curriculum to the way a child plays with his toys, are all considered when we designed Dream Kit.

Dream Kit is an electronic hardware kit, with which a child can create and learn simple things like glowing an LED to creating innovations like prosthetic arms and home automation systems. Dream Kit has 3 major parts, a hub, add on modules and the software. The hub, acts like a brain and all that the child wants the Dream Kit to do, he programs it in to the hub using our custom easy story based GUI programming software. The software has color coded blocks written in simple English, which he has to drag, drop and connect them to create a beautiful piece of working code. On the other end, we have the add on modules that gets snapped to the hub just with one single wire, reducing all the hassle that was involved in wiring and electronic circuit, just for a child. Currently, we have built over 12 different add on modules and have designed more than 35 different add on modules, that could satisfy all the needs of creating for a child.

Also currently our team is working on building an IoT edition of Dream Kit which gives the power of cutting edge technology in the hands of the young creators and change makers. The IoT edition, mainly has the hub embedded in each module and they are so smart that they can communicate to each other from any distance range without even a single wired connection.

**Results and Conclusion:**

We have designed Dream Kit with the utmost craftsmanship to be one of its kind. With our first set of prototypes, we have tested & implemented it in 3 schools. Post a survey, we have fine-tuned Dream Kit to give students and others using it, the best practical knowledge & experience of science and engineering and also puddle ones’ creativity. Currently, it has a hub & over 30 different sensory modules, that all get connected with just a snap of single wire. With our software, DK Studio the coding experience is simply refurbished just for a child, the user just connects blocks of codes that are in simple English to get their idea into working. From automatic lights to plants, one can explore with Dream Kit in 3 steps - Connect. Code. Create. With our upcoming IoT edition, we believe that we can make a lot of young and budding minds being sprint ready for the future industry and ecosystem.
Future Scope:

- It’s been 2 years us working on this revolutionary idea, our future footsteps would be towards, reaching out to more number of schools and collecting an active feedback, and then fine tune Dream Kit.
- Post which by the start of 2020, we would be getting into manufacturing well-furnished version of Dream Kit and we would start our sales cycles.
- Also we would be working on our new edition of IoT, so as to get such powerful technologies in the hands of the kids and to letting them build on these cutting edge platform.