

Photos: Liam Nadire

Pre-Engineering Newsletter

February 2010

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Project TUVA

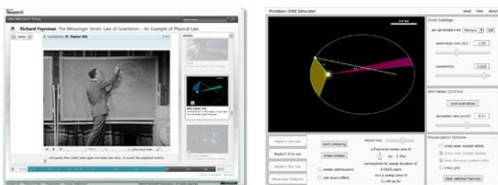
Microsoft Research Project Tuva presents Nobel Prize winning physicist Richard Feynman's Messenger Series lectures within a new video player. This enhanced video player features searchable video, linked transcripts, user notes, and interactive extras.

Access to Project Tuva is Free, Courtesy of Bill Gates

To access it, go to <http://research.microsoft.com/apps/tools/tuva/>

Bill Gates is one of the people whom you would invariably expect to find science fun and interesting. But Gates also believes that with the necessary catalysts so can a lot more students - students destined to become the technology innovators of tomorrow, if only they were nudged in the right direction early on. This is what Project Tuva is all about, making sure that the right nudge is in place. Available free of charge thanks to Microsoft Research and Microsoft Chairman Bill Gates, Project Tuva is a Silverlight-based website designed to share with the general public an acclaimed lecture series held by physicist Richard Feynman from Cornell University in 1964.

<http://news.softpedia.com/news/Access-Project-Tuva-for-Free-Courtesy-of-Bill-Gates-116778.shtml>



Kent School Takes Pride in Striding Toward Innovative and Progressive Endeavors

In 1995, Kent School partnered with Microsoft and Toshiba to create the Anytime Anywhere Learning program. Continuing with the spirit of innovation, we are a forerunner among schools in the implementation of a TabletPC wireless environment.

National education standards and benchmarks for K-12 engineering are being considered. Several faculty members are familiar with CAD software programs, such as SolidWorks and Autodesk. These programs are used by manufacturers for modeling and are interfaces for 3D design. Last year, Dr. Nadire received full training in Solidworks, after receiving a grant to cover the cost of training as well as a network license for the year. Twelve students worked with SolidWorks during the 08-09 school year. Through the Wentz fellowship, Mr. Austin received full training in Inventor Autodesk. Through the FIRST Robotics competition, Kent School received licenses for Autodesk and students have already used the software for project design. With these two major CAD software programs, our students produced 3D modeling and reversed engineering projects.



Kent Pre-engineering Program Acquires a 3 D Printer-Z-450

With the support of parents and friends of the school, Kent School was able to acquire a Z-corporation 3D color printer, the Z450 (see picture.) We can now begin operation of a Rapid Prototyping (RP) System Lab, where teachers and students will be able to create physical prototypes from many computer models. This Lab and the existing Robotics Lab, both situated in room 411 in Schoolhouse, will create a

viable infrastructure for the Pre-Engineering program as a whole.

3-D Project Description (Classroom use)

Photo by Bussaba Amnueypornsakul '10

Design Projects (Reverse Engineering) "Teams of students will work on reverse engineering of existing products. This type of project involves team building exercises and communication skills development. Disassembling an existing product will allow students to discover why it has certain forms and features, how the product works and how to improve some aspect of the product, process or project."

"No one was more adept at making science fun and interesting than Richard Feynman," Gates explained. "More than 20 years after first seeing them, these are still some of the best science lectures I've heard. Feynman worked hard during his life to popularize science, so I'm sure he'd be thrilled that now anyone, anywhere in the world, can just click a button and experience his lectures."

Kent School Robotics Team 2785 FRC Schedule

Advisor: Mr. Austin

Season Schedule

2/20/10: Suffield HS (FRC176) Shakedown Scrimmage

2/23/10 Ship Date

3/24/10- 3/28/10 SPBLI Regional Competition (at Hofstra University)



Engineering Design "The Z Corp. 3D printer is capable of creating appearance prototypes directly from digital data, allowing students to evaluate their designs in 3D. The education components involved in the creation of prototypes are: solids modeling, use of software, rapid prototyping, assembly modeling, geometric dimensioning and tolerancing, functional modeling and simulation."

Biology and Chemistry (Molecular Modeling) "A three dimensional model allows students to accurately represent molecular models in chemistry. They can create models to study anatomy, physiology, cell biology and molecular genetics."

Design Arts & Architecture Students are able to create a physical form of their design and gain valuable feedback on their projects. The Z corp 3D printers can produce models of many complexities. Quick and inexpensive models make it possible to print multiple pieces during the course of a project. The model itself is then part of the creative process.

Summer Camps for K-12 Students in Engineering

"<http://www.engineeringedu.com/camps/al.html> lists, by states, some of the summer camps for K-12 students in engineering throughout the United States and Canada that are and were previously offered. The database is provided by the Engineering Education Service Center. The directory lists camps that have been hosted by Universities and research centers in the past. Please note that all camps may not be offered every year and that new camps and programs are currently being added. Old or unsuccessful programs are always being eliminated or modified."

Engineering and Engineering Technology College Profiles 1998-2008

"<http://profiles.asee.org/> lists the Engineering and Engineering Technology College Profiles for 1998-2008, prided by The American Society for Engineering Education (ASEE.) Note from the search site: When searching for schools, it often helps to type just part of the school's name, in case the school is listed differently than you expect. Example: "Virginia Tech" yields 0 results. "Virginia" yields 4 results, including "Virginia Polytechnic Institute and State University."

Thank you for your time and feel free to contact me if you need more information.

Dr. Nadire
Wentz Pre-Engineering Program Director
Kent School