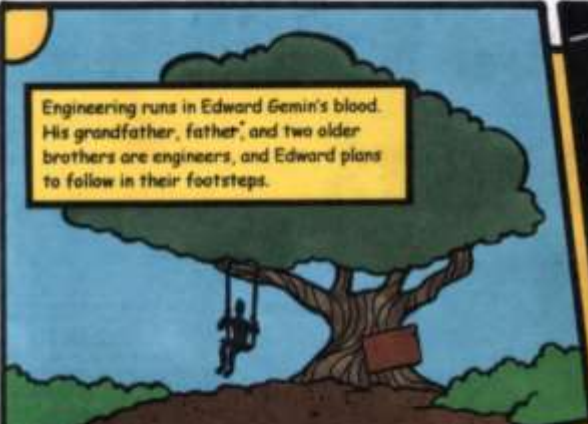


EDWARD Gemin

Invention: Heat Energy Recovery System
 Age: 16
 From: Xenia, Ohio
 School: Carroll High School



Engineering runs in Edward Gemin's blood. His grandfather, father, and two older brothers are engineers, and Edward plans to follow in their footsteps.

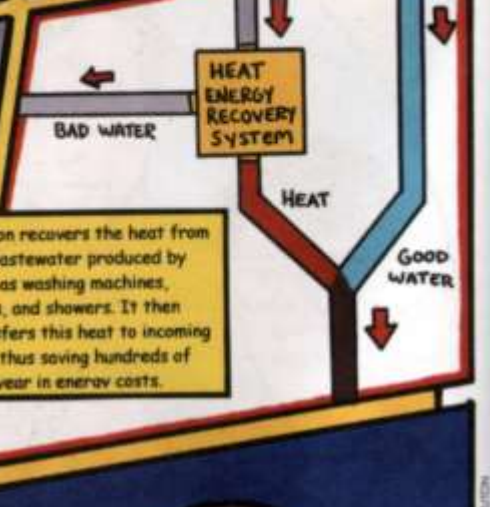


While growing up, Edward spent his time building airplane models, taking apart radios, and constructing imaginative objects from whatever materials he could find.

But, his keen interest in the environment led him to develop the Heat Energy Recovery System Using Peltier Junction Modules.



This invention recovers the heat from household wastewater produced by such things as washing machines, dishwashers, and showers. It then safely transfers this heat to incoming cold water, thus saving hundreds of dollars per year in energy costs.



The Heat Energy Recovery System won the International Science and Engineering Fair, and will be featured in the Worldwide Young Researchers for the Environment, in Germany in October 2000.



After high school, Edward plans to pursue a degree in electrical engineering.

ART SPONSOR: SIEMENS

PROPERTY OF THE PARTNERSHIP FOR AMERICA'S FUTURE © 2000

ryan kingsbury

Invention: Thermoelectric-Based Liquid-Cooled Personal Computer
Age: 18
From: Fort Myers, Florida



Ryan Kingsbury's love of invention began at the age of two when his grandfather gave him a box of pipe fittings and tools as a Christmas present.

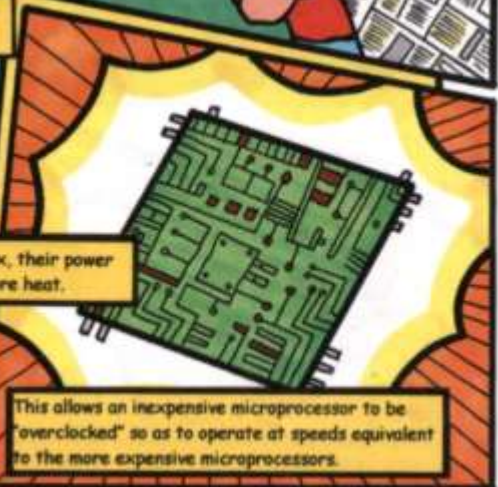


As Ryan grew, so did his inventive skills. He went on to enter and win many local science and invention fairs and, in sixth grade, he won an award for the "Bio-Pot", a bio-degradable planting pot made from recycled newspaper.

Ryan's interest in computers led him to develop a process that vastly improves the processing speed of a personal computer.



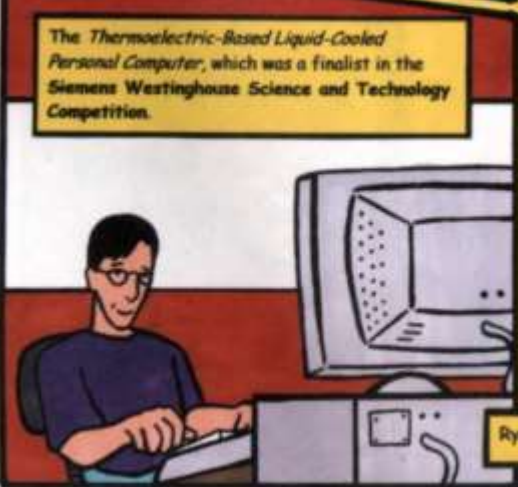
As microprocessor chips become more complex, their power consumption also increases, thus producing more heat.



This allows an inexpensive microprocessor to be "overclocked" so as to operate at speeds equivalent to the more expensive microprocessors.



Ryan's invention is a cooling system that provides a cost-efficient method to remove excess heat.



The *Thermoelectric-Based Liquid-Cooled Personal Computer*, which was a finalist in the Siemens Westinghouse Science and Technology Competition.



Ryan will attend the Rose-Hulman Institute of Technology.

ART SPONSOR: SIEMENS

PROPERTY OF THE PARTNERSHIP FOR AMERICA'S FUTURE © 2000

STORY: L. GRANT LUTZ
ARTIST: RYAN HUMBERT

Ann Lai

Invention: Micro-Sensors for Monitoring Sulfur Dioxide Emissions
Age: 15
From: Beachwood, Ohio
School: Hathaway Brown School

Though born in Cleveland, Ohio, Ann Lai spent her first eight years in Taiwan, where her father taught Aerospace Engineering and her mother taught Chinese literature.

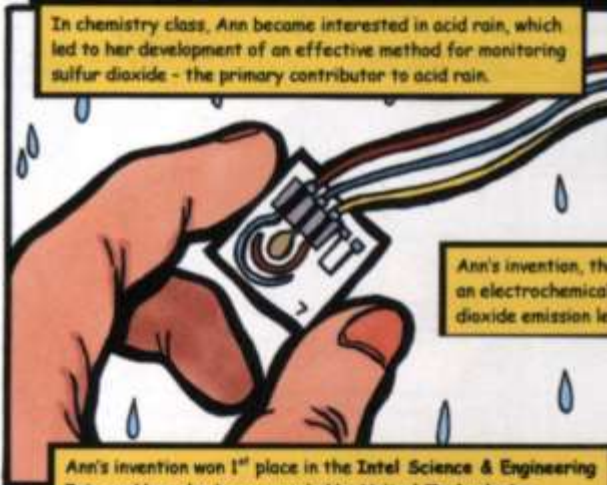


Ann showed incredible promise when she began talking at the age of four months, reading at nine months, and quoting Chinese poetry when she was twelve months old.



Ann's interests include violin and piano, but she especially enjoys art and technology. When she was five, she spent many hours designing extravagant mousetraps and flying cars.

In chemistry class, Ann became interested in acid rain, which led to her development of an effective method for monitoring sulfur dioxide - the primary contributor to acid rain.



Ann's invention, the *Micro-Sensors for Monitoring Sulfur Dioxide Emissions*, is an electrochemical sensor that can be used to detect and monitor sulfur dioxide emission levels near the tops of industrial smokestacks.

Ann's invention won 1st place in the Intel Science & Engineering Fair, and has also been awarded by United Technologies Corporation, Indiana University, Polytechnic University, Intel Young Scientists, Worldwide Young Researchers for the Environment in Germany, and has won the London International Youth Science Award.



After graduation, Ann Lai will attend college to study either particle physics or neuroscience.



ART SPONSOR: SIEMENS

PROPERTY OF THE PARTNERSHIP FOR AMERICA'S FUTURE © 2000

STORY: L. GRANT LUTON
ARTIST: RYAN HAMBRETT

Joseph
and
William

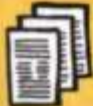
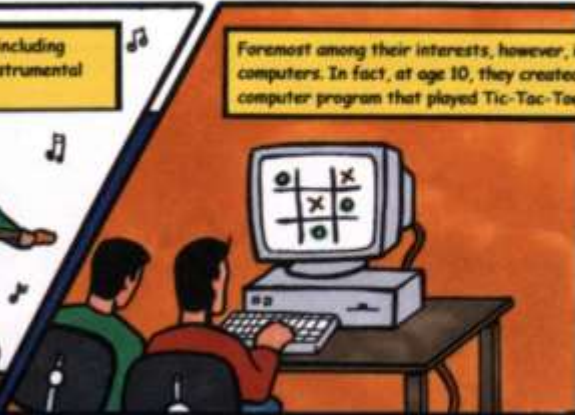
Pechter

Invention: Hybrid Text-to-Speech 2000
Age: 18
From: Vero Beach, Florida
School: St. Edwards

Joseph & William Pechter share many interests, including soccer, tennis, surfing, chess, racquetball, and instrumental music.



Foremost among their interests, however, is computers. In fact, at age 10, they created a computer program that played Tic-Tac-Toe.



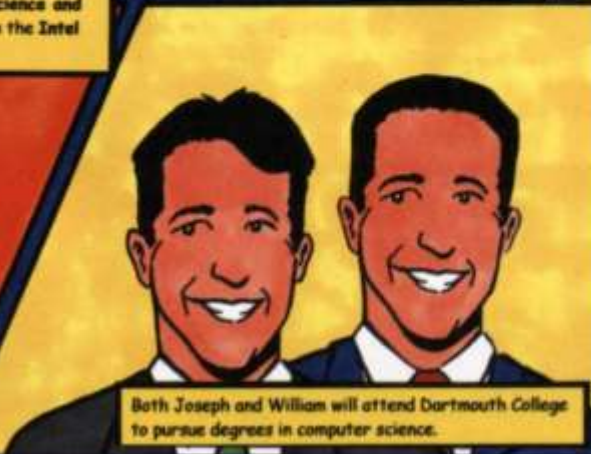
Inspired by their great-grandmother's work among the blind,¹ Joseph and William developed the *Hybrid Text to Speech 2000*, which converts printed text into speech.

HIT ENTER TO GO TO WWW...

Unlike other similar devices, this invention produces natural-sounding voice inflection. It is also more versatile, quick, and accurate.



The *Hybrid Text-to-Speech 2000* was a Southern Regional Team Winner in the Siemens Westinghouse Science and Technology Competition, and won first place in the Intel International Science & Engineering Fair.



Both Joseph and William will attend Dartmouth College to pursue degrees in computer science.

¹ Great-grandmother Norma Newman Cohen was co-founder of the *National Fight for Sight*.

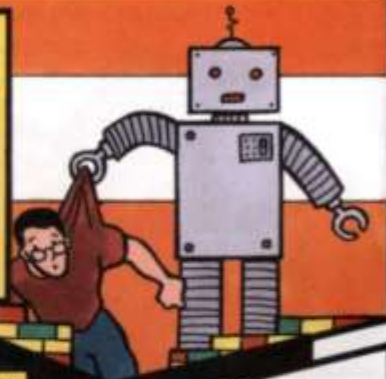
Naveen Neil Sinha

Invention: Multi-Purpose Non-Invasive Sensor
Age: 15
From: Los Alamos, New Mexico
School: Los Alamos High School

Naveen Sinha's father is a physicist at the Los Alamos National Laboratory, and Naveen shows promise of becoming a successful scientist himself.



Naveen progressed from building cities out of Lego® blocks when he was a toddler, to building a working robot when he was twelve...well, it almost worked. But that did not discourage him from pursuing fame as an inventor.

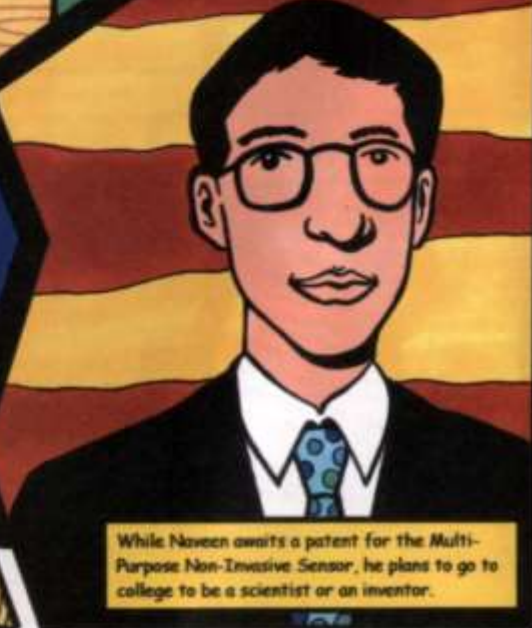


As a teenager, Naveen developed a series of devices incorporating the properties of ultrasound. His first invention used ultrasound to detect pollution in water.



He then developed his original invention into a device that used ultrasound for detecting ice on airplane wings.

Finally, Naveen invented the Multi-Purpose Non-Invasive Sensor, which uses ultrasound to monitor the contents of sealed containers. With this invention, Naveen was awarded the Discovery Young Scientist Challenge, and was selected to attend the APEC Youth Science Festival in Singapore.



While Naveen awaits a patent for the Multi-Purpose Non-Invasive Sensor, he plans to go to college to be a scientist or an inventor.

ART SPONSOR: SIEMENS

PROPERTY OF THE PARTNERSHIP FOR AMERICA'S FUTURE © 2000

Invention: KidKare Products
Age: 7
From: Pittsburgh, Pennsylvania
School: Northway Elementary

SPENCER ROCCO WHALE



At the age of six, Spencer Whale was inspired when his eight-year-old brother was inducted into the National Gallery for America's Young Inventors.

Determined to become an inventor himself, Spencer decided to concentrate his creative energies on helping hospitalized children. So, he was given permission to talk to patients, parents, and staff at a local hospital to get ideas.

After watching children in the hospital, Spencer recognized the need for more user-friendly equipment. He developed a line of ride toys that have I.V. poles attached to them. This allows hospitalized children to ride around by themselves while attached to I.V. solutions.

Spencer's KidKare products won the Student Ideas for a Better America competition, and are presently being used in a hospital in the Pittsburgh area.

Spencer plans to complete elementary school. His future plans, however, are uncertain.

STORY: L. GRANT LUTON
ARTIST: JOHN HANBERG

ART SPONSOR: SIEMENS

PROPERTY OF THE PARTNERSHIP FOR AMERICA'S FUTURE © 2000