

What is Build18?

Build18 is an annual engineering festival held by Carnegie Mellon University's Electrical and Computer Engineering department. This January, approximately 20 teams of students will meet and endeavor week long engineering projects. Build18 serves as an intellectual playground for the brightest and most creative of Carnegie Mellon's engineers, and allows them to pursue personal engineering challenges in an environment outside of the classroom, where the only limiting factor to creation is their own ingenuity.

Why should you invest in Build18?

- Build18 is at the forefront of a trend at top technical universities to supplement classes and labs with independent, creative engineering projects. A front-page article in the Wall Street Journal, entitled "Tinkering Makes A Comeback Amid Economic Crisis" (Nov 12, 2009) referred to this growing trend and, specifically, to Carnegie Mellon/ECE student's commitment to last year's first Build18 event.
- Even more importantly, Build18 allows you to familiarize the next generation of tinkerers with your product. It is a well known fact that engineers choose products they are familiar with over ones they have never used, and this generation of students is the next generation of managers making corporate purchases.
- Build18 is a worthwhile investment because it serves as a filtering mechanism which helps companies to find talented students. Carnegie Mellon has one of the top Electrical and Computer Engineering programs in the nation, and the students that choose to participate in Build18 are the ones for whom engineering is a passion, not a major. To succeed in Build18, students must distinguish themselves by the merit of their ideas, the quality of their execution and their ability to work in teams. We believe these to be the best indicators of whether students will succeed in a corporate environment.

Budget Breakdown

Equipment

The largest expenditure for Build18 is the equipment cost. The projected budget per team is roughly \$500.00. Each group will be provided with a microcontroller or an FPGA, which they will use to exchange data with a variety of different electronic components. Carnegie Mellon has generously provided lab space so the majority of the tools used will not need to be purchased.

Category	Description	Cost
Cabling	Coaxial cables, Ethernet cables, heat shrink tubing, hookup wire, ribbon cabling, USB cables, zipties	400.00
Connecters & Interconnects	coaxial contacts, d-sub, wire headers and pins	200.00
Construction Supplies	Breadboards, PIC Development Boards, machine shop supplies	1,000.00
Data Input Devices	Accelerometers, barometric pressure sensors, capacitive touch sensors, electric compasses, force sensitive resistors, gyroscopes, GPS receivers, rotary encoders, microphones, ultrasonic range sensors, thermocouples,	2,500.00

Build18 Budget Proposal 2010



Data Output Devices	vibration sensors, webcams LCD screens , LED dot matrices, piezoelectric buzzers, speakers	500.00
Electronic Components	capacitors, diodes, LEDs, resistors, inductors, oscillators	200.00
FPGAs	10 Xilinx Spartan 3E FPGAs	1,290.00
Microcontrollers	30 Arduino Mega microcontrollers, 5 Arduino serial programmers	1,610.00
Integrated Circuits	multiplexers, format conversion ICs, RFID tags, transceivers, voltage regulators	300.00
Motors	Servo motors, stepper motors	300.00
Power Supplies	batteries, power adapters	100.00
Tools	heat-shrink wrapping, multi-meters, wire crimpers	250.00
Wireless	Antennas, Bluetooth adapters, wireless transmitters and receivers	300.00
Total		\$8950.00

Logistic and Publicity

The philosophy of Build18 is to create an environment conducive to engineering creativity. In order to do that, we must secure space for the engineers, and cover administrative overheads.

Category	Amount
Food (7 days @ \$350 / day)	2,450.00
Room Rental Costs	500.00
Signs & Banners	250.00
T-shirts (with sponsor listing)	600.00
Web rental costs	80.00
Total	\$3,880.00

Cash Awards

Cash Awards will consist of several categories, which will allow sponsors to promote projects which best serve their interests.

Award	Amount
Most Innovative	500.00
Most Entertaining	500.00
Most Practical	500.00
Most Environmentally Friendly	500.00
Best Musical Project	500.00
Total	\$2,500.00

Budget Total **\$15,330.00**