



An Interview with Joe Osborne

Combining his liberal arts education with his technical acumen, BotBrain co-founder and co-partner Joe Osborne is an innovator extraordinaire. In addition to his expertise in robotics, Joe restores antique keyboard instruments, entertains in a band and routinely works on next-generation robotics sets for BotBrain. From designing its look to assembling boards to writing code, Joe stays fully engaged with all aspects of BotBrain's products and services.

***Q** Your online bio says you've always been a tinkerer. Has that interest always included robotics?*

A When I was a kid, one of the most common Halloween costumes (after ghosts) was a mechanical man made out of silver painted cardboard boxes. There was a TV program called Mr. Rivets which featured someone dressed up like this. I read a lot of SciFi and there were a lot of robots in the stories. Asimov's I Robot (rather different from the Hollywood version) as a favorite.

But I tinkered with many things: model railroads, flying aircraft models, player pianos, clocks. Anything that was mechanical and moved fascinated me. My grandfather built a "Nothing Machine" that did cool stuff in sequence. A whistle would blow, a propeller would turn, little cowboys would ride in a circle. I loved it.

After the Apple Computer dealership I got into designing factory systems: robot forklift trucks, automated warehouses and, of course, industrial robots.

My next career was creating a wheelchair mounted robot for people with high level paralysis. This let them feed themselves, open doors, turn pages in books. I taught myself electronics and high level programming to do this.

So I have tinkered with many things but always wanted to work with robots.

***Q** You've led many workshops, seminars and camps on robotics. How did you gain all of your experience?*

A Twelve years ago I became fascinated by Battlebots. I looked at all the different areas of knowledge involved and realized I knew most of it. I decided to teach an adult evening class in building & competing with Battlebots. It was a great success. Nobody wanted to stop and we formed a club which still exists, called PennBots. Some of the original members of the class are still active, including my partner, Bill Bechtel. It got him into robots.

I started into robots with player pianos, in the 1970's. They use a vacuum technology which is fascinating, if increasingly arcane. In the 1980's I became head of the Automated Systems Division of a material handling company. I attended the Motoman robot school as well as schools for robot forklifts, automated conveyor and warehouse systems. I designed and did project management on some large, complex systems including Lancaster Labs and Harley Davidson.

I started programming in college with Fortran, later taught myself Basic, C and Parallax pBasic, which BotBrain robots use. I did most of the programming for the Wheelchair Mount and Feeder Robots, including vision and user interface.

Bill and I have taught Robot Summer Camps for the Summer Academy in York County, PA for ten years. Some courses use other products, some use ours. We also do our own summer camps, which let us try new products and lesson plans each year.

Q You offer training courses via Skype? What types of topics do you discuss and who do you think benefits most from these sessions?

A Typically we are working with a teacher or a group who are new to robotics. We ask them to build a robot before the first session. Then we talk them through the hook-up and programming. Whatever questions they ask, we answer. We can show them our own robots and how they work. We can troubleshoot their work. It is wonderful how much information both parties can get from the video link. I did a Skype troubleshooting session with a teacher in Saskatchewan, after talking an hour on the (audio) phone. As soon as I was able to actually look at his robot I knew what was wrong and we fixed it in minutes.

Who benefits the most? I'm not sure. Robots cross the lines of many different disciplines: electronics, mechanics, programming, design and engineering. Some teachers want a higher comfort level with one or more of these. We at the BotBrain Company also benefit because every class situation is somewhat different and it helps us improve our products and instructions.

Don't waste time with robotics issues. Just contact Joe! He offers training and consultation via Skype and can help you keep your robotics activities lively and engaging. You can trust the products and services you get from BotBrain because you're dealing with experts like Joe. You're sure to find the sets, accessories or directions you need for success with robotics.