## ASK CHARLIE

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### What microprocessors are favored for control applications? (Reprise again!)

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As I was walking down the corridor at the last Embedded Systems Conference, a man stopped me. “I saw your media badge,” he said, “so I wanted to speak to you about my company **GruntWare Inc.**”

Zen training has given me infinite patience, so I told him I’d listen to what he had to say as long as he was willing to trot along with me in the direction of my next meeting. This he did while explaining that GruntWare’s whole purpose was to help embedded system designers sort through the huge number of microcontrollers and microprocessors on the market, seeking just the right microcontroller for their embedded control system projects.

This story reminded me that on two prior occasions — blog entries posted on **March 24** and **March 26** — I’d attempted to answer the question, “What microprocessors are favored for control applications,” with less-than-complete success.

In fact, I’ve begun to think of it as “The Question from Hell.”

It’s hard to describe the vast array of microcontrollers available today. GruntWare's tool might provide at least a means to choose the right microcontroller for a given application. Without some help, it can be a mind-boggling proposition.

If introducing this tool doesn’t completely answer the question, perhaps it can help drive a stake through its evil little heart!

Richard Hully, GruntWare’s president, claims to have assembled a database of available microcontroller units (MCUs) and a software application — called Gopher — to search that database. Based on user input regarding specifications, functionality, package size, power consumption, communications, etc., the tool first reviews all the MCUs in its database and selects those meeting or exceeding the required functionality. Then it analyzes pinouts for each selected MCU for shared general purpose I/O pins that might interfere with using the device with the target application. It then reports the best matches.

The system seems to have a number of advantages. Most notably, the database is broad-based, including MCUs from many major IC manufacturers, such as Atmel, Cypress, Freescale, Microchip, NEC, Zilog, and many others. The software also reports marketing information, such as annual production volume. Production volume

has a significant impact on price, which, in turn, affects suitability for a given application as well as prospects for long-term support.

“Gopher typically has more than two to ten times the searchable parametric data,” Hully says, “than vendor-supplied search tools.”

In addition, Hully claims that Gopher can search parametric data from any combination and number of selected vendors simultaneously, not just a single vendor. Finally, says Hully, “Gopher automatically eliminates parts that do not fit the functional requirements, as well as parts that have the functionality but not enough I/O pins to simultaneously support those functions.”

Gopher which sells for $299, includes the database and software application, which runs under Microsoft Windows XP or Vista. Since our friends in the MCU manufacturing business are constantly popping out new device types, the database is necessarily a constant work in progress, so the license fee includes free updates for one year. Update CDs are sent out every four months, according to Hully.

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