S
colt Stevens used his scientific
instincts to make gunpowder as a
kid in Chicago.
And in fifth grade he built an
induction coil - "that thing where the
sparks go up between the two wires, like
in the Frankenstein movie," Stevens
explained.
Meanwhile, Don Marinelli was enter-
taining his New York school chums by
writing gangster stories. The first one,
enned in the third-grade, "was like the
Untouchables. For us in Brooklyn, that
was more like a fable," Marinelli
chuckled.
"From then on, I was either writing
stories or acting them out. The teachers
would take me from classroom to class-
room and say, 'Do your show.'"
Today, Stevens, 48, and Marinelli, 45,
are professors at Carnegie Mellon Univer-
sity in Oakland. Their backgrounds
have fused into the curious blend of
technology and drama that is "synthetic
interview technology."
The system, which they are marketing
through a business called Grand Illusion
Studios on Henry Street near the CMU
campus, uses computers that can
respond to spoken commands.
When that computer is coupled with a
database of video clips of famous people,
or actors portraying them, one can have
a conversation with an animated two
dimensional Albert Einstein, or other
famous individual.
Marinelli and Stevens originally wanted
to market their product via kiosks. For
example, they'd put a screening
booth containing a virtual Michael Jor-
dan into a sporting goods store to draw
customers.
They've since decided to focus on
Internet applications.
"People spend huge amounts of time
on the Internet in chat rooms, and now
you have these celebrity chats, where
millions of people might submit ques-
tions. Paul McCartney conducted one
not to long ago. But in that format, eight
or 10 people out of those millions might
not to long ago. But in that format, eight
tions. Paul McCartney conducted one
you have these celebrity chats, where
now you have these celebrity chats, where

Marinelli said their project has
also broken down the stony, stereotypi-
cally walls between science and the arts,
and taught them a lesson that many
businesses still struggle to apply:
It takes creative people to produce cut-
ting-edge technology.
Greg Stevens, no relation to Scott at
CMU, is president of WinOvations Inc., a
Midland, Mich., consulting firm that spe-
cializes in helping companies identify
their creative people.
In 1997, Stevens pitched his theories to
Alcoa and other Fortune 500 companies
at the Industrial Research Institute sym-
posium, a gathering of about 300
research and development types.
WinOvations uses psychological tests
to identify creative employees - whom
he calls "rainmakers" - who would be
best suited for research and develop-
ment projects.
Stevens then teaches companies how
to train their creative folks to apply
business principles to their work. So they
churn out profitable products instead of
interesting, but ultimately unmar-
ketable, ideas.
Stevens said one study of new product
analysis at a major chemical company
showed that analysts who scored high on
the creativity test he administers gener-
ated 95 times more profit for the compa-
ny than those with "low" creativity.
But identifying creative employees is
only half the battle.
"The worst thing that people could do
is get the rainmakers together in a room
and don't give them any business
process to follow or any coaching and
then give them $20 million to spend," Stevens
said.
"What they'll do is spend $20 million
plus $200 million more. They'll wreck
your business that way."
"Creative types are hard to manage,
and they do need discipline. But you can
teach business discipline to creative
types, but I don't believe you can, in a
lasting way, teach non-creative people
to be creative," Stevens said.
But Marinelli believes creative people
can rub off on others, and vice versa.
"Once you start laying out the technol-
gy, there are a whole level of human
factors and design factors that cause (the
technology people) to say, 'We need the
product, we need the technology,'" Marinelli
said.
Perplexed, but unsure how to address
the problem, Marinelli five years ago
heard through the university grapevine
that Scott Stevens had received a major
federal grant to study computer technol-
yogy as it applies to multimedia.
"So, I called Scott and said, 'Can I play
in your sandbox?'" Marinelli said, and
synthetic interview technology was
born.
Dean Pomerleau and Todd Pochem
are the proud parents of a different kind
of technology: Their challenge isn't tap-
ing their hidden creativity, but mar-
ketting it.
Pomerleau, 34, of Wexford, and
Pochem, 31, of Gibsonia, own AssistWare
Technology, at 12300 Perry Highway in
Wexford.
"Our primary product is a system that
we have now in prototype. It looks about
like a radar detector ... and it determines
when you're about to drift off the road."
Pomerleau said. "It provides sort of a
real-time feedback as to your drowsiness
level and an audio warning."

PLEASE SEE PROFESSORS/5
Enterprise 1999

**For me, it's almost a game.**

_It's a competition._

**Todd Pochem**

Co-owner of AssistWare Technology

A good portion of Mark Huston's job is to play the fortune teller. Huston is the director of the New Product Development Team at Kennametal Inc. of Unity Township, a carbide steel manufacturer.

One of the newest technologies in use at Kennametal is electromagnetic balancing for high-speed rotating tools, such as drills and milling machines.

Balance is essential for such tools to perform with the high degree of precision needed to produce carbide steel components, and to prevent undue wear and tear of the tool itself, Huston said.

And while developing an electromagnetic balancing system might seem mundane compared with birthing virtual Einsteins or buses that drive themselves, creativity is still a key component.

"I think with respect-totting tools and manufacturing, there are two main things we do out here," Huston said.

One is material science, coatings and things like that," Huston said. "Then there's the mechanical side of things. The guy who played with his erector set is a good example of that kind of guy, or the guy who, when he was young, if something broke he took it apart instead of throwing it away."

"But these guys also have to be able to apply science and some physics to this mechanical knock they may have," Huston said.

Although there are some guidelines for finding such an employee, Huston said it's an inexact science.

"I can't pick them out, no. I find it difficult to do that. But a lot of times you see them coming up through the ranks ... the machinist who really takes a lot of care to make sure that his tools are" excellent, Huston said.

In an interview, I always ask the guy what he does outside of work. If the guy's got a hobby that tends to lean toward a mechanical or creative thing, if he restores old cars, for example, ... that's a good sign.

"I like that a lot better than a guy who tells me he likes to golf a lot for his hobby. That's not to say that I don't have any good engineers who aren't also good golfers," Huston said.

"It's a given that you'll have some guys who come in when they're supposed to come in and leave when they're supposed to leave, and that's about it ... but then there are the guys who give 120 percent, 120 percent of the time. Their reward is seeing the customer satisfied," Huston said.

Although he's living a dream, Pochem said that dream was beyond his imagination as a young man.

"Looking back on my childhood, I wouldn't have been surprised if I knew I'd become involved in some type of science or technology. But I think it would have been hard to predict, when I was 14, what would even be possible today," Pochem said.

"I think you would have been quite a fortune teller to even predict this area of technology would exist, let alone to say that I would have become involved in it."