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A Joe of All Trades

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Whether flying through space with NASA or rocking on stage, Joe Hynek is a modern-day Renaissance man.

Virtual cave dweller

The walls are all padded with sections of spongy mats, and the hollow tunnel stretches long and narrow. Five cushioned airline seats sit empty and alone at the end of the tunnel. Joe bounces off the fluffy white padding on the ceiling. His heart pounds. The reddish-brown wavy hair, cut not too short, is pressed down against his forehead. He floats into a forward flip before he catches himself in mid-air and braces his hands against the walls. Then he throws up his breakfast.

Joe and several other Iowa State students dress in green army-like jumpsuits and stuff the many pockets with airsick bags aboard the KC-135A micro-gravity simulator, better known as the Vomit Comet. The team joined up with NASA that day to conduct experiments designed to show how sound waves can move objects in zero gravity.

The simulator, comparable to a Boeing 707 turbojet, takes off, ascending to 15,000 feet. The team members give each other nervous glances. They know they have only a 20 second-shot at completing this task.
The simulator shoots skyward another 5,000 feet and begins on its parabola-shaped path. Then, like a rollercoaster at its apex, the plane nosedives 10,000 feet. They are now weightless, and the clock begins ticking.

The team shakes a small tank of water, creating bubbles. The silver spheres float up from the water and drift past Joe as he tries to manipulate their movements. The delicate bubbles evade the engineers, leaving them with no time to think. High frequency waves are introduced, but the equation doesn't add up. The clock runs out.

"Feet down, coming out," shouts the NASA pilot as the aircraft finishes the first flight path. Gravity pulls Joe back to his feet and every bubble floating in the aircraft pops at once, creating a mist that sinks with gravity. Joe takes a breather, letting his stomach settle for just a moment. The crew prepares for the next extreme loop and Joe readies himself for what will be two hours of gut-wrenching science.

Within the confines of gravity, Joe Hynek, graduate student in mechanical engineering, is an exceptionally talented Iowa State student. As a modern-day Renaissance man, he blurs the gap between academia and art. Joe is the leader in the university’s nationally-recognized virtual reality research, a collector of rare instruments, and a worldwide traveler. Though technically savvy and adapted to the fast-paced world of science and engineering, Joe is not truly at home until he reaches his humble abode, a small attic on top of the Lynn Fuhrer Lodge just north of campus. Out in the deep woods, surrounded by silence, is where the inspiration and creativity come from.

**The attic**

Joe’s black turtleneck sweater blends in with the black computer screens and black walls in the application room. He has adapted to his surroundings like a chameleon. His fingers move fast over the small buttons on the computer keyboard. Joe’s staccato giggle and childish grin fill the open space of the C6 virtual reality lab. His experience growing up on a small farm in Beaconsfield, Iowa, helped lead him to his current research on hog buildings.

His speech is not technical or scientific. He doesn’t make a point to show off his knowledge or qualifications as so many highly-educated people do. Instead, he meets his audience halfway.

"Hold your finger right in front of your face and close one eye," Joe says and holds his own pointer finger directly in front of his winking face. "Now switch and close the other eye." He demonstrates. "What happens?"

Joe awaits the answer. The finger appears to move slightly when viewed from one eye to the next, when in reality the finger stays in the same place.
“Your eyes are like two different video cameras,” he says. “That’s just like virtual reality. Your eyes trick your brain by flashing different pictures in both of your eyes at the same time.”

If only it were really that simple.

Fuzzy, green cloth slippers are specially made to fit over the shoes of those who enter onto the fiberglass floor of the Cs application room. Joe puts them over his rugged work boots. Half of his fair, round face is covered when he puts on the dark and boxy virtual reality glasses. He grabs a controller, which looks more like an oversized palm pilot, and hits the lights. The fiberglass walls surrounding him look like separate sections of canvas. The white cube turns colors as Joe tilts his head to stimulate sensors and uses his fingers to move throughout the “fire cave.” The sound effects engulf Joe as he simulates walking through a dark brown cave with four walls, a ceiling, a floor, and torches to light the way.

He plunges himself straight down a steep cliff, freefalling into the “fire cave.” Later, he slowly crosses a rickety rope bridge and looks down through the cracks to see the height of the virtual habitat he has mastered.

In a world where equations are king and computers run everything, Joe is just as comfortable in a place where the controller is not in his hands.

Joe climbs up a stepladder and through a square hole in the floor to reach his hideout. “It’s like a tree house,” Joe says. The 8-by-20 foot space is smaller than a dorm room and has a slanted shape to the ceiling. He feels like the guy in “Dances With Wolves” at his place. “Just me and the squirrels,” he says.

Photos of Mexico and the Antarctic landscape line the walls. Artwork hangs sporadically. The wind howls and creaks through the windowpanes. Joe sits silently in his chair.

Rare instruments are strewn about the cozy space. Bagpipes from Scotland, a Cuatro from Puerto Rico, a Bodhran from Ireland, and an armadillo Charango from Argentina fill the tiny attic.

A ukulele leans up against the wall in the corner. The smooth dark wood reflects a sparkle of light off the varnish. The two-foot-long instrument looks like a child’s guitar.

The ukulele’s nylon strings call to Joe’s fingers as he imagines the high-pitched sound. He remembers the three months he spent on an internship on the Big Island in Hawaii.

Every morning on his way to work, Joe pedaled by the music store on his bike. Every night he returned, thinking of the guitar he left back home because it wouldn’t fit in his suitcase.

One day Joe went in the store. Ukuleles filled the walls, and shelves were lined with handmade instruments. Joe walked slowly with amusement through the huge store looking at the different shades of wood. Music drifted through the room as customers tested the instruments. Each played a unique and vibrant sound.

Then it caught his eye. It was small. The light filtered down to the deep brown Hawaiian wood causing the varnish to glow. It was small enough to fit in his bag for the ride home to Iowa.

“I’ll take this one,” he said to the salesclerk.

Joe shakes his head and looks again at the ukulele sitting in the corner of his attic. He grins.

Iowa State’s idol

Alone on the stage of the Memorial Union the light is blinding. The crowd waits with anticipation, listening for the first note.

Earlier he had locked himself in a meeting room of the Memorial Union to prepare for the Cyclone Idol competition.

“I have to get this right,” Joe said to himself. “I have to get this right.”

An uncontrollable shake takes over his legs. He can’t force them to stop.

He looks into the eternal distance of black and sees nothing recognizable, not even one
I'm a good problem solver. I use whatever tools needed to get the job done.

familiar face. The noise scrambles together in Joe's head, and he knows the crowd is huge. He hears the shouts of his friends and knows they're out there. Beads of sweat form on his forehead.

He plays a few chords, then his fingers take control, strumming the guitar. The crowd responds and soon one lone clap is followed by another. Hands join in to create a rhythm that rushes Joe with excitement. Then, he begins to sing:

"An animal came from the woods,
   but it was not a bear.
I was sure I did not move,
   so she would not be scared.
Anticipation paralyzed me,
   I blocked out every thought.
She dropped her towel,
   I dropped my jaw,
   and this is what I saw.
Naked lady, hooooooooo.

The crowd bursts out with laughter. He can't hold back the grin spreading across his face.

When the song is over, Joe looks up and his eyes widen as the crowd explodes with applause that roar all around him. Hundreds of hands clap in the air and high-pitched whistles vibrate in his ears. The rush of excitement is completely unexpected, and Joe is speechless. The huge audience had no idea Joe had just finished writing the song that same day and that the Cyclone Idol competition was the first time the song was preformed.

Joe always strives for another new experience. It's the thrill of being tested that fuels his adrenaline habit. He doesn't seek the dangerous, just the unpredictable. As if floating through space on the Vomit Comet wasn't enough, Joe has also blazed the trail of impromptu singer/songwriter. Like the bubbles that refused to follow a set path, Joe cannot be categorized. He cannot be labeled. And with every endeavor he sets off on, he draws from the enormous set of skills that make him that much more unique.

"I'm a good problem solver. I use whatever tools needed to get the job done."