



**Members of Knox Game Design are on a quest to conquer indie video gaming** by Mike Gibson

Save for a few simple furnishings and a single plasma-screen TV, the Technology Cooperative seems like one more prosaic empty space on the Old City's Jackson Avenue. But on this chill Friday night in December, the room is full of big ideas.

Like the one behind *TTY GFF ADVNTR*, a video game that sees players battle assorted creepies such as giant sandworms and mutant cacti across different realms—a desert world, a cave, a forest—in a heroic quest to find and kill the evil dragon and rescue the beautiful princess from his loathsome clutch.

Or *Bomb Squad*, the object of which is to disable cartoon bombs of various sizes and colors, dropping at various intervals, but all of them set to blow within the space of 10 seconds.

Or *EvilQuest*, a medieval-themed game, the less-than-heroic objective of which is to “take over and destroy the world.”

What makes these games truly impressive is that they were designed and created not by professional gaming companies, but by members of Knox Game Design, a group that meets at the Technology Co-op once a month to discuss and compare notes on game making. And many of the games were created over the course of a weekend, as part of the Ludum Dare (Latin for “to give a game”), a periodic international gaming competition in which amateur game developers build games and submit them for peer review on a Sunday late afternoon, based on a single theme announced online the preceding Friday evening.

And that's why a dozen or so members of Knox Game Design are gathered here tonight—they're awaiting the theme for the winter 2013 version of Ludum Dare, kicking around concepts and tech talk and indulging in some serious joy-sticking prior to the announcement.

“There aren't any prizes,” says Michael Neel, a reedy blonde fellow in his mid-30s, founder of the Technology Co-op and de facto head of Knox Game Design. “So you're not gaining anything out of it. It's really just a way for people to say ‘No more excuses.’ It forces you to carve some time out of your calendar and make a game.”

Though there have always been independent game designers, in one form or



another, indie gaming as a phenomenon is fairly new. After decades of monopoly by corporate publishers and platform licensors (i.e. console manufacturers), changes in the industry in 2008 opened the door for independent creators to make their own games, cheaply and easily, and suitable for any platform, including big consoles like Xbox.

What's more, indie creators can now market their product directly to consumers, via outlets like Microsoft's own Xbox Live or to PC customers via outlets like Steam, a distribution platform introduced by the Valve Corporation. “For decades, gamers had no access,” Neel says. “Now we go from having no access to publishing, to having access to marketplaces with millions of people.”

But having that access is not a fast track to financial windfall. Although a few creators do see the light of day with their efforts—Knox Game Design members Josh Ferguson and Forrest McCorkle have seen their game *EvilQuest* break through to relatively big sales—most designers remain in the realm of ambitious hobbyists. “Game developers have always been terrible



at marketing,” Neel says. “They think it should be like *Field of Dreams*. But that's not how it works.”

“There's always that dream of being successful enough to do this for a living,” says Ferguson, a digital entertainment instructor at ITT Tech. “But there's a Catch-22. You have to go to your day job to support your gaming. Which means you don't have enough time to spend on your games.”

**MORTAL KOMBAT:** Members of Knox Game Design (top) gather at the Technology Co-op in the Old City to engage in December's Ludum Dare: a weekend-long competition to design a complete video game based around a theme revealed on a Friday night. Meanwhile, Knox Game Design members Josh Ferguson and Forrest McCorkle's *EvilQuest* is a medieval-themed game with the less-than-heroic objective to “take over and destroy the world.” It has sold around 40,000 units across several platforms, including Steam. Photo by David Luttrell

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**GAME SHARKS:** Michael Neel (left) is founder of the Technology Co-op and de facto head of Knox Game Design, a meet-up group for indie game developers. Member Levi Smith (above) is an Oak Ridge-based computer programmer who has designed “a few dozen games” in his spare time over the last several years. Photos by David Luttrell

**T**he first home video games were mostly the work of independent creators, Neel says. A programmer by day, Neel is a longtime video game aficionado. He and fellow Knox Game member Dylan Wolf founded Funcworks in 2010, a small game-design enterprise that also features Neel’s wife Cicelie as resident artist.

He notes that the company that would become Atari began much like Funcworks, as a small business founded by a trio of engineers. And even as Atari expanded from its arcade roots into the growing home gaming industry, independent programmers still had some success entering the market. But that ended with the game market crash that began in 1983, which saw industry revenue plunge from \$3.2 billion to around \$100 million by 1985, sending many companies into bankruptcy.

After the crash—which industry observers attribute in large part to market over-saturation—game companies like the ascendant Nintendo required designers to acquire licenses to produce for their consoles, and restricted the

number of licenses issued in a given year.

These events, beginning in the mid-’80s, marked the beginning of a 20-plus-year drought for indie game designers, a time in which their only access to game distribution was through backwater channels like shareware—free or low-cost software promoted on early computer bulletin boards and (later) online, distributed on floppies and then compact discs.

“Even if you created a really cool character, and a cool game, you had to sign with a publisher who was going to take your intellectual property, and a giant cut,” Neel says. “Then it’s theirs. They don’t even need

you for the sequel. They had all the cards, and you had to play ball.”

Then, come the mid-’00s, the worm turned and a rash of new programs, portals, and forums opened up the gaming market to independent creators once again. Perhaps the most significant development was the advent of Xbox Live Indie Games, or XBLIG, as it is often referred to within the community. It started in 2006, when Xbox producer Microsoft released XNA Game Studio Express, a set of tools to introduce new programmers to game programming. That made

it possible for users to create their own Xbox games, although they were still restricted from distributing them.

*Even if you created a really cool character, and a cool game, you had to sign with a publisher who was going to take your intellectual property, and a giant cut.*

—MICHAEL NEEL

Then Microsoft took the next step in 2008 and debuted the Xbox Live Marketplace, whereby indie designers could pay an annual fee for the rights to publish and sell games on the Xbox website. “Before that, it would have cost you thousands to market your own game,” says Levi Smith, a 35-ish Oak Ridge-based computer programmer who has designed “a few dozen games” in his spare time over the last several years.

Says Neel, “The year 2008 was like the coming of Napster for the music industry, or YouTube for film and video.”

With the market changing, and new tools for game makers coming available commercially or through open source, Neel founded Knox Game Design in 2009. The group is sponsored through the Technology Cooperative, a non-profit that promotes access to technology through a variety of educational, consulting, and mentoring programs.

With a roster of about 60 members, and a solid core of a dozen or so regulars, Knox Game Design’s biggest success story to date belongs to the aforementioned tandem of Ferguson and McCorkle. Childhood pals dating back to



**SHOOT 'EM UP:** Game design partners Josh Ferguson and Forrest McCorkle's first complete game was *Chaos Shift*, an *Asteroids*-like shooter. They're currently working on *EvilQuest 2*, a sequel to their original hit. Photos by David Luttrell



first grade and Knoxville's Shannondale Elementary, both discovered computers and gaming about the same time and pursued parallel paths in computer-related fields even as their college years saw them go to separate schools.

But their paths differed in that the artistically inclined Ferguson studied computer graphics in his time at East Tennessee University, while the more technically adept McCorkle focused on programming during his undergraduate career at the University of Tennessee.

Both men dabbled in game development in early adulthood, but both experienced some frustration based on their respective limitations. So when they reconnected as working adults in 2008, the partnership seemed a natural fit.

After an abortive effort to create an epic role-playing adventure game—"we would have needed at least a dozen people to actually finish it," McCorkle says—they scaled back their ambitions. "We asked, what kind of game can we make quickly?" says Ferguson. Their answer turned out to be a shoot-your-enemies style game in the manner of *Space Invaders* or *Galaga*. ("A lot of games start that way," Fergus says. "Like, I want to make a game like *Pac-Man*, but with a twist.") The resulting game, *Chaos Shift*, features a spaceship roaming through an asteroid belt, with enemies constantly flying in for the attack.

"We put in a few twists, some power-ups," McCorkle relates. "You could also

enter this special zone called the 'Chaos Shift.' But there really wasn't a lot to it. Our goal then wasn't to make the game we always dreamed of, but just to make a game."

And then: "Once we got done, we found there are all these other things to do. Making the game is only half the battle. The other half is all this marketing, promotion, presentation. That's where we really fell on our face."

*Chaos Shift* never got over, but it did teach its creators a great deal. They learned, slowly; they started a Facebook page, their own YouTube channel, a Twitter account. They made tentative connections within the gaming media, sending samples and links to game critics, seeking reviews and press.

And after another stillborn effort—an overly ambitious vehicular combat game—they began designing what became *EvilQuest* around Christmas of 2010. The concept was inspired this time by a Ferguson favorite, an old Nintendo cult classic entitled *Crystalis*.

In *Crystalis*, the game's warrior protagonist wakes up from a cryogenic sleep 100 years after nuclear devastation, and discovers he has the power to save humanity from a tyrannical new world empire.

The duo put a singular spin on the concept, though—a twist they believe is in part responsible for the game's subsequent success. Rather than having players save the world, "we flipped the script," McCorkle says. "We really wanted a game where the villain is in the lead."

They finished the game in October 2011, then released it in early 2012 for \$1 per download on the Xbox indie game market. The positive response was almost immediate, as *EvilQuest* proceeded to rack up strong sales and good reviews in the gaming media. It was even chosen for inclusion in a couple of game "bundles"—the gaming version of an indie-rock compilation disc.

To date, *EvilQuest* has sold 40,000 units across several platforms, which McCorkle rates as "relatively successful,

as indie games go. We were surprised by the sales we had. The lessons we learned really helped."

Ferguson notes that the profits helped him pay off his student loan last year—no small feat, for a game that required about a \$300 investment for Photoshop software and an Xbox online membership.

More recently, *EvilQuest* was accepted on Steam, the Valve distribution and communications platform nurtured over the past 12 years or so, and now responsible for the vast majority of PC game downloads, according to Bloomberg News. Unlike outlets such as Xbox Live, Steam employs a stringent peer-review process before accepting new games.

"It's the place you want to be, if you're selling an indie game," Ferguson says. "Making it onto Steam is our biggest accomplishment so far."

It also means a new round of promotional work, new graphics, a promotional video and a page on the Steam website, to be followed by a social media blitz and another round of harassing media contacts.

All of that, plus the Chaosoft (their company name) team has already set to work on *EvilQuest 2*. "It's a fair amount of work," McCorkle says. "It continues to be, 'how can we get somebody to write a review or mention us and keep attention on the game?' And neither one of us learned anything about marketing in college."

*We asked: what kind of game can we make quickly? Our goal then wasn't to make the game we always dreamed of, but just to make a game.*

—FORREST MCCORKLE

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**NEXT GENERATION:** The youngest Knox Game Design member is 10-year-old Jacob Turnmire, who already has developed a few games with help from his dad, Jeffrey. His entry in the Ludum Dare is *Weird Kingdom*, which seems to involve traveling through different settings trying to kill a despot who has gone mad in the wake of losing his kingdom. The game features flying bird-swords and other unexpected hazards. Photo by David Luttrell

or as complicated as they wish, depending on which sound and graphics software they choose to supplement their game-building—tools like Photoshop, Gimp, Garage Band, Audacity, MonoDevelop, or VirtualDub.

For a youngster like Jacob, though—his programming knowledge still being very much a work in progress—the engine of choice is something called GameMaker, a game development technology that allows novices to create games through simple interfaces, yet still allows seasoned designers the option of dropping in code.

“It’s more drag-and-drop,” says Jeffrey Turnmire, who lends Jacob a hand on the technical side. “You can pull in the artwork and stick it where you want. It’s oriented so someone who’s not as technical can be creative.”

And Jacob is nothing if not creative. Typically toting a notebook full of sketches and gaming ideas, the garrulous grade-schooler had designed a pair of games prior to the December Ludum Dare, one being “an airplane game where you destroy the airplanes that come out of the screen,” and the second being something called *Fruit Gainer*, the object of which is to “click on the fruits, but not the bombs” that fly across the screen from various angles. His fledgling portfolio contains a number of other efforts still in various stages of development.

Though both of Jacob’s first two efforts were developed in part through the GameMaker tutorial, Jeffrey notes that his son “strayed a lot. He filled in lots of extra details on how the games were going to work.

“We looked at the list of potential topics for the Ludum Dare, and every one we looked at, he could think of an idea.”

By the time Jacob leaves the Tech Co-op on the Friday evening of the latest Ludum Dare—scarcely one hour after the topic has been announced—he already has two pages of graphics blocked out on grid paper in his trusty sketchbook.

If Ferguson and McCorkle are Knox Game Design’s most successful members to date, then Jacob Turnmire is the group’s resident up-and-comer. Turnmire, whose turn-ons include “Legos, robots, and science,” and who is also an avowed *Wreck-It Ralph* fan, is a tow-headed just-turned-10-year-old, a diminutive designer who already has a handful of games to his credit.

Jacob’s career goal: “To design robots, and to make things that are smart like robots.”

He came by his video game fascination honestly. His father, Jeffrey, is a South Knoxville-born civil engineer and serious computer hobbyist, the type of guy who always had computers and games and how-to manuals lying around the home. The Turnmire household boasts all of the current major gaming systems, plus an early-’90s Super Nintendo, specifically at Jacob’s request.

“Jacob is the kind of kid who would be sitting in the hallway at school, and he’d invent a game with the bricks on the wall,” says Jeffrey, a big fellow in his early 30s with a braided goatee. “Someone would ask, what are you doing? He’d say I’m



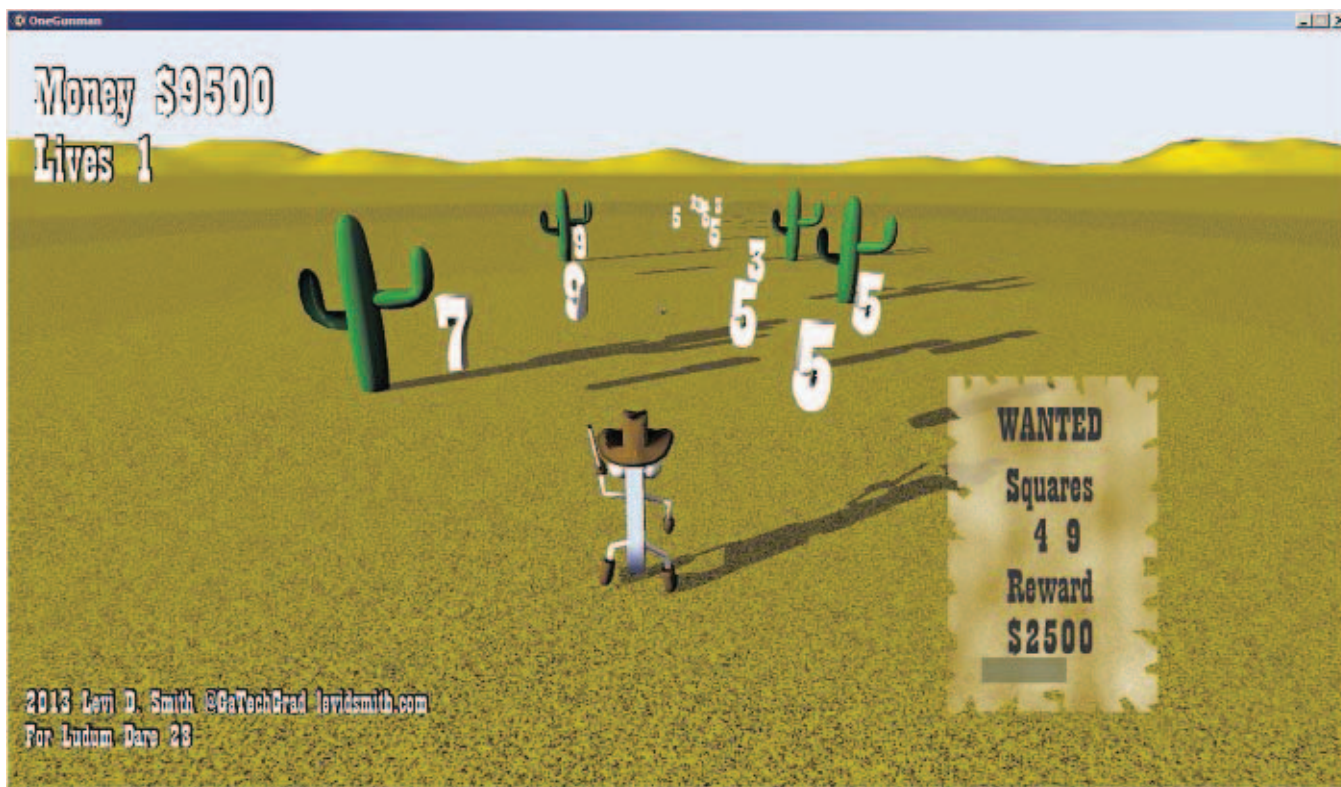
playing the game. So he’s always had an ability to make up games in his head.

“Two years ago, he decided he wanted to write his own video game. So we looked online for a place we could go.”

The programming side of game design has gotten progressively easier, coinciding with the advent of new marketing venues for indie creators. But engineering your own video game still requires a level of

technical know-how.

According to Neel, Unity has ascended as the leading game engine (i.e. game creation system) over the last couple of years, as it provides a software framework that enables designers to engineer games for multiple platforms. What it doesn’t provide for is “asset creation”—i.e. the tools to create images and music. Designers can make that process as simple



**NUMERICAL DISORDER:** Levi Smith's entry in the Ludum Dare is *One Gunman*, with a crisply animated number 1 as the hero, weaving across a cactus-strewn desert landscape and shooting at other oncoming numbers.

Launched in 2002, the Ludum Dare has maintained a mostly tri-annual schedule in reaching its 29th edition in December 2013. The competition's format has Dare community members worldwide make suggestions for contest themes, then vote on the suggestions prior to the event.

Previous themes have ranged from weirdly abstract to prohibitively specific. (A few examples: "Goat"; "You are the villain"; "Kitten Challenge"; "Advancing

Wall of Doom"; "Enemies as Weapons"; and "It's Dangerous to Go Alone!")

The theme for the 29th Ludum Dare seems to fall squarely in the "abstract" category:

"You Only Get One."

When Knoxville's Ludum Dare participants come straggling back into the Co-op on Sunday, nearing the contest's end at 6 p.m., most of them look a little the worse for wear. "We're all a little weary-eyed and exhausted," notes Neel.

"But it's fun to share battle stories. 'It took me so long to find this tool!'"

The results, though, look to be worth the effort. Because even if the games designed during this 48-hour blitz aren't necessarily award-winning, they're at the very least clever, and damn good fun.

Levi Smith has crafted arguably the best-looking game, entitled *One Gunman*. He explains, "It's a play on Lone Gunman, without the 'L.'"

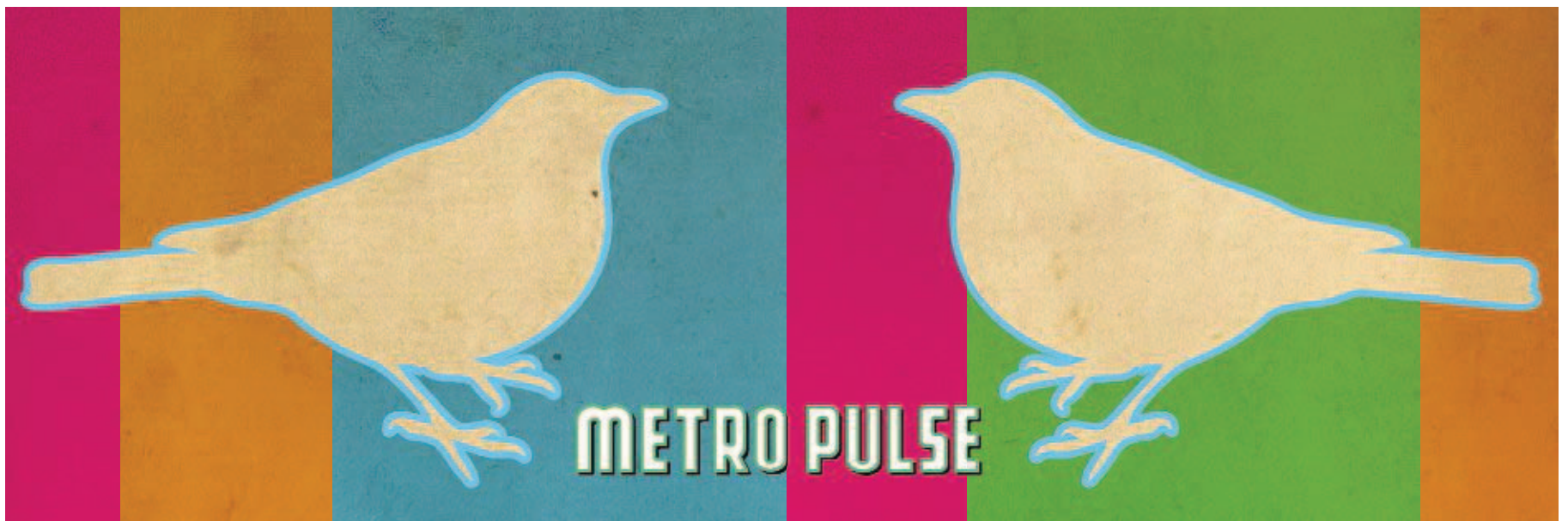
True to the contest theme, Smith's

protagonist is a crisply animated number 1, anthropomorphically depicted with legs and arms and an over-sized cowboy hat, weaving across a well-crafted, cactus-strewn desert landscape, shooting at other oncoming numbers.


A wanted-poster-style graphic at the beginning of each round signifies to the player which of the other numbers are "wanted", meaning which ones to shoot. The catch—Smith notes that he likes to infuse his games with an educational component—is that the cues are given in mathematical terms: shoot even numbers, or prime numbers, or squares, or Fibonacci sequence numbers...

"Eventually, there get to be so many that you can't really dodge them," Smith says. But a player's final score reveals his shooting accuracy, and his total reward points, earned by shooting the right numbers.

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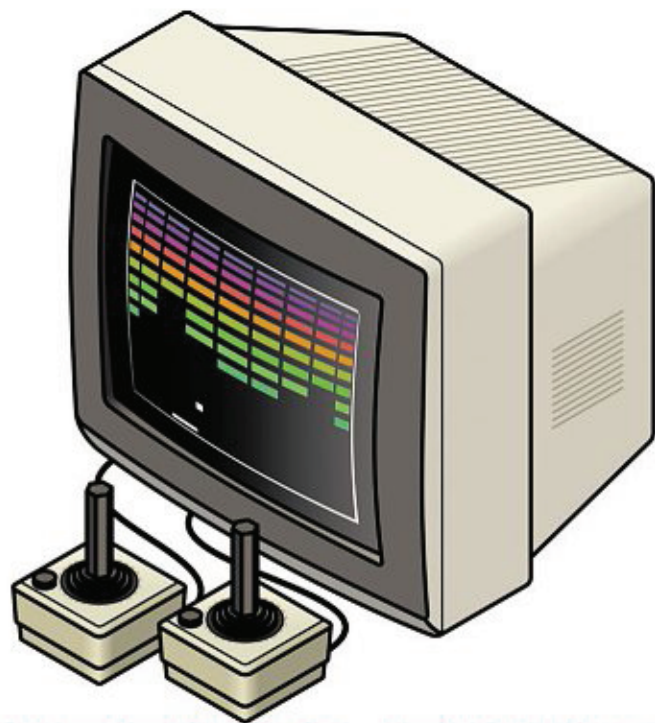


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## YoGo Burger!



**YoGo Toppings!**

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**FAST FOOD:** Michael Neel created *YoGo Burger* for the Ludum Dare in which gamers play as a burger-joint counter employee, embarking on his first day on the job and servicing a run-on line of patrons. Keep an eye on the “anger meter.”

Neel’s *YoGo Burger*, with its crudely fashioned cartoon style, isn’t as visually sharp as Smith’s effort—though the rough animation has a goofy charm of its own—but it is more devious, by a long shot. Gamers play as a burger-joint counter employee, embarking on his first day on the job, servicing a run-on line of patrons. Due to budget cuts, management has decreed that each customer can only get one topping on his/her burger.

When a customer is happy—each customer has a randomized profile, as to topping preference—the employee receives a tip. If the employee guesses wrong, he can still bribe the customer, with money from his tip jar. “The object is to make it through the day making every customer happy,” Neel chuckles. “There’s an ‘anger meter’ for each customer. And the amount of the bribes keeps getting higher. So you’re eventually screwed.”

But the day’s most purely imaginative effort surely belongs to Jacob Turnmire, with a little programming assist from dad. Though the graphics are simple, the concept for Jacob’s *Weird Kingdom* is unparalleled in its offbeat whimsy. Jacob bumbles excitedly about the storyline, which seems to involve traveling through different settings trying to kill the Holy Man, a despot who has gone mad in the wake of losing his kingdom. The game features flying bird-swords and other unexpected hazards, as well as much wanton killing of enemies. And players must be extra careful to avoid the giant, white bees. Which shouldn’t be difficult, because “they’re really dumb,” says

Jacob.

In keeping with the theme, the gamer can’t afford any slip-ups, because he/she only has one weapon to spare, and only one life.

Given that all of the Ludum Dare efforts were completed within the 48-hour window—the contest rules mandate that designers can’t use gaming elements created prior to the contest—many of the games that were showcased today won’t see any public play outside the Ludum Dare community. And that’s fine, because the very act of completing a single game is more than most would-be designers will ever manage. “If as many people made video games as said they wanted to make video games, you’d be talking most of the population,” says McCorkle.

But not all of the day’s efforts will languish in gaming limbo. Smith has his own, eponymous website, featuring two dozen of his creations—several of them available on Xbox, and several of them previous Ludum Dare entries.

With their Funcworks start-up, Neel and Dylan Wolf plan to place one of Wolf’s past Ludum Dare games on the mobile market. “We’re doing it mostly for the experience, to see who plays it, and how they play it,” Neel says.

“It’s a learning process. It continues with every game you make. You want to figure out your audience. Then you can give them access and empower them to do your marketing. They can blog, tweet, and YouTube about your game. That makes it easier. Because for indie gamers like us, free marketing is perfect for the budget.” 