



CITY OF HEROES

City of Heroes Diary, Volume 8

Tosh Toida, QA Lead for publisher NCsoft, takes us through the testing process for Cryptic Studios' online project.

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By IGN Staff

Now the greatest metropolis in America, Paragon City began in the 18th century as a quiet group of colonial coastal villages. By the time of the bloody Civil War, its location had helped it become a major port. After that conflict came decades of prosperity and continued expansion as a center for industry, science and commerce, which left it particularly vulnerable to the stock market crash of 1929 and the Great Depression that followed. The collapse of the economic order brought both social and political chaos. Various criminal elements, both organized and random, quickly moved in to take advantage. Through bribery, intimidation and murder, the mobs seized control. Corruption became ubiquitous. With every politician and cop seemingly on the take, there was no one to stand up for the ordinary citizens and the cause of justice - until The Statesman.

Over the ensuing decades, Paragon City attracted more super-powered heroes than anywhere else on the planet, but even their combined efforts proved unable to eliminate crime completely. As a result, when [Cryptic Studios' City of Heroes](#) launches this year, players will take up the cause of good. Using a system that allows nearly countless variations, they will create avatars that will then set forth to



prosperity has drawn a number of formidable villain organizations. These groups will offer up a diverse range of nefarious and powerful adversaries including supervillains, aliens, madmen, underground monsters, gangsters and more. With the intriguing project slated to launch later this year, [NCsoft](#) QA Lead Tosh Toida tells us what it's like testing such a large project.

Have you played **City of Heroes**?

YES

NO

A Look Inside [City of Heroes](#) Quality Assurance

Last month, [NCsoft](#) Third Party Producer Brian Clayton described the goals of the [City of Heroes](#) beta test, and explained what tools and methods we're using to accomplish those goals. This month, you get to hear more of the grisly details of everyday life during the beta. As the QA Lead for City of Heroes, I get to see the game day in and day out, from the highest level design concepts right down to the smallest details. I've been fortunate enough to be involved with this product for nearly two years, and I can't tell you how much I'm looking forward to seeing the streets of Paragon City fully populated.

To begin with, let me introduce myself. My name is Tosh Toida, and I've been a QA Lead for NCsoft since April of 2002. I've been doing QA since 1998, starting out as a tester and working my way up to where I am now. Sometimes, I can't believe it's been that long - I guess the years fly by when you're doing something you enjoy. It's not always fun and games here, but I always remind myself that the worst possible day I could ever have working in the gaming industry still beats a normal



So you want to know what it's like to test games? Well, despite what you might think, we don't play games all day - not in the traditional sense, anyway. To be honest, much of what we do could be considered repetitive and sometimes tedious. For example, we get new, potentially broken versions of the game all the time. Some development teams do weekly builds, while others do daily ones, but regardless of how often we receive them, in the collective rush to fix old bugs, add new code and just finish a game, there's a pretty good chance that something new will break each and every time.

The first thing we do with each version is what we call a Smoke Test. In the electronics business, this meant plugging everything in and turning it on, to see what piece started smoking. In the games business, it's essentially the same thing - a quick check of all the systems to make sure they work right away. With a game this size, this is actually quite a task, and can take several hours to complete. Think about your favorite game, and then think about how long it would take to press every button in the game. Then do it again tomorrow. And then again the next day...

As you can see, the Smoke Test is one of our more tedious tasks, but it's also one of our most important. During development, the trick to QA is figuring out how much testing we can do in the time we're given. In theory, we'd like to test everything in the game every time we get a new version. In practice, this just doesn't make sense because it would take a month to test each version, and the development team would never make any progress. This means we have to prioritize what we're doing, and when. If the team-up code hasn't changed since the last build, we're only going to give it a once-over this time around. If the powers haven't been tweaked in this version, we don't need to use every power in the game before we apply this patch to the beta server. Of course, this gets complicated when you realize that very few systems in the game are truly independent - we're constantly amazed at how a small change in one system can horribly break another one that doesn't seem to be related at all. This is why we run our Smoke Test. Even if we don't think a system has changed, we at least try it



This leads nicely into our next step, which is reviewing the change list. This is the list we receive from the development team that tells us everything that's new in this version. Once we review the list sent by the programmers, we figure out how all the changes will affect the game. From here, we decide what systems need a closer look. In some cases, it's pretty obvious. If a bug in the team-up code was fixed, we run through the checklist for team-ups. If a new power was added to the pool, we update and run the checklist for powers.

Seems pretty simple, right? Well, not so much. Sometimes, the changes are either so obscure, or so deeply rooted that we need to stop and make sure all the affected systems are still working as designed. In some instances, this includes almost the entire game. New features also require a lot of attention because they can always go wrong in a multitude of different ways. Fortunately, the closer we get to launch, the less new features are added to the game, leaving us more time to look deeper into systems that we haven't poked at in a while.

This leads me right back to what I mentioned earlier about time versus testing. We cram as much testing as humanly possible into the time available between builds. Unless any critical issues arise, we give it our stamp of approval, and ask the Ops team to put it on the beta server. What's important to note here is that this type of QA testing isn't even the half of it. There are plenty of other things to do in addition to testing new builds - finding new bugs in old systems, verifying and logging bugs sent in by beta testers, tracking down seemingly random crash bugs, communicating the bugs we've found to other departments... the list goes on and on. Eventually, we'll get to a point where things will have stabilized and we'll be able to go through the entire game again, piece by piece, until we've looked under every rock and behind every bush. But paranoia is commonplace in QA - we'll never feel like we've tested everything. It sure doesn't stop us from trying, though.

Tosh Toida

QA Lead, City of Heroes