

The Next Best Thing to Being There



Telepresent Data Collection

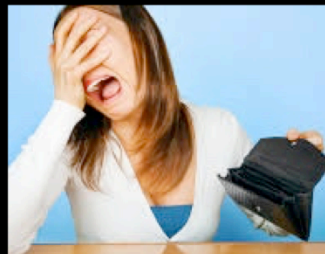
Jennifer Borland – Rockman et al

Hello, my name is Jennifer. In my Ignite talk today, I'm going to be talking about telepresent data collection. This term might be familiar to some, but I'm guessing that it is new to several folks – So let's start at the beginning: Wikipedia defines telepresence as technology that enables a person to feel as if they were present in a location other than the one they are physically in.

No time?



No money?

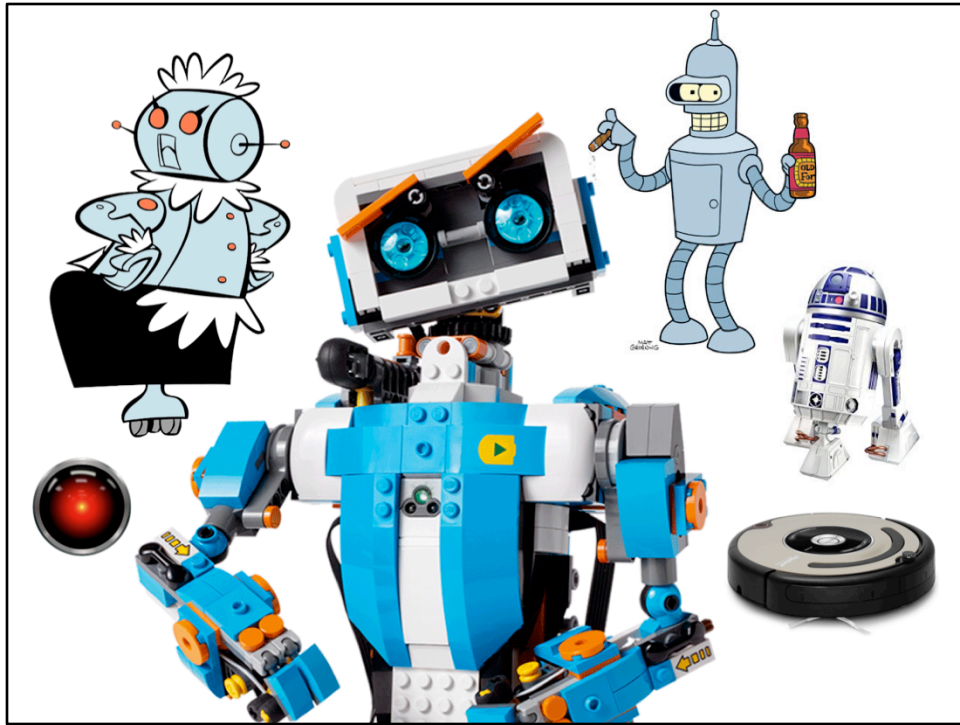


No Problem!

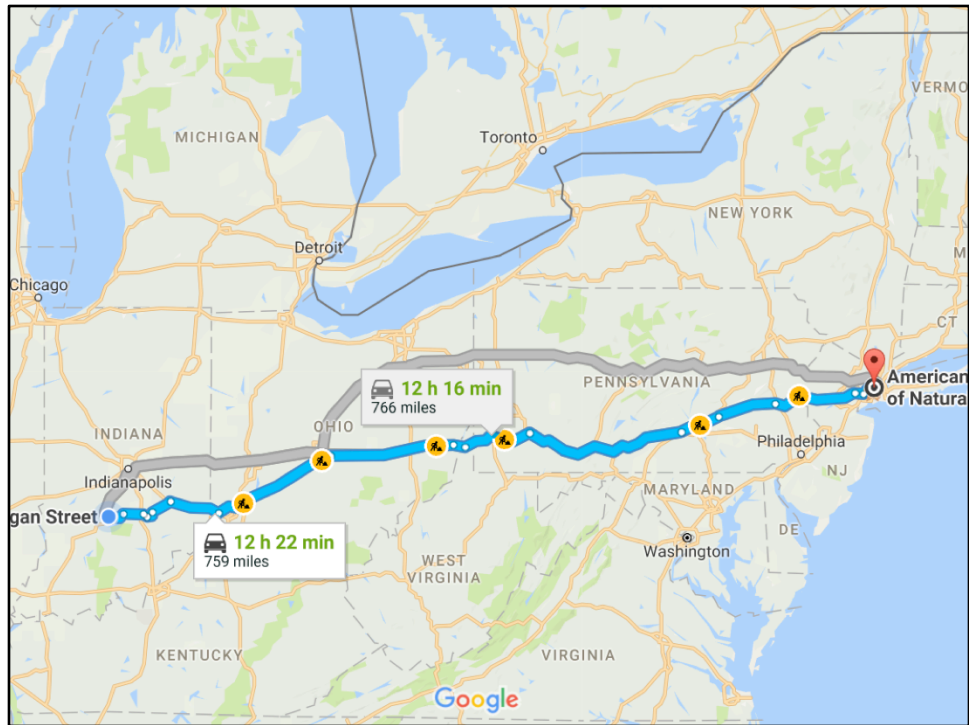
I think we might all agree that face-to-face work or first hand observations are preferable....but pesky little details like time or money sometimes keep us from being able to travel places. Flying to New York for a day might be outside of the scope of your projects' budget, or maybe you have so many meetings that you can't possibly get away from the office even for a day... but what if you could teleport yourself to a site....wouldn't that be the next best thing to being there in person?



I suspect that many of you are familiar with common video conferencing technologies, like Skype or Google Hangouts. You may have even used those remote modes of connecting with people for face-to-face conversations at a distance for research purposes...like interviews or maybe even focus groups. Static video conferencing is great for these purposes, but not a good fit for the kind of museum evaluation where you need to be able to move around to make observations and get feedback from visitors. ...so what if you could experience live two-way video while having a robotically enabled way to move around?



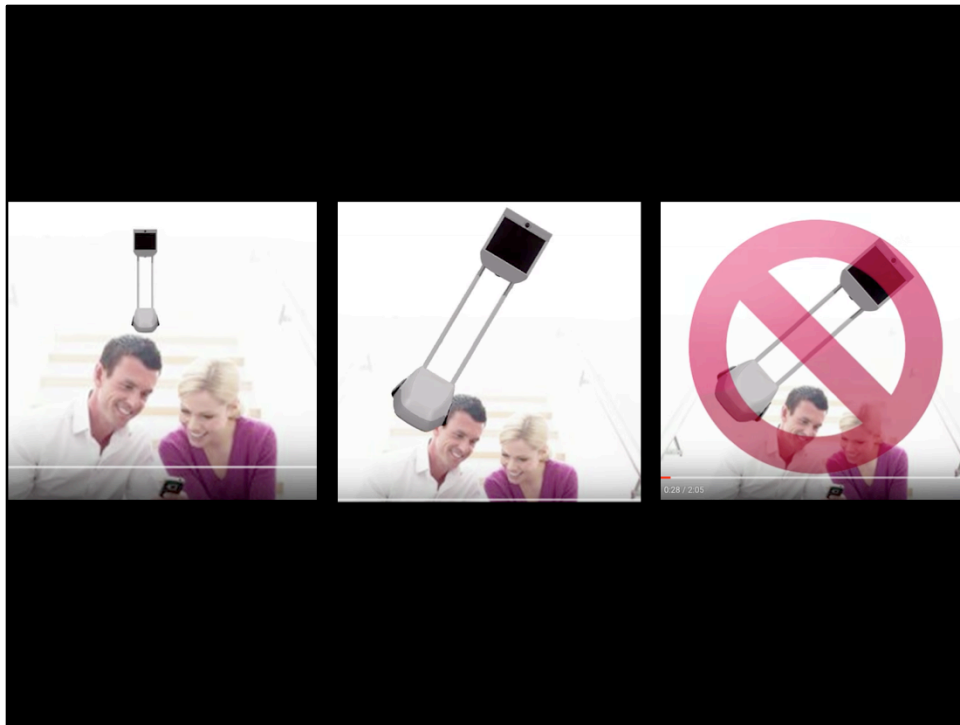
When I say robots, what comes to mind? Maybe you envision scenes from the Jetsons, or characters from other science fiction shows? Or maybe you envision high-tech toys...or convenient cleaning devices...actually, if you thought of the last type... you are actually on the right track.



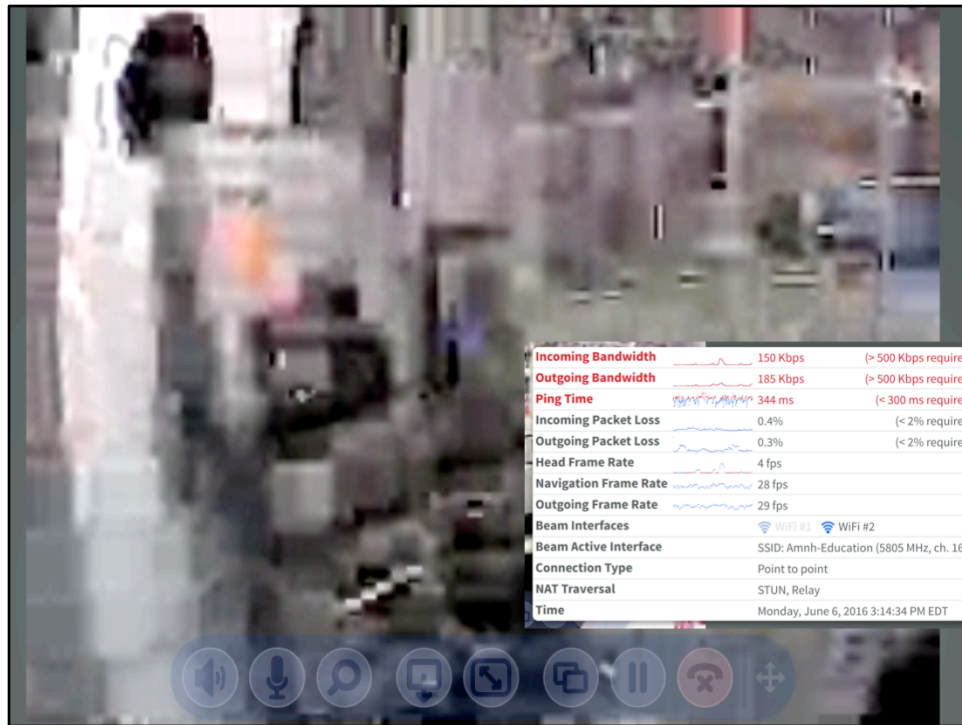
Last year I had an opportunity to use a BEAM telepresence robot to collect data at the American Museum of Natural History in New York City – Ultimately, this experience enabled me to collect a day's worth of data, all while I sat in the comfort of my office in Bloomington Indiana...without having to wait in any airport lines and without having to spend a night away from my family.



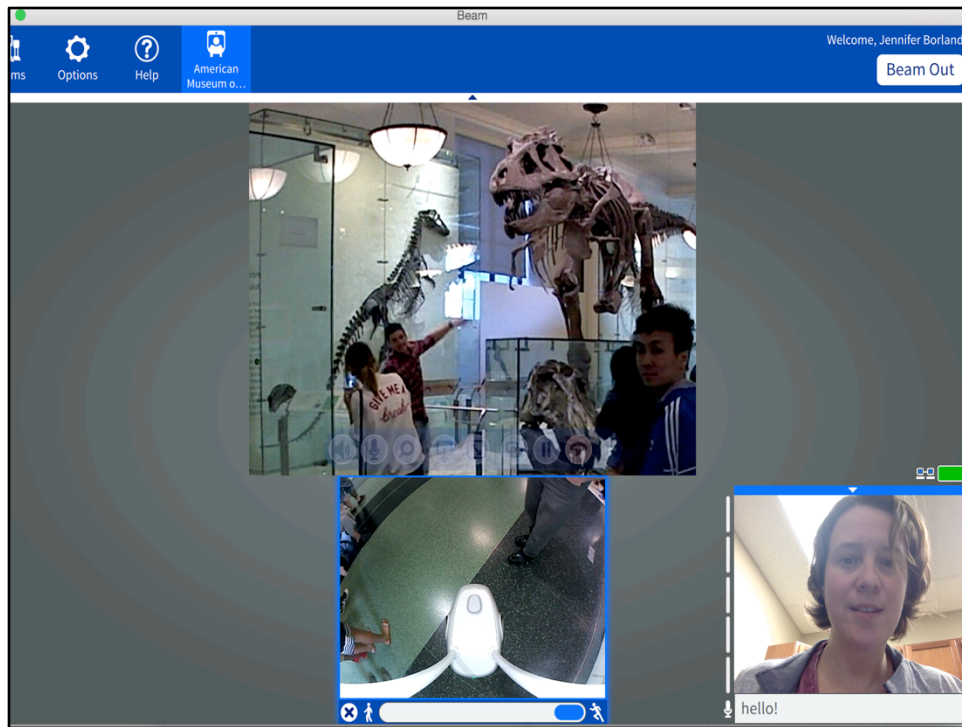
The BEAM system included a head-height monitor—kind of like an iPad— mounted on what seemed like a remote-controlled roomba. From the control panel on my computer I was able to control the direction and speed of travel, the volume and video settings...and even add a friendly message on the display screen of the BEAM device. I should also note that this technology is not cheap. I don't know exactly how much the system I used cost, but based on info I've found online I'd guess between \$2500 and \$5000.



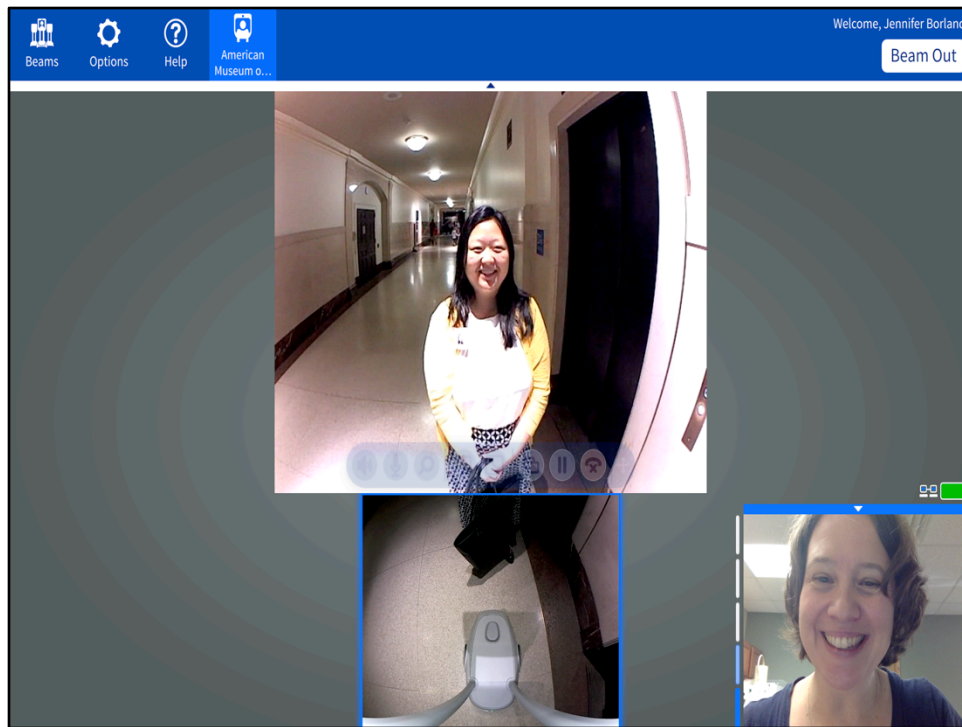
Before I could take the BEAM out to collect data I had to go through a brief training session...which included a brief video, which explained the control functions and fully emphasized the danger of stairs....telepresence robots and stairs do not mix!! ...I also needed to try logging in and taking the BEAM for a test drive. The first try didn't go so well. I didn't end up having adequate bandwidth to effectively connect and control the BEAM device.



The second time around things went much smoother. Thanks to the combined efforts of ensuring that I had everything else on my computer turned off...that nobody else in my office was using significant amounts of our bandwidth...and calling out our DSL provider about our actual speeds vs. the data upload and download speeds we were actually paying for. Long story short, you can't always trust the cable company...and the BEAM system uses a lot of bandwidth.



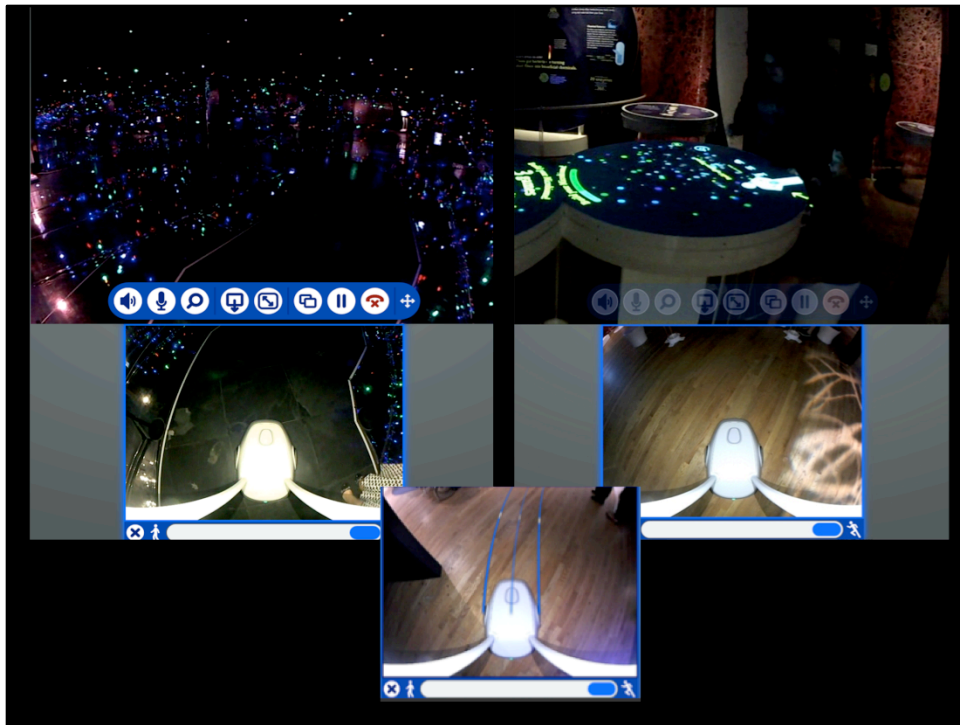
On my first successful test drive I got the hang of navigating – and found it to be a lot like playing video games (though I should say that I am not a very skilled video game player). I also learned that being a robot is a lot like being a Rockstar! When I rolled into an exhibit hall, I was instantly the coolest attraction (and that’s saying a lot when you are in a room full of dinosaurs).



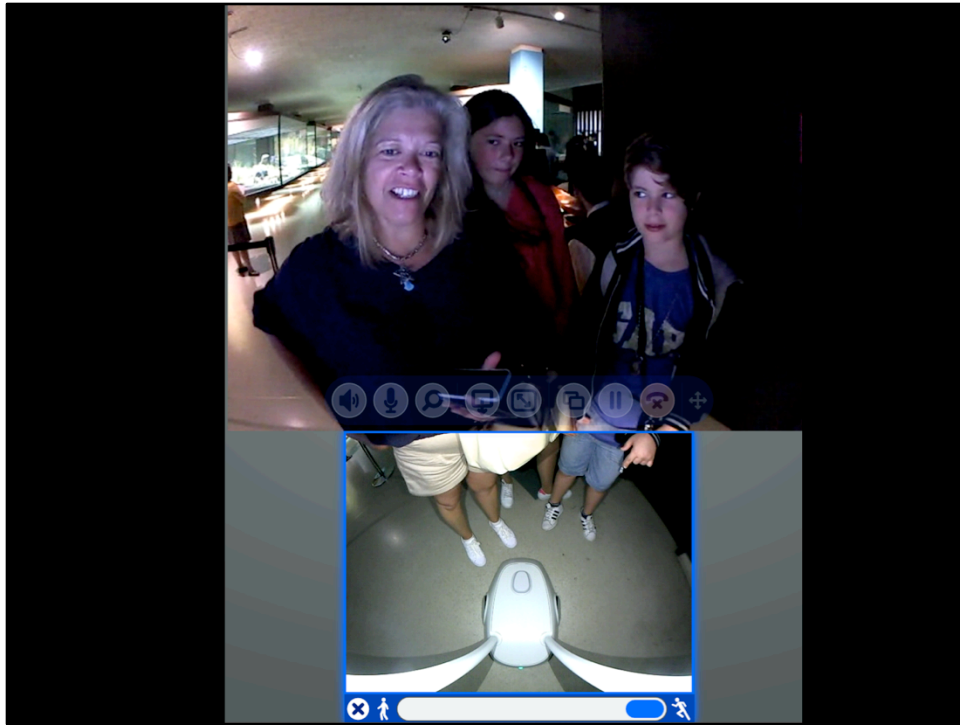
On the day that did my data collection, my colleague Julia, who was onsite at the museum, “met” me at the office where the BEAM was docked....together, with Julia’s help, I was able to venture out to collect data....but first I had to get to the exhibit we were studying...and that was no small task since that exhibit was on the other side of the museum and a different floor (Remember what the safety video said about stairs...and note that there’s no robotic arms for handing people things or pushing buttons).



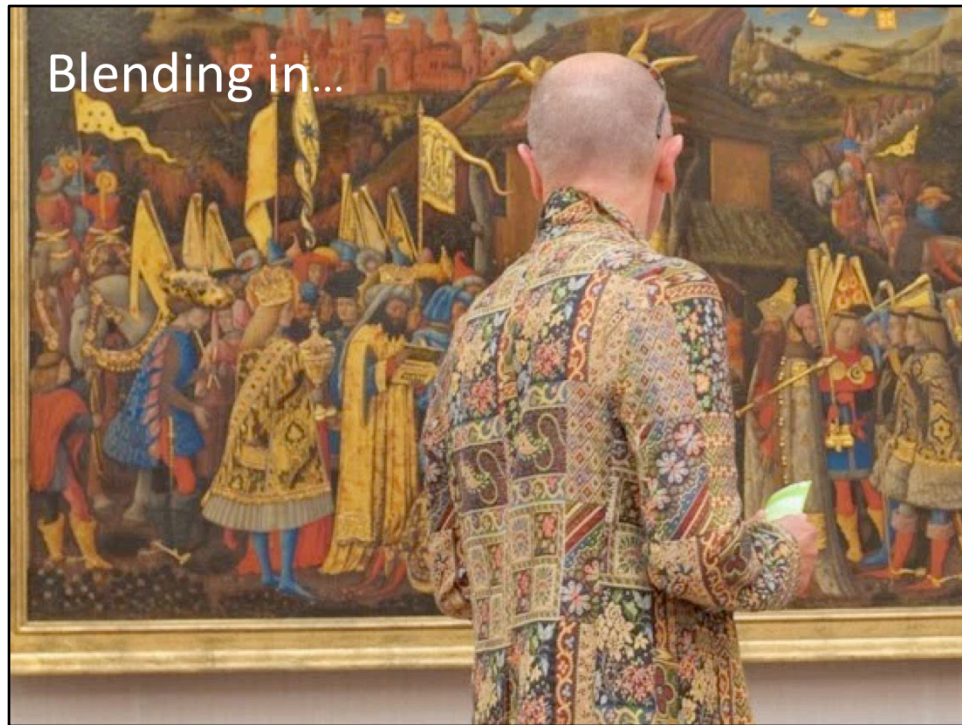
Turns out that elevators are equally challenging from a navigational perspective (though admittedly not as deadly as stairs). In order for the BEAM to function it must maintain connected to the internet at all times and even in the best facility, elevators are typically an internet dead-spot. Thankfully I had Julia to help wheel me out of the elevator once we arrived on the right floor. She also came in very handy as we were trying to navigate crowded hallways, intervening when folks tried climbing on the BEAM and generally helping to explain to people who I was and what I was doing



Generally speaking, once I got the hang of it, moving around was relatively simple thanks to on-screen displays that showed me exactly where I was headed...though admittedly, having first-hand experience in the exhibit made it a lot easier to know where to go, especially in low-light conditions.



There were pros and cons to collecting data via telepresence. Remember how I said I was a rockstar? That's both a blessing and a curse. It meant that people were often very curious and therefore eager to interact -- arguably more eager to interact with me than they might have been if I'd be at the museum in person...but it also meant that it was a little hard to be inconspicuous...at least at first.



I realized that when I wasn't moving around, it actually may have been a little easier to be inconspicuous because I blended into the background. At least, it felt like people were paying a lot less attention to me than the times I'd been standing around recording data with a clipboard and stopwatch.

Zooming in...



One great technological advantage was the fact that I could “stand” a little further back and zoom-in on the things I was observing. Another technological advantage was the fact that I could raise and lower the speaking and hearing volume to account for different noise levels within the museum.



The last big technological advantage was the fact that I could easily record interview or observation sessions (with visitor permission of course) using quicktime to easily record video and screen capture commands to take photos as I was conducting observations...without clunky, obtrusive equipment, and without ever looking away from the visitor's faces.



But all good fun must come to an end. When the battery on the BEAM device got low, I knew that it was time to pack up and head back to the docking station.

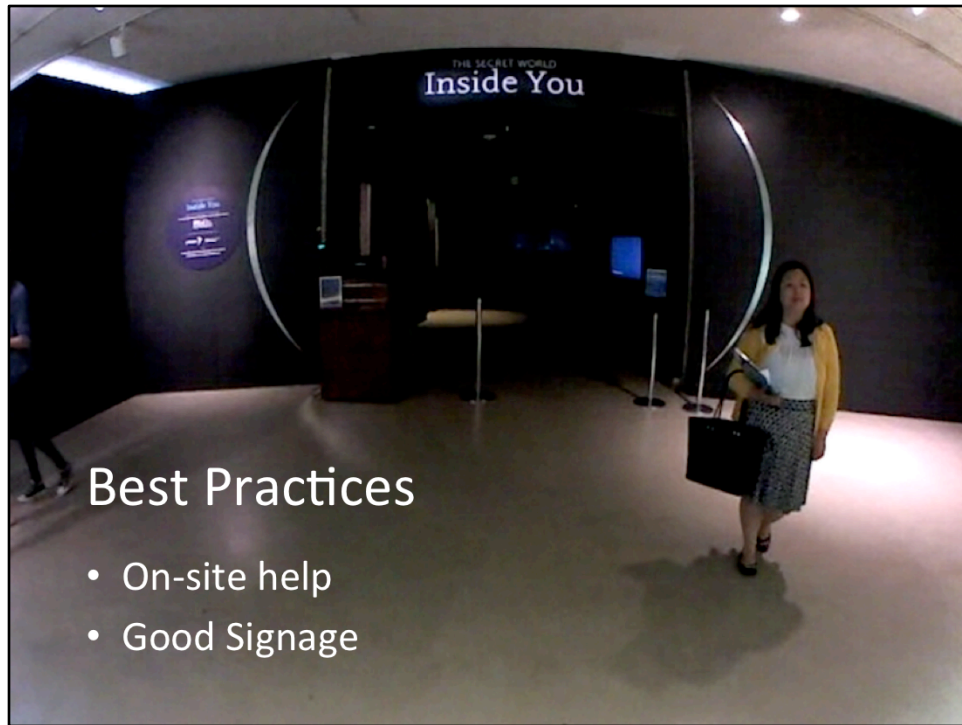
Challenges

- Deadspots
- Low-lighting
- Limited battery

Advantages

- Curiosity
- Unobtrusive & tech-enhanced observations
- Saving time and money!

In short, I learned that the challenges of telepresent data collection in a museum setting were: navigational issues related to internet deadspots and low-lighting and limited battery life. The advantages are people's natural curiosity, the relative ease of unobtrusive observation and advantages that the technology afforded in terms of being able to see and hear things better than I could in person.



In terms of best practices – it definitely helps to have someone on-site helping out, I'd also advocate for simple signage at the entrance to the museum that helps to explain to visitors that research is being conducted...with the aid of a robotic device!



In short, my experiences suggest that telepresent data collection holds a wealth of possibility for us as evaluators. So the next time your schedule is too busy, or your budget is too tight, you might check into whether or not you could just BEAM in.