

Matt Berlin

Assignment 3

1) You are responsible for the design and release of a new video-game title. The company is looking for large audience appeal. What type of evaluation do you think would be appropriate to determine if it might become a hit?

We've discussed a number of factors that are important for deep engagement, and many of them are very relevant to the success of a video game: sensory saturation, emotional engagement, sense of agency, challenge, novelty. People want a game to grab a hold of their senses, take them on an emotional ride, tell an engaging story. In particular, people expect that a good game will provide them with an experience that they have never had before. But how can we measure these things? There's no getting around bringing people in to play the game and watching what they say and do. Asking them questions about their experience is important, but it's also critical to pay attention to their behavior. How long do they stay interested in the game? Do they stay focused on the screen or do they get bored easily and look away or fidget in their seats? Do they stay in an "interested" pose or do they slouch and droop back? Certain emotional responses can also be measured to some extent: galvanic skin response for arousal, heart rate for excitement, grip pressure for frustration. When are people getting excited or frustrated by the game, and is it where the designers intended?

While all of these factors might be helpful for designing a more engaging game, the single most important element for predicting commercial success has got to be social engagement. The best games form an integral part of the gaming culture, and in order to be really successful, a game has to be accepted into that culture. In order to change how people spend their gaming time, you have to change how their friends spend their gaming time. Games become successful because people talk about them with their friends, play them with their friends, and compete at them against their friends. So, you need to bring in groups of people, particularly groups of friends, to play with the game that you're developing. Look at how they interact with each other playing the game. Listen to how they describe the game to each other. Ask them if it's the sort of game that they would show a friend, play with a friend, brag about to a friend. Only then will you know if your game is going to become truly successful.

2) You are on a curriculum team developing a course for learning basic concepts in a field (8. 01, 18.02, 6.001). What metrics do you think are most relevant to determining how the course design might be improved?

The two factors that are most important here, in my opinion, are challenge and sense of agency. The curriculum will be improved if it incorporates the flexibility to tailor the challenge level and pacing of the material to individual students or groups of students. The course design will also be improved if it increases the extent to which students feel like they are active participants in the learning process. Courses are less successful when all that the students are asked to do is show up and listen. Students need to feel like they are actively acquiring important or useful skills. Learning is more effective when students learn by doing, making, collaborating with others. It's particularly important to give students the opportunity to think about the skills that they are learning in the context of their own goals and interests - to make the learning personally relevant.

In terms of measuring and tailoring the level of challenge, an easy retrofit to the traditional lecture setting is to introduce occasional electronic polling of the class. That is, every now and then the lecturer stops to pose a (generally multiple-choice) question to the class. The students respond by keying in their answer at their seats, and the responses are aggregated for the lecturer to see. This lets the lecturer get a sense for how well the class is following the presentation, while avoiding the tension and confrontation of putting people on the spot. The lecturer can then speed up or slow down the rate at which new topics are introduced to maintain a more appropriate and engaging level of challenge. This approach also gives the students something to do every now and then, which helps to increase the sense of agency in the lecture

setting, even if only slightly. Even better might be to have the students work with their neighbors to answer the questions, thus increasing the social context of the learning.

3) You are making an artwork or demo that you want to use to engage a broad diverse audience. What metrics do you apply to an evaluation of this work? What are your preferred ways of gaining feedback?

For me, this seems like a fairly similar problem to analyzing the successfulness of a video game, especially since many of my past research demos have resembled video games. I would argue that many of the same metrics and evaluation techniques apply. We would like the work to be emotionally engaging, challenging, and novel, to stimulate a sense of agency, and perhaps above all, to be socially engaging. It's important to ask people what they think, but again, it's critical to look at what they do. Take video. Measure their posture. Record physiological data about their emotional responses. The big questions are: how attentive are they? How long do they stay interested with the work? What are their emotional responses, and do they fit with what was expected? When more than one person interacts with the work at the same time, does this social context increase the level of engagement or detract from it?

4) Discuss attributes that you think would be most important in terms of stimulating you to have a long term relationship with a robot.

Long term relationships can't exist without memory, growth, and learning. An interaction that is the same every time isn't a relationship, it's a habit. Relationships imply change, imply learning. Reciprocity is also key: I can't have a relationship with a robot that doesn't have a relationship with me. In order for me to enter into a real long term relationship with a robot, the robot needs to be able to recognize me, remember me, differentiate me in some meaningful way from other people. What the robot learns and remembers may not have to be particularly complex, but I do have to feel like I matter, like the relationship influences the robot's behavior in a significant way. Perhaps the robot learns about my working style so that we're able to more effectively and fluidly collaborate. Perhaps it learns about the changing nature of my job or position in life, so that it can anticipate the goals that I might bring to a particular interaction. Even better, perhaps it responds to teaching, so that I can exert a direct, observable influence on its behavior by teaching it about tasks, facts, or objects that have particular relevance to me and to whatever I'm trying to accomplish.

More than anything, though, this learning and growth needs to take place within a social sphere. The depth of any relationship that I form with the robot will be directly related to my willingness to accept the robot as a social partner. Social learning and relationship formation is not a conscious, considered process, but rather a natural and spontaneous one. In order for real relationship formation to occur, the robot needs to fit in with the expectations of my natural tools for social learning. These tools, let it be said, are rather forgiving, seeing as we're likely to enter into at least some level of social relationship with everything from our car to our coffee maker. Nevertheless, I believe that the more an object behaves and looks and feels like a social creature "like me," the more these natural learning tools come into play, and the more likely it is that a real relationship will be formed. Thus it will help if the robot is expressive, emotional, and responsive to social cues and gestures like pointing and gaze. It will help if the robot is active, physical, maybe verbal, and so on. In short, the more the robot responds to the things that make us human with human-like behaviors of its own, the more willing we will be to enter into a real long term relationship.