

# Preparing to Use a Highly Interactive Virtual Environment (HIVE)

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## Experience a Virtual World

If you intend to use a HIVE, there is much work that needs to be done in advance. You should first connect with other professionals who have successfully used your target environment. Then, you should experiment yourself with that environment and become as familiar as possible with its nuances. If you are going to use Second Life (the gold standard of HIVEs), you'll need to obtain an account and explore on your own, taking in everything you can as you learn to be a citizen of the virtual world.

Virtual worlds will differ in their approach, scope, and user interface. It is best to settle on a single environment and then try to obtain as much experience as you can in that particular environment. Second Life has some distinct advantages over other virtual worlds:

1. It has a critical mass of users, making it workable in all environments
2. There is a wealth of literature and "how to" articles, providing excellent support
3. Educators have made widespread use of the environment, have documented most of what they have done, and have provided classes that you can experience
4. It allows users to move seamlessly between servers (worlds) and is scalable, meaning that anyone can set up their own worlds.
5. It has its own internal software for presentation graphics. Once you download a small application that works with your browser, Second Life becomes a much higher quality visual and audio experience than any browser could render on its own

To start, use classes that others have set up in Second Life. There are numerous free classes you can take. This will give you experience from the student's point of view and let you determine by experience how you will want to set up your own classes.

## Simulations

If your intent is to use stand-alone educational simulations, you have a number of choices:

1. Use commercial ("off the shelf") games. Games like *SimCity* and *Civilization* are well known, frequently updated, and inexpensively available. If you use these, remember that they were not designed specifically as educational simulations, and may not be completely accurate in their portrayal of the lesson you wish to get across. Be sure to test these games before you engage them for your use to make sure that the points you intend to get across are indeed covered in the sim/game you choose.

2. Free simulations provided by foundations, causes, or corporations. There are a lot of these out there, some good and some not so good. Some, however, are innovative, interesting, and accurate. Beware, though, that anything that is free may not be supported forever. You may adopt one of these and although it may be high quality, it may be abandoned by its sponsor and you will be left with no upgrade path. This, however, is often the pitfall of using free materials. The provider of free materials, including simulations and games, has no obligation to paying customers and often feels that the project can be discontinued with no notice.
3. Off-the-shelf or custom vendor-supplied educational simulations. These are specifically designed for educational use and tend to be more accurate, rich, and detailed educational experiences. They have technical support and generally go through ample testing and upgrading. The drawback is that these can be expensive and involve onerous licensing agreements.
4. Internally developed. Your organization might have the expertise, desire, and financial ability to create custom simulations from scratch. The advantage is that these will be exactly tailored to your needs. The drawback is that there are few in-house shops that can pull this off to the quality level expectations you would find in commercial offerings.
5. Modified off-the-shelf games. Some simulations have myriad customization capabilities and can be configured, or tailored, to individual environments.
6. Professor-created simulations. These are generally smaller games, but there are development kits available for this type of work. Often, professors themselves will create games, using their own programming skills, or using a game development environment. They will often make these available to other educators through portals such as Merlot.

## Considerations

When evaluating HIVEs for potential use, consider the following:

1. Is the technology used accessible to most students?
  - a. Are graphics driven by Flash?
  - b. Screen size and resolution requirements?
  - c. Sound capability and requirements?
  - d. Graphics cards, sound cards, and other drivers needed?
  - e. Cross platform?
  - f. Graphic card memory size needed?
  - g. Hard drive space needed?
  - h. Patches?
2. Are there instructor controls present in the environment?
3. Are there choices of venues within the environment?
4. Is there curriculum alignment?
5. Do instructor support materials exist?
6. Are there artifacts (records of student interaction in the environment)?

## Game/Sim Format

Games and simulations can either be synchronous or asynchronous. They can also be self-paced/single player, or multiplayer.

- Self-paced single player vs. multiplayer. In self-paced/single player formats a student can engage the simulation individually. There is no interaction with other players. It is the student vs. the computer. These are the most flexible, particularly in online environments, and can enable endless practice without coordinating with anyone else.
- Asynchronous. Students engage the game with other people, but not at the same time. Think of a chess game with two players making moves as they have the opportunity.
- Synchronous. Students engage in the game at the same time as other students and a high degree of interaction gives this type of game infinite variability.