Abstract. This paper concerns an investigation into a proposed model to structure the learning experience of students in multiplayer on-line role playing games (MORPG). The key concept is that of the guest/cast member duality. A cast member is a student who acts to shape the experience of the guest or guests. The paper describes a performance support methodology, and reports on pilot studies carried out at the University of Central Florida during the fall of 2006.

Outline

1. The concept behind CMPM
2. Review of literature
3. The problem of performance support
4. The CMPM framework
5. Building an experimental world
6. Lessons learned while playing in the world

Appendix 1: Character and Segment Guides for The Cursed Dark City
Appendix 2: Final Exam: Questions and Answers about the Project

1. The concept behind CMPM

To those of us involved with games for learning, it seems obvious that people - especially young people - are learning an immense amount by playing games (Gee, 2003; Prensky, 2006). They develop skills at solving complex problems, exploring intricate universes, organizing and leading group activities. They also become very good at killing all sorts of things. Our mission is to seek ways of harnessing this self-organized, un-commanded, often addictive behavior to teach skills and concepts that the learners will need, when (or if) they ever quit playing the game and go looking for jobs.

What if we could give away - by posting on the Internet - games that were addictively fun, and yet which taught algebra skills? Or foreign languages? Or automotive repair? This seems to us to be a sort of Holy Grail, a worthy goal for a career. But how can such an enterprise be created and sustained?

Self-sustaining movements. We believe that social interaction is the catalyst that can make such an enterprise feasible. As Laurel (2006) notes, significant social interaction is often that element which is lacking in educational video games. She writes,
“Games about language or math, science or sociology, economics or geopolitics lack luster because neither the activity they model (education) nor the activity for which education itself intends to prepare us (life in the Spectacle) offers little in terms of significant interaction. With no models of ourselves as agents in the real world, how can we envision such possibilities within a representation of it?” (p. 869).

Laurel’s notion of the Spectacle, a term referring to “a social relation among people, mediated by images” (Debord as quoted in Laurel, 2006) elevates social interaction and community over media, reminding us that “real” agents of interaction are found in social relationships between people in the physical world. Sadly, many educational video games lack connections between virtual and physical space, and anchoring oneself in a virtual community will generally have no bearing on one’s status in real-world communities.

To construct such a system, we might first turn to the World Wide Web. The Internet abounds in examples of self-creating, self-financing, self-sustaining communities of interest. No top-down national organization, no government agency, guides the development of open source software - yet an immense body of useful, constantly evolving code is being created.

Our objective is to help create such a community for open-source on-line learning. We are focusing on one segment of that social interaction, while considering how to shape the overall process.

We are developing concepts and prototypes of a methodology for structuring the experience of students engaged in multiplayer online role playing games for learning. We have borrowed terminology from Disney's theme parks, as follows:

* **Guests** are students who enter our role-playing games without prior background, and who are the "customers" in the sense that the game is designed primarily for their benefit. The character played by the guest is called the Protagonist.

* **Cast Members** are other people who are playing roles within the game, with the primary purpose of providing a high quality, interesting/exciting/creative experience for the guests. The cast members might be other students in the same or different school, university students, or even retirees.

The characters played by the cast members are referred to as Non-Guest Characters (NGC) - which is a deliberate reference to the automatically controlled Non-Player Characters (NGC) that often occur in games. This NGC-NPC relationship is explored further below.

* **World Builders** are students who have progressed through the ranks of Guest and Cast Member, to the point where they are capable of being taught to construct new worlds for
use by other guests and cast members. Our research includes the creation of software tools and procedures to guide the work of World Builders.

* **Tool Makers** are students, teachers and professionals who create the software and the working environments that are used by World Builders. Many tool makers were former world builders.

The current project focuses on improving the performance of guests and cast members. However, we necessarily also have to perform the roles of world builders and tool builders. Our project's emphasis is not on game-building in the usual sense, with extensive artwork and programming.

We are trying to execute these supporting tasks as conveniently as possible by using the off-the-shelf game system titled *Neverwinter Nights*, and creating simple mods to serve as stages for experimentation.

**The larger vision:** In an ideal universe, where everything works without friction, we would build an 'empire' consisting of thousands of online educational worlds (analogous to the world of Neverwinter Nights games online at any given time). Any interested schoolteacher could look through a catalog of games, indexed by subjects that they are teaching, and send students out to experience the appropriate games.

An obvious obstacle to realizing this dream is that it would require thousands of cast members, standing by and ready, 24 hours a day to play their roles. Disney pays their cast members, but we do not anticipate being able to pay ours. Rather, we seek a social mechanism that would motivate people to voluntarily play those roles. Clearly there are massive problems of scale, of supervision and of quality control. We expect that we will ultimately have to find ways to automate much or most of the behavior of these supporting non-guest characters in the games.

We don't yet know how to capture, document or describe the work of the cast members. We don't yet know if their behavior in game-play will turn out to be sufficiently similar, from guest to guest, to be representable in rules that could guide an NPC to generate plausible behaviors.

In fact, there is a prior problem. We don't know how to get the cast members to do the right things in the first place. What training, what mnemonic aids, what tools are required for a cast member to successfully participate in the creation of a worthwhile experience for a guest?

Therefore, we are focusing our work during 2006-7 on this core problem: supporting the activities of the cast members.

2. Review of Literature
In this section we examine some suggestive work that merges interactive storytelling or performance with applications of computer technology. Although some well-known texts make general claims about the relationship of computers to interactive narrative and drama (Laurel, 1991; Murray, 1997), many of the hypothetical technologies proposed by these authors (such as Murray’s virtual holodeck) are nowhere near a state of reality. Other projects with more limited scope, however, have produced useful and interesting amalgamations of story, performance, and technology.

One well-known example of interactive storytelling in a computer-based environment is the Façade project (Mateas & Stern, 2003). Façade, which creates an interactive drama about human relationships, allows a player to assume the role of a family friend in the uncomfortable situation of witnessing an angry and tense confrontation between two virtual characters, named Grace and Trip, in a virtual apartment environment. The player begins in a hallway outside the apartment, and hears a muffled argument from within the closed door. Shortly thereafter, the door is opened and the player is invited indoors as the virtual non-guest characters do their best to pretend that nothing is amiss and an enjoyable evening lies ahead for everyone.

Where Façade is successful is in its representation of a fairly dramatic one-act play experience that may leave the player feeling uncomfortable as the domestic dispute unfolds. Depending on choices the player makes (such as picking up items in the environment, kissing or hugging Grace or Trip, or typing recognizable words for the language parser to recognize) the scene will unfold in different ways. Grace and Trip will adjust their conversation depending on these choices, and the pre-programmed dramatic situations will adapt accordingly. A serious problem with the program is the sheer amount of effort required to create a usable act; the authors note that two years of authoring time was required to generate a 20 minute one-act play with 6-7 different dramatic outcomes based on player decisions. Requiring all of the dramatic interaction to unfold within a virtual environment greatly exaggerates the complexity required for such an experience.

Fernaeus and Tholander (2006) write about their experiences in teaching children how to program using interactive performance as part of the design and development process. Through their analysis of three workshops, they examined three different types of interaction as it applied to programming activities: gesture and body language, offline roleplay, and tangible programming.

Other projects have moved interaction outside the realm of computer technology and instead rely upon virtual representations as aids or supplements to a physically interactive process. One such example is the Constructed Narratives project described by Pamela Jennings (2004). In this project, students from various disciplines worked together with faculty research advisors to design a system in which physical game pieces (construction type building blocks) were paired with virtual representations of these blocks. The virtual representation, which was adorned with adjectives, nouns, and verbs describing the various characteristics of the players as collected in preliminary surveys, shifted in response to the placement of physical blocks on the workspace. Movement was
coordinated through the use of RFID-embedded rings and the resulting virtual artifacts were displayed on a 180-degree projection screen.

While *Constructed Narratives* is quite different from both *Façade* and the CMPM system described here in terms of implementation, many of its aspirations and design principles are quite similar. Jennings notes that the purpose of *Constructed Narratives* is to build a methodology which supports working within social interfaces and generates an environment in which participants can interact on some shared, common ground. The concept of a social interface is integral to what we have designed with CMPM; it is the network of guests, cast members, and technology that drives progress in this system rather than any one of these agents.

In addition to its reliance on a social interface, CMPM is also like Jennings's project in that it seems well-suited for the task of helping students learn how to attack "wicked problems." Jennings uses this term to denote problems, often found in the design world, that are composed of multiple (and often non-separable) sub-problems. There are often multiple solutions to the problem which are difficult to test or verify (p. 210).

A number of educational researchers, e. g. (Brown, Collins, & Duguid, 1989; Clancey, 1991) believe that skill in dealing with such wicked problems is best taught by the deliberate creation of opportunities for 'situated cognition'. Learning activities need to occur in a specific and realistic context, within a comprehensible and credible community and culture. This also is compatible with the theory of embodied cognition (Garbarini & Adenzato, 2004; Fiore, Metcalf, & McDaniel, In Press), which considers both the biophysical aspects of presence as well as those social elements which affect an individual’s presence when that person relates to others. By using these dynamic situations that allow for interactive variations within each scenario, both situated and embodied models of cognition are well-served by the CMPM system.

Our central hypothesis is that it is feasible to construct such a community of learners by using CMPM.

### 3. The Problem of Performance Support

Let us assume that by some unknown means, a game-world has been built that is suitable for teaching some particular set of knowledge or skills. The key challenges for guiding cast member performance would seem to be as follows:

- **Subject Knowledge** - cast members need to know the skills and information that the game is intended to teach
- **World Knowledge** - they also need to know how this particular world works; its geography, the behavior of its contents, and its relation to the subject knowledge
- **Story Knowledge** - cast members need to have been through a successful experience as a guest, so that they have at least one story-arc in mind.
- **Performance skill** - how does one assume the personality of a character?
• Teaching strategy - how should the cast member behave, to maximize the guest's learning?

However, it would probably be wiser to frame the above list as a set of hypotheses, rather than axioms. To clarify this assertion, let's visit each item in turn.

**Subject Knowledge.** Two extremes illustrate the range of possibilities:

- Cast members are master practitioners of the skill being taught. This would be exemplified, in military training, by the skill-set of the Red Team at the National Training Center - fulltime 'professional enemy soldiers'.

- Cast members know little or nothing about the skills being taught; the world is so structured that the cast members discover the knowledge and skills along with the guests.

  The authors don't know of real-world examples of this model. One could, however, imagine a game system that only allowed cast members to do things that guide the learning. (In essence, the cast members would 'pretend to know what they are doing'.) Here's a near-miss, inspired by an actual helicopter hover training system at Ft. Rucker, Alabama.

  Instructor-pilot says "rest your hands on the controls, and I'm going to hover this copter (simulator) 3 feet off the ground. Feel how I respond to wind gusts, and how I balance the cyclic and collective to keep us standing still. I will gradually relax my control, and you will gradually take control of the aircraft.

  But in fact, the instructor is not providing the guidance at all; it's all done by an automatic-pilot system. The instructor is just controlling the dial-back, giving the trainee more control as he develops the skills needed.

It seems likely that our cast members will fall somewhere between these two extremes, and thus that we will need to give them some training (and some testing) to verify that they are not providing negative-learning to the guests.

**World Knowledge.** Cast members should, at least, be playing characters who are 'natives' of the world in which the guest is visiting ... right? This seems logical. However, consider a traditional RPG in which some players ('cast members') have played similar games (with the same rule-set) before, and others ('guests') have not. The Dungeon Master (DM) makes up a new map, and presents the players with new constraints that none have ever encountered before. The guests would quickly learn by observing the actions and skills of the more experienced players, how the world works and how to participate in the party's quest.
The cast members don't know anything more about today's world than the guests do (because the DM just provided this information to them.) But they know more about how it is done, because they've done similar things before.

**Story Knowledge.** One important dimension of game design is the principle that the players need to make up the story. The more open-ended the game, the more challenging it is to design. But such games are the only ones that have real replay value.

Consider John Madden Football. It generates an essentially infinite series of "stories" - of actions, reactions, pursuit of difficult goals, satisfying victories, etc. It is no secret where the goalposts are, and playing the game one time does not give away the ending.

To imagine an 'algebra game' that people would want to play until they truly mastered it, we must think about a *story space* rather than a fixed story. How do we provide the affordances that allow our players to run, pass or kick at their own discretion, and yet still come to the goalposts? Cast members (i.e. the 'fellow football team members' and 'opposing team') need to know how the game is played, but they don't need to force the guest to pass on third down.

**Performance skill.** Live performance involves a good deal of timing and of goal management. If a cast member is being asked to simulate a specific personality, generate humor, engage the guest in banter, and teach the guest the rules of a complex new world all at the same time, then many people will not be able to accomplish this task.

Non-player characters (NPC) are routinely constructed to accomplish these goals; their chief failing is that they cannot respond to spontaneous actions by the guests.

We believe that the cast members in our game will ultimately be controlling characters that fall somewhere between fully autonomous avatars, and totally automatic NPCs. We call these 'hybrid characters' NGCs - non-guest characters.

*It is the central goal of this work to figure out how to explore this question.*

**Teaching Effectiveness.** It is important that we explore how to actually deliver useful knowledge and skills to the guests. However, this is a somewhat later research goal, after we have developed some confidence in our ability to manage cast members for their entertainment value. It is also the case that we expect cast members to learn a significant amount about the subject matter ... so the 'payoff' is broader than just the learning that might happen on the part of the guests.

With these issues outlined, we can now discuss the experimental framework currently in use.

4. The CMPM framework
**The test game.** We have designed a brief quest-style MORPG and constructed a world within which to play the game, using the *Neverwinter Nights* game engine. We call this game *The Cursed Dark City*.

The learning objective of the test game is to become familiar with (x,y) coordinates, and to be able to reliably locate a point on a two dimensional Cartesian coordinate grid. We are aware that this is an elementary-level skill, but it is a necessary starting point for middle school (sixth grade) algebra material from the Florida Comprehensive Achievement Test (FCAT).

The game's guest meets the Queen who explains that her city has mysteriously become dark and silent, and asks the guest to go into the city and find and fix the problem.

She introduces her assistant Squinx, a penguin, who then helps the guest learn the basics of the world. Squinx informs the guest that there is a Darkness Generator (DG) somewhere in the city. To find it, the guest needs to find out the (X,Y) coordinates of the generator and then go and deal with it.

Somewhat like a geo-cache, the DG is not instantly recognizable - so it won't do to just systematically search the city. Besides, the guest will soon discover that some parts of the city are blocked off by barricades.

The guest and Squinx explore a small suburban village and a connected somewhat larger city. They may gather information in any order, ask questions of the natives, try out the tools and devices they find, and try to seek out the DG and disable it.

We have provided a set of Segments, which are "set pieces" when the protagonist encounters a particular resource and associated NGC(s). Each Segment is embodied in a Segment Guide (SG), which is a brief document that our world design team has created. Each character also has a Character Guide (CG) that outlines its essential characteristics. The current CGs and SGs are collected in Appendix 1 of this document. They are evolving rapidly as the semester progresses.

If the freely moving protagonist enters the venue of a segment that has not yet occurred, but the segment's prerequisite segments have not yet taken place, nothing happens. It is then up to the guide character to assist the protagonist in finding one or more of the prereq segments.

We planned to have two ending segments. One involves animal rights activists, the other involves ghosts. The determination of which occurs is based on whether the protagonist arrives at the city plaza in the presence of animals (e.g. sailphones, bull or snake potion).

The scenario only requires three cast members, as this is the largest number of non-guest characters that appear at the same time. We normally set up four networked laptop computers; one for the guest and three for cast members.
Controlling the game-play. During a run, we would like to manage the following offstage tasks, depending on the number of extra cast members available.

- DM ("Dungeon Master") - has technical control; makes things appear and disappear as needed. Fixes problems as they arise.

- Guest Tracker - keeps a written record of what the guest knows, and when they know it. Uses a character-tracker form.

- Narrator/Flow Guide - the "Voice of God" - intervenes as seldom as possible, to tell the guest anything that is essential and that the cast members forgot or omitted to tell; and (if necessary) to help cast members get back on track.

- Observers- take notes on what happens and when, how the cast members carry out their roles, etc. When sufficient workers are available, we assign one observer to each NGC and use a character-tracker form per NGC.

Dialog. In Neverwinter Nights, the dialog is normally handled by typing messages. However, in our live-play environment, we have the guest and cast members speaking out loud. Voice interaction is rapidly becoming feasible in online RPGs, and so we are simulating this channel in our experiments by using direct speech.

One advantage of using electronic audio rather than direct (in-the-same-room) speech would be that the backstage crew and cast members could speak to one another by turning off their microphones, so that the guest wouldn't hear. We will work toward this capability.

5. Trial Runs with Neverwinter Nights

During the fall of 2006, we held a series of play sessions with three, four or five computers in network – one for the guest, the rest for cast members and managers. The guest’s view is projected on a large screen so that the cast can see what he sees.

Guests were recruited from other Digital Media courses. Cast members were volunteers from among the general purpose students who have been developing the game, as part of the general senior-level project course titled "Digital Media Production II". We held a total of five play-test sessions - one for the pilot table-top game, Twistal Crest, and four for the NWN-based Dark Cursed City. We had two or three guests for each session.

6. Evaluating the Process

In the last class meeting of the semester on 29 November, the students brainstormed an extensive set of questions. The authors then answered the questions, based on notes taken during the semester. This entire report was then e-mailed to the students. Their final examination assignment was to carefully review the report, suggest any changes, and (in particular) to provide their own answers to these questions.
The answers (both those of the authors and the students) constitute Appendix B of this paper.

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Informal Observations
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The following informal observations were gathered by the authors.

1) **Stage fright.** Most of the participants are willing to improvise and speak lines, but few of them are comfortable with the ‘acting’ dimensions: trying to assume voices for animal characters, squeaking or crowing like rabbits or birds. Some of the more confident cast members nevertheless giggle when they get stressed or excited.

2) **Creativity.** CM have no problem coming up with variations on the plot. In fact they often seem to forget the general objectives that were set forth for each segment (see Appendix A below.)

   In one session, for instance, there was a group of animal rights activists whose original purpose was to serve as an obstacle to the guest, while he is trying to reach the objective. They were expected to ‘attack’ by talking to his animal companions, convincing them to defect.

   But what happened was that one of the CM showed up controlling a bear, who proceeded to kill the animal activists. Our external reviewer, Jeff Wirth, comments on this experience in his notes below.

3) **Familiarity.** The CM often have not been given sufficient time to understand the objectives of their character in each segment.

4) **Guest freedom.** We continue to lead the guest around. The cast seems worried that the guest won’t have enough to do, and so they don’t allow the guest enough time to explore. In fact there is little in the world that CAN be explored.

   To remedy this last situation, we resolved to increase the number of items in each of the three shops. The guest will be encouraged to choose one or more of them, but their functions are essentially identical in the story. Their details provide space for creative improvisation without taking us too far afield from the desired set of capabilities.

Jeff Wirth, our DM faculty member specializing in interactive performance, observed the Monday 30 October play session and offered the following observations.

   Get the guest to initiate
Treat Squink as a “tour guide” in his relation to the guest

Talk more about the “dark city” situation

Drop clues about what the needs that will need to be fulfilled will be

Establish a convention within the game to train the user in the use of the buttons (click, hold, etc)

Players need to use each other’s names frequently so that the guest will become rapidly familiar

Make Squink able to move faster so he can keep up with the guest if he/she decides to take the lead

Use character voices to define who is speaking for the guest

Bear was a good example of inherent motivation for the guest

Establish a reason for traveling around the village beyond “going to buy things”

Overall I saw a clear need for inter-actors to bring the experience to life. I know that you are looking for ways for non-trained people to become inter-actors. This would be a good conversation for us to have about how that might be possible. Looking forward to seeing how your project evolves.


The following general observations are expanded in Appendix B.

- No one took effective responsibility for getting good at making models and putting them into the game, or getting this know-how from previous teams that had solved these problems. Some people spent some time looking at the question and then pronounced it unsolvable. Clearly this was not true for other teams, elsewhere.

- At this stage of novelty, it was very hard to convey the image of what was needed and to get students to create segment guides. Some of them could, and did, write story treatments, but they were frequently skeletal, cliche’d, and didn’t always lead to playable stories.

- About half the class had no meaningful way to contribute to world building activities (since they neither created art-work nor wrote scripts when asked to do so), and so their role was essentially to attend play sessions, assume roles or serve as observers.

Some of these people were originally assigned to the website task, but it quickly became apparent that we had no effective means of integrating the website into the project. So they became observers and cast members, most of the time. One of
them undertook a separate developmental project to build a Digital Asset Management system for NWN assets.

**Intentions for Next Stage of Research**

1) **A Vision of a Performance Aid for Cast Members**

Imagine a situation where every cast member (CM) was working with TWO computers. The larger of the two contains the role playing game. To its right is a smaller computer, on which is running an Ajax application that is our performance support system (PSS). Each action that the CM takes, is automatically observed in some fashion by the PSS, and suggestions are dynamically presented to the player – something like a “teleprompter”.

We plan to initially ‘dummy up’ this system. The prompts will simply be the Segment Guides (Appendix 1) with some slight augmentation, e.g. checkboxes to keep track of objectives that have been completed.

Ultimately, the PSS should perhaps be delivered as a “heads up display” directly onto the screens of the CM as they are working. This would require substantial integration with the game engine.

2) **Selecting a Game Engine for further experiments**

During the fall semester, many obstacles were discovered that highlighted the difficulty in working with the NWN engine. We need to make a list of the requirements for a successful experiment, systematically investigate them and choose an engine that can do the job, and then find a way to acquire it.

Here is a list of requirements as I currently see them:

- must be multi-player via Internet, with relatively lightweight clients
- must allow easy modification and extension of world
  - what is the toolset? - what are available libraries of models?
- must be maintained and robust
  - where do you go when something breaks?
- must be executable as a private server
  - to avoid potential political shutdowns, e.g. China and *Second Life*
References


Appendix 1: Segment Guides for *The Cursed Dark City*

The protagonist is a young magician's apprentice, in residence in the Village. If guest is male, the protagonist's name is Atnor; if female, the protagonist's name is Raena. An appropriate avatar is provided in each case.

<table>
<thead>
<tr>
<th>Character Guide</th>
<th>Non-Guest Character</th>
<th>Avatar</th>
<th>Key functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Queen</td>
<td>Middle aged regal lady</td>
<td>Introduce guest, Congratulate victor</td>
</tr>
<tr>
<td>2</td>
<td>Squinx</td>
<td>Rabbit, half human size</td>
<td>Guide guest, provide comic relief</td>
</tr>
<tr>
<td>3</td>
<td>Dora</td>
<td>Young female</td>
<td>Shopkeeper - Explorer Shop</td>
</tr>
<tr>
<td>4</td>
<td>Ronaldo</td>
<td>Young male</td>
<td>Shopkeeper - Machinery Depot</td>
</tr>
<tr>
<td>5</td>
<td>Beltra</td>
<td>Old female</td>
<td>Shopkeeper - Magic Shop</td>
</tr>
<tr>
<td>6</td>
<td>Riddler</td>
<td>Old male</td>
<td>The Numeric Encounter</td>
</tr>
<tr>
<td>7</td>
<td>Demonstrator</td>
<td>Young male</td>
<td>Animal Rights Activist</td>
</tr>
</tbody>
</table>

**General Guidance for Cast Members.** You need to adapt to whatever your fellow cast members (or the guest) come up with. Don’t try to put them back on track, or correct their behavior during game-play. Just follow the flow.

<table>
<thead>
<tr>
<th>Segment Guide</th>
<th>Area</th>
<th>Segment Name</th>
<th>Location</th>
<th>Characters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Village</td>
<td>Introduction</td>
<td>Village Square</td>
<td>Queen, Squinx</td>
</tr>
<tr>
<td>2</td>
<td>Village</td>
<td>Buy Sailfone</td>
<td>Explorer Shop</td>
<td>Dora, Squinx, Bat/Falcon</td>
</tr>
<tr>
<td>3</td>
<td>Village</td>
<td>Buy Potion</td>
<td>Magic Shop</td>
<td>Beltra, Squinx</td>
</tr>
<tr>
<td>4</td>
<td>Village</td>
<td>Learn about Dozer</td>
<td>Machine Shop</td>
<td>Ronaldo, Bull</td>
</tr>
<tr>
<td>5</td>
<td>City</td>
<td>Guess Numbers</td>
<td>City Square</td>
<td>Riddler, Squinx</td>
</tr>
<tr>
<td>6</td>
<td>City</td>
<td>Outwit Activists</td>
<td>Barricade Square</td>
<td>Demonstrator, Squinx, (Bat/Falcon or Bull)</td>
</tr>
<tr>
<td>7</td>
<td>City</td>
<td>Ghost Barrier</td>
<td>Barricade Square</td>
<td>Demonstrator, Squinx,</td>
</tr>
</tbody>
</table>
Segment Guide 1: Introduction

Prerequisite Segments:

Game begins here

NGCs in Segment:

CM1: Queen
CM2: Squinx

Props in Segment

Paper (real world) that lists the X,Y of the three shops in the village, as follows:

Twenty tangible gold coins which are given to the protagonist.

Back Story

Some mysterious force has caused the City to become dark and silent. The Queen wants our protagonist to go into the city and find out why, and fix it. She offers her assistant Squinx, the Oversized Rabbit, as an assistant.

Objective for NGCs:

Queen: In a conversational way, explain to the guest these things.

Bird/flagpole may happen during the Queen’s monologue, unless it’s too distracting.

- I’m the Queen of Aqua City, and you’re an apprentice magician.
- We’re in a suburban village, outside of Aqua City.
- Something has happened to make the city dark and silent, and I want you to find out what it is, and make the city come alive again.
- We’ve given you 20 gold coins to buy supplies.
- As you move around the village, you should visit three shops, talk to the shopkeepers to learn what you can, and buy supplies.
- Here’s a handy guide brochure to the village’s shops. (explain X,Y locations)
- Show Guest the mini-map (which must be turned on!) and show how it matches the guest brochure in guest’s (physical) hand.
• Ask guest to look around and ask us about anything you are curious about.
  
  o If they don’t ask about the (X,Y) flag/banner, go to Flag Gag.  
    ▪ Animal on the flag! comes down, interacts with guest.  
      Then goes back to the flagpole.

  o If they don’t ask about Squinx, go to the Squinx Intro Gag.  
    ▪ Unlike that stupid bird on the pole, I can speak English!

  Squinx:

• Verify that the guest knows how to navigate in the world.

**Objective for protagonist**

Learn what he or she is supposed to do; learn how to move in the world.

**Obstacles for protagonist**

None at this point

**Guest action options**

Talk to queen, Squinx. Walk around the village, learning how it goes.

Go to city, if you can find the portal.

**Humor and Interest**

Squinx ‘ personality can be established by the Queen, if she chooses to explain  
hat he was once a (something) and she turned him into a rabbit by magic, and he  
needs to redeem himself.

**Skills the cast members must know:**

How to possess and unpossess creatures.

How to open guest inventory, drag and drop possessions to the guest.

**Known Problems with Segment**

None
Segment Guide 2: Explorer Shop

Prerequisite Segments:

1: Introduction

NGCs in Segment:

CM1: Dora
CM2: Squinx
CM3: Bat, Falcon

Props in Segment

Various things in the Explorer Shop

Back Story

Sail phones are used to send messages. You have to tell them the (x,y) coordinates of the place where you want the message to go, and they fly away. They can talk, and are intelligent.

Bat: sailPhone --

Falcon: think on it --

Parrot: flyPod - -

Crow: BlackBirdy --

Dog: think about this --

Objective for NGCs:

Dora: Explain why the protagonist might need a communications device. They can be used to send a message to anyone, anywhere in the Village or the City. If you need anything in a shop, for instance, you can call and have it delivered to you.

Objective for protagonist

Learn what he or she is supposed to do; learn how to move in the world.

Obstacles for protagonist
None at this point

**Guest action options**

Talk to Dora, Squinx. Walk around the shop, learning how it goes.

Buy a sailphone of whatever kind

Go out and wander around the village.

Go to city, if you can find the portal.

**Humor and Interest**

Dora’s unique personality.

**Skills the cast members must know:**

Nothing special.

**Known Problems with Segment**

None
Segment Guide 3: Magic Shop

Prerequisite Segments:

1: Introduction

NGCs in Segment:

CM1: Beltra
CM2: Squinx

Props in Segment

Various potions and spells in the Magic Shop.

One potion to change people or animals into a snake.

One potion to make you four times larger than you are.

One potion to change you into a Republican presidential candidate.

One spell to undo the effect of a potion.

Back Story

Beltra knows how to change things into other things, and has bottled up her savvy in these pretty little bottles.

Objective for NGCs:

Beltra: Explain why the protagonist might need a transforming potion or spell.

Offer service via sail phone if necessary.

Objective for protagonist

Buy them, or not.

Obstacles for protagonist

None at this point

Guest action options

Talk to Beltra, Squinx. Walk around the shop, learning how it goes.
Buy a sailphone (bat or Falcon).

Go out and wander around the village.

Go to city, if you can find the portal.

**Humor and Interest**

Wing it.

**Skills the cast members must know:**

Nothing special.

**Known Problems with Segment**

None
Segment Guide 4: Machine Shop

Prerequisite Segments:

1: Introduction

NGCs in Segment:

CM1: Ronaldo
CM2: Squinx

Props in Segment

Bulldozer for rent.

Dynamite service, call when you need it.

Dentistry on demand.

Back Story

You really don’t want to take our Dozer/Dynamite/Dentist with you, but you can always call us on your sail phone when you need it, and we’ll bring it to you.

Secret / surprise: you will receive a bull named Dozer, rather than a useful machine.

Objective for NGCs:

Ronaldo: Explain that our dozer can smash almost anything, and it costs 7 gold coins a day. We deliver when you call for it. No sense driving the thing around as you explore the city.

Objective for protagonist

Learn about Dozer the Bull.

Obstacles for protagonist

None at this point

Guest action options

Talk to Ronaldo, Squinx. Walk around the shop, learning how it goes.
Go out and wander around the village.

Go to city, if you can find the portal.

**Humor and Interest**

Ronaldo can play up the redneck aspects of guys who rent machinery, e.g. at Hom Depot.

**Skills the cast members must know:**

Nothing special.

**Known Problems with Segment**

None
Segment Guide 5: Journey to the City

Prerequisite Segments:

1: Introduction

NGCs in Segment:

CM1: Riddler
CM2: Squinx
CM3: Bat or Falcon

Props in Segment

None

Back Story

Queen has told Protagonist that at some point along the way, she or he will need to find a pair of numbers. The Riddler is here to provide a chance for the protagonist to figure out those numbers.

Objective for NGCs:

Ask a riddle that is within the capability of the guest to answer, but not trivially easy. Tell the guest that they only get ONE guess per riddle, to cut out the ‘hunting’ strategy.

To do this, we have three riddles that get easier if the guest can’t guess them. We actually need three-and-three, because there are two numbers you need.

Assume that the numbers we need are 5 and 3.

TBD stack: Get me a riddle!

Objective for protagonist

Learn and remember (write down) the key numbers.

Obstacles for protagonist

The riddle or riddles.

Guest action options

Walk away, try to get the numbers some other way.
Walk away, try to find the objective without the numbers.

Ask for the riddle.

Try to bribe or threaten the riddler.

**Humor and Interest**

Ronaldo can play up the redneck aspects of guys who rent machinery, e.g. at Hom Depot.

**Skills the cast members must know:**

Nothing special.

**Known Problems with Segment**

None
Segment Guide 6: Outwit Activists

Prerequisite Segments:

This is one of two alternative endings (the other is 7: Smash Barrier). If the guest has any animals in their possession - or has the Snake Oil Potion - when arriving in the City Plaza, this segment occurs. Otherwise, Segment 7 occurs.

NGCs in Segment:

CM1: Squinx
CM2: Demonstrator (head animal activist)
CM3: One of (Bat, Falcon, Bull). Switch control as needed

Three NPCs as backup animal rights demonstrators

Props in Segment

Barricade to stop movement toward the Darkness Generator (at 5,3)
Potion to turn protagonist into a snake
Protest signs (3, one per NPC) Standing on ground next to NPCs.

Back Story

The animal rights activists are protesting the use of animals for manual labor. They won’t let people through the barricade they’ve built. They’ve freed some animals from animal-machine contraptions. They are behind the Darkness Generator and have turned off the electricity to the entire city until all animals are freed.

Objective for NGCs:

Activists need to convey to Protagonist, why they are demonstrating.

Improvise along this direction … "This city exploits animals! We freed the squirrels from their treadmills and the sheep from their pillowcases and turned off the electricity with our Darkness Generator. Down with Hamburgers! Down with Red Lobster! Animals have souls too!

Activist takes every opportunity to badger Squinx as a traitor to his species.

Squinx isn't having it. He is a loyal sucker-up-to-humans, since he is really a human under a transformative spell.

The animal rights activists are hostile to the use of animals for labor.
If guest tries to use bull (dozer) to clear rubble, activists harangue the bull (a speaking character) so that he defects and joins their side.

If guest has no bull and tries to send a sail phone to get bull, activists likewise convince the bird or bat (speaking characters) to defect to their side.

If guest sends squinx to get bull, he does so.

If guest thinks of turning himself into a snake, and does so, then he discovers that the barricade has small holes in it, suitable for a snake to pass through.

If guest thinks of turning Squinx into a snake, Squinx says "Boss, I'm already once-cursed, so the potion won't work on me. Do your own-self!"

If guest tries the potion on the activist ... <not yet planned>

**Objectives for protagonist (what we want them to discover/do)**

Overcome the barricade, go to (5,3), locate and turn off the Darkness Generator.

**Obstacles for protagonist**

1. Barricade itself (under control of DM)
2. Activists who disrupt his animal-based tool-set

**Protagonist action options**

City is dark, but there are torches in the plaza where the demonstrators are. Protagonist has a torch, and so can explore the city. Protagonist finds nothing much, and all routes to (5,3) are blocked.

Protagonist has free movement; can leave scene (back to village, or explore the city.) Protagonist can say anything he wants, to Squinx or activists.

There are no controls or special props the guest can activate in this scene, until you get to the Darkness Generator.

It is a big box with an obvious On-Off switch (currently set to On). Touching it, switches it to Off - and the entire city lights up.

**Humor and Interest**

The animal rights activists can ad-lib in animal-oriented ways, for instance:
"Hey, a bat. I speak bat! eep eep kakakakaksa!"
  (Bat replies in perfect Oxfordian English: May I be of assistance?)

"Bull - why you workin' for the Man?"
  (Bull, in Southern accent: "You got a better idea?")

It is important for cast members to begin any statement with a target (e.g. "Hey Protagonist" or "Hello strange human" or "Hey bat". It is difficult for guests to tell who is talking to whom.

**Skills the cast members must know:**

Nothing special except to carry out dialog as described in Cast Objectives, and to move around the scene. DM will control barricades to let snake pass through.

**Known Problems with Segment**

Once snake/protagonist is past the barricade, Squinx is not there to guide ... so the barricade should be quite close to 5,3 and the DG should be obvious.
Appendix 2: Final Questions and Answers
Developed by Turtle Haircut Students in Brainstorming Session
and answered by Authors and Students

The students involved in this project during the Fall of 2006 participated in its evaluation in the following fashion. In a brainstorming session, a detailed list of questions was developed. Moshell then wrote out his answers and provided them to the students, together with this entire technical report, at the beginning of Final Exam Week. The students' assignment was to comment on the report and then to specifically augment Moshell's answers to the questions, with any additional thoughts that they had.

In the following, the answers immediately after the question are Moshell's. The students' answers then follow. To preserve student anonymity, the individuals answering questions are identified as S1 through S9. Not all students answered all questions, as they were encouraged not to repeat what was already written.

1. Potential Uses of the Game

Q1.1: What do you expect this form of learning environment to be best used for? Why?

We hope that CMPM can lead to a kind of after-school or in-school activity that would enable k-12 and university students to explore all kinds of complex problem spaces. The Dark Cursed City was built around simple Cartesian coordinates, to reduce the complexity. In our wildest fantasies, we would like for students to be able to undertake "campaigns" that might involve a month or a semester of work, to attack (for instance) a simulated plague of influenza that is devastating a country.

We believe that the CMPM approach to such MORPG based learning would provide significant learning for cast members, world builders and guests. They could learn teamwork, problem solving skills and specific skills associated with the problem space - such as biology, epidemiology, cartography, or even advertising and PR skills (how do you get people to obey a quarantine, for instance?)

Why do we think this format will be effective? Because students (indeed, all human beings) like, and respond to real social interaction. Interacting with automated non-player characters is, at best, a simulation of 'real live interaction'.

The realistic problem in doing such projects in schools is that our k-12 school system is beset by a vast system of government-mandated testing. Students must demonstrate basic skills in reading, writing, math and fact regurgitation. Any games must deliver a payload of such skills, or they won't get accepted by the schools.
S9: I also think that the approach helps participants learn to be more creative. I see it being used in many different school subjects, such as history and English, where it can be used to loosely reenact a known story. It could also be used at different stages in learning; it can be used to introduce a concept, explain concepts in more depth, as a review, or as an assessment of knowledge. I think it is best used after a subject has been introduced and explored; students should be able to utilize all their knowledge on a subject to interact with each other effectively and reach the desired outcome. Another problem I see relates to the technology involved; schools need to have enough computers with adequate hardware and software to run the games.

**Q1.2: How would you go about proving it?**

First, we have to develop means of effectively guiding and managing the actions of cast members. When we have a reliable way of delivering games that people agree are fun to play, we can then evaluate them by working with people who perform formal testing of educational systems. But until we know that we can deliver interesting experiences, it's too soon to worry very much about testing.

S9: I disagree with the timing. I’m not sure that it’s too early for testing. I think once there is a rough game to try out, there should be some light (perhaps informal) testing to discover what may work and what may not. Also, all the testing that was done was conducted “live, in-room” – with all the players together in the same physical location. I think it’s important that the game concept is tested in the form that it would appear in the final user environment; if the game is intended to be played by guests and cast members in different geographic locations, it should be tested that way with cast members and guests separated in different rooms and/or different locations.

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2 - The Game Engine

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**Q2.1. How was the game engine selected?**

We chose Neverwinter Nights for the fall of 2006 because two previous projects at UCF had used it, and reported success. A group of students in spring 2006 surveyed the public-domain game engines and concluded that none was sufficiently flexible and reliable for our purposes.

S1: It was also an engine that most of the students in the class were most familiar with, which became the logical choice.

S5: Perhaps stating the ease of campaign building would further explain the engine choice. Since we’re hoping to get this in schools, we don’t want students messing around with engines and coding. Neverwinter Nights is far friendlier in this respect than something like Unreal.
Q2.2. What features of the game engine were useful?

The engine is reliable, mods are easily created and extended, and it was cheap. Hooking up the system in a LAN game was easy, and it always worked. The DM could control pretty much everything, acting as 'god' when necessary to make things appear or disappear.

S1: There were a few times where there were glitches due to the networking. This is something that should be taken care of beforehand so everything is prepared.

S9: I believe the “instinctual” killing that takes place when NPCs are attacked can be turned off by deleting the behavioral scripts for the character. However, care should be taken if the NPC is expected to do anything on its own (while not under DM control), so that a necessary function in a script is not crippled or deleted.

Q2.3. Which features got in the way?

If a model existed in a hakpak and we could find it, it was easy to drop into the world. But we never found a way to build, or even to modify, models for our own purposes. This was frustrating, since clearly many people have found ways to add models to the NWN universe.

There was no way to modify the terrain except by laying down tiles from an existing tile set. So we couldn't draw coordinates on the ground, or put text on the ground for captions.

When we tried to put banners in place to denote the (x,y) coordinates, we found that guests couldn't see the banners at all well. The ability to put text on the banners was very limited, and sometimes resulted in things like doubled text (Y 2 2 Y) because of symmetries in the banners. There were only a limited number of different flags and banners that could be used.

The game's standard features, such as combat and killing, could not be turned off. The standard menus offered guests a variety of things to do, that were not relevant or useful to our game experiment. We did not have a way to turn off these features, or to automatically remove the initial inventory of tools and stuff that the protagonist came equipped with.

The third person viewpoint, with camera position semi-independently controlled from motion, proved difficult for some guests to master. In particular, it was quite difficult for guests to see the banners that were supposed to be guiding them. The banners were oriented for eye-level viewing, but the viewpoint was usually high above and behind the protagonist.
The built-in mini-map had two annoying features. First, it wouldn't completely reveal itself until you had explored the entire village or city. So it could not be used for providing a 'preview' of the possibilities. Second, we had no way to augment it with a display of the Cartesian coordinate system, or the locations of the shops. (We wouldn't have wanted to directly show the shops on the map in any case, because the learning objective was to be able to go from a pair of numbers to the geometric location.)

S1: Even if we did find a way to create models from scratch it would have been a very time consuming process and would not have been worth it for the final product. Had we had more time then maybe it would be worth it.

S6: The main thing about the engine that got in the way of production was the lack of available resources. We know it is possible to build your own models and import them into NWN because it has been done, but there are no decent instructional tutorials of how to do so. The only forums found were outdated and written for the advance video game designer, providing us little help in our difficulties.

Q2.4 Which features forced us into a particular (D&D) genre?

Primarily it was the available terrains and models that drove us down this path. The overall styling of the menus, and the builtin options for combat, health, etc. also push us in that direction.

Q2.5 What other engines should we consider, and why?

We are now examining Torque. This engine is in use at UCF for game engine courses. FIEA is now using this engine for much of their game development. It has a reasonable licensing structure and UCF has a site license for educational purposes. New developmental licenses will have to be bought if we begin to build games for distribution to schools, but that is down the road a ways.

S1: I have heard that the documentation for this engine is very vague. It could be tough for people learning this engine for the first time and I’m pretty sure not that many people have played around with it before, except for those students that took Game Engines or Game Designs.

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3 - World Building
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Q3.1. How do you build ‘learning objectives’ into the world and the story? Were you successful? How did the engine help or hinder you?
The learning objective was inspired by the Florida Sunshine State Standards for sixth grade math. Familiarity with Cartesian coordinates is a required skill, prior to understanding linear equations. We attempted to set up the world and the protagonist's quest so that repeated practice in locating a point on an (X,Y) grid was necessary.

The difficulty in seeing the banners, and unavailability of coordinates painted on the ground, meant that we never really pursued the learning objective. We were busy trying to manage the flow of the story.

S1: An alternate way of implementing the learning objectives could have been using the text on the screen. Have a DM or someone talk out loud and tell them where to go. The DM would keep an eye on the guest and recite the current coordinate they are on. Of course, this would have been troublesome because the text on the screen in the chat window is small and hard to read.

S2: I also observed that due to the inherit nature of the game’s engine and its camera it is not always possible for the guest to see what is desired by the cast members. The cast member is there to ensure that the guest doesn’t stray from the task at hand, however, due to the fact that both the guest and the cast member are not necessarily going to be physically sitting next to one another then a way must be devised for the cast member to remotely see what the guest sees.

S6: In order to produce a game that children will enjoy engaging themselves in, the learning objectives need to be somewhat disguised. In our design, the coordinate system was never the overall objective, but embedded into the game’s overall goals.

Q3.2. What process was used to create the story? Was it successful?

We used several class sessions for brainstorming. We developed the overall flow of the story through an iterative process. Moshell asked the students to write story treatments starting from some simple premises, and then extracted promising elements from several treatments into a proposed structure. He presented this to the class for further refinement. This process went around three cycles, until the central story was agreed upon.

The process was semi-successful in that it gave us our main story structure. It was not successful in getting output from all students. Apparently some felt unable to produce even brief conceptual pieces.

S1: There were some good ideas presented however they wouldn’t have fit within the learning concept of the game. Also, too many of the stories wouldn’t have fit within the five minute time window that we had to obey. Had there not been a time limit then maybe we could have gotten in some good story ideas.

S6: Because the chosen story was a compilation of numerous stories suggested by students, it sometimes falls a little of course and included unnecessary
information. I believe if the story is simplified, the goals and learning objectives will be easier to follow.

**Q3.3. How can successful/useful parts of table-top game play elements be brought forward into the technology-mediated game?**

We did not build a table-top version of the Cursed Dark City. However, we did play the preliminary game and acted out the characters' interaction. A benefit of the preliminary table-top games was that the cast members were introduced to taking over roles and personalities of characters, and were more comfortable in voicing their characters in *The Cursed Dark City*.

The table top exercise made it very clear to us that we were being too directive. The guest was simply "along for the ride". We never really solved this problem in the 3d game, but guests ceased complaining about it. We will discuss possible reasons for this, later.

Another problem that occurred in table top as well as computer games was that we did not provide a good means of identifying which character was speaking.

  S1: Costumes could help solve this problem. Maybe not full costumes but pieces of clothing like rabbit ears for Squinx, or a headdress for the queen. This is something that the guest can use visually to understand who is talking. Using voices also helps.

  S2: In actual practice this system would not always allow both the guests and cast members to share the same room. An alternative means for communication must come into play rather than just speaking to one another in a “table-top” playing manner. Such alternatives may include using voice conferencing software such as Ventrilo. Or perhaps using text in game in order to communicate between the guest and cast members. This would avoid the confusion of which character is currently speaking.

  S9: I think a few reasons why the guests may not have complained about being led along too strictly are that they had more things to explore in the technology-driven version (i.e. visual – landscapes, interiors, objects, and characters) and they were still learning to use the controls.

**Q3.4. What makes characters endearing, interesting, worth interacting with?**

Characters that have their own agenda seem interesting. When Squinx was being played in an aggressive manner, he got laughs. His aggression could be addressed toward the NGCs in the shops, or toward NGSs elsewhere (e. g. the animal activists).

  S1: Squinx really seemed to be the only character that would act this way. If the other characters would act a little like him, then they might be charming also.
This kind of activity could be quite difficult to get from a cast member unless they have the personality and inclination to 'act' in this fashion. We discuss this issue in the section on Cast Members, below.

S9: Humor works well. Even amateur attempts at humor entertained guests and CMs.

Q3.5. What kind of map of the world do you provide for the guest?

We provided a paper map that showed the locations of the shops. We had not originally intended to do this, because the virtual world should display coordinates that can be easily seen and understood. The addition of a map was just a way to get through the game, so that we could study the cast/guest interaction.

Q3.6. What choices and actions do you offer the protagonist, and what differences do they make as the story plays out?

The protagonist is allowed to wander around the village and choose destinations. But there is nothing of interest in the village except the three shops. And they are not clearly marked, so Squinx usually has to help the protagonist find them.

In the shops, the guests are offered a choice of merchandise (see the Segment Guides in Appendix 1 for details). The guest doesn't have enough knowledge to predict what they will need, so they randomly select some items. These choices help to provide starting points for the improvisation that is needed, later in the story.

Once all three shops have been visited, the protagonist is steered across the bridge into the dark city. The first thing encountered is a barrier of barrels. Depending on what choice the guest makes from the options that they learned about in the machinery store, they may either ask for help from a bulldozer, a helicopter or a crane. Any of these gets them through the barrier. The actual choice makes no difference to the story's evolution.

When the final obstacle (second barricade) is reached, there are animal activists who are staging a protest. They try to convince any animals accompanying the protagonist, to quit working as slaves for the humans. The animals' decisions SHOULD be guided by the principle that the human should be left with at least one viable option. However, we didn't have this much structure in place, to guide the cast members.

The options open to the protagonist depend on what he brought with him from the shops. If he brought any potion that could get him through the barricade, then he can choose one of these, and he will be transported across. If he has no such recourse, then he will need to send Squinx or a sail-phone to get some help. But if he has spent all his coins, he may find himself in an impasse. We did not formalize a solution to this problem.
S9: Choices may affect what appears in the game and what should not appear (e.g., animal rights activists and their barricade may need to be taken out if there are several endings and an alternate ending is triggered.)

See Cast Member section for more details.

As to the question: **what difference do the guest's choices make?** the answer is that they primarily affect what the protagonist will have in-hand, later in the story, to solve problems. Thus they drive the branching structure of the story. However we have not developed much 'payoff' associated with any particular branch of the story. At this point, it just seems to be variation for variation's sake.

   S1: An idea for a payoff at the end could be a ranking system. It will rank on how well you solved the problem. Certain solutions are ranked and the guests can compare with other guests on how well they did. It’s just an idea.

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**4 - Cast Members**

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**Q4.1. How do you identify which character is talking?**

Since the scenes were visually complex, sometimes the guest couldn't even FIND the character with whom they were allegedly having a conversation. It has been suggested that, in the next version of the game, we should have a "talk balloon" that appears over the head of the character that is speaking. Software called “Ventrilo” is available for free and may be used alongside many existing programs and games to allow for voice-over communications between players.

   S1: The character should also walk up to the guest and face them. That will catch the guest’s attention and they will know who is talking.

   S9: Someone in class mentioned the idea to have something like a talk balloon or a notification appear on the guest’s screen any time someone speaks – whether or not the speaker is in the guest’s current viewpoint or not. I think that could be critical if guests and cast are in different locations.

**Q4.2. What kind of script or guide-document should be provided to cast members? Should it be solid (so that they don’t veer off of it) or should they be given some basic ideas from which to improvise?**

We have a prototype script in Appendix 1 of this report. It was provided to cast members in earlier drafts, through the semester.

The general flavor is that of 'objectives' rather than specific things to say or do. It seems that explicit scripts, like for a movie, would lead to wooden and uninteresting behavior.
S1: I don’t think there’s anything wrong with strict objectives. I think the cast members should be given guidelines on how they could vary their behavior. They get the strict objectives and then they get their guidelines on their behavior.

S9: I think the current format of story scripts is adequate, providing guidance without strictly dictating cast behavior.

Q4.3. Should everyone in a class be required to be cast members?

Here are arguments on both sides:

Yes: This is a play environment, in which you can be anonymous. This should be beneficial to shy people who could gain self confidence and perhaps improve their chances at public speaking.

Our testbed used face to face interaction but in the future, cast members may be far away from guests, talking through microphones.

No: It is not legitimate to force people to do things with which they are inherently uncomfortable, such as talking in an animal's voice.

Response to Yes: You need to seek to design systems that generate tasks for everyone, based on their skills and interests. After all, the purpose of your system is to make education better, isn't it?

Response to that: Yes .. but does 'better' always emerge from 'doing what students like'? Or does this just lead to a nation of people who don't know how to overcome their aversions?

Response to No: Schools require public speaking courses for those who hate to speak, and require foreign languages for those who hate such things. What's new here?

This debate can, obviously, go on much beyond the scope of the Turtle Haircut project.

S1: I say that there will always be people who are those outgoing and outspoken types so just let them be the cast members.

S6: I believe if we used software to disguise the voices of the cast members, and was not done physically in front of the guest, students would be more inclined to participate. It would help with the shyness factor.

Although it would be ideal to have everyone play a cast member role, only those who are truly into it are going to produce the best outcomes.

S9: I say “Yes”. I think shy people may find it more fun that they would initially think. I think participation should be required, but I think as a compromise,
students should be allowed to choose which character they want to play; this would ensure that all students participate and get involved, but would allow students a chance to choose a character with a level of interaction (and gender? personality?) that they feel comfortable with.

**Q4.4. What preparation is needed in order to properly prepare cast members to act in an interactive role playing game?**

The first part of this paper lays out the following kinds of learning that might be needed:

L1: Subject Knowledge - cast members need to know the skills and information that the game is intended to teach
L2: World Knowledge - they also need to know how this particular world works; its geography, the behavior of its contents, and its relation to the subject knowledge
L3: Story Knowledge - what kinds of stories can emerge from this set of assets and affordances?.
L4: Performance skill - how does one assume the personality of a character? How does one elicit the desired behavior and experiences for the guest?
L5: Teaching strategy - things we have agreed to do, e. g. what to tell or not to tell the guest, and when, and who is going to tell it?

We believe that some combination of the following activities may help to provide some of the kinds of learning listed above. None of these were done during the Fall 2006 exploratory activity.

A1: have the potential cast members be guests, first.

A2: teach them a ‘mini-course’ or training video.

A3: have potential cast members play the host game (e. g. NWN) beforehand, so as to be familiar with its controls.

A4: Have the new cast members shadow or observe working cast members in a game.

S1: A5: Have them watch a game completely unrelated to the project but similar in that there are cast members and a guest.

S9: Also, technical knowledge is important, how to use the various controls. (Does that fall under World Knowledge?)

**Q4.5. What can be done to make the cast members’ job interesting, so that they are willing to repeat the process and get better at it?**
S1. You can always have them switch around characters to see who they can act as best. Use incentives like extra credit to draw them in.

S2: When the players are allowed to study the character and then are given the freedom to make that character their own. Such as if someone playing Squinx is allowed to make jokes on his/her own free will in order to give him more character. Of course the cast member should still be restricted to getting a point across or guiding the guest towards the goals of the scenario at hand.

S3: Make sure they are not confused and realize that they learned something and had fun doing it by summarizing the skill that they have learned (can apply to all THP games).

S5: Hopefully the game itself is fun enough that role playing is incentive to have students coming back to the game. It should be educational, but it should also be more fun than standard school work. Otherwise, students wouldn’t be very engaged in the activity.

S6: The role of the cast member is much like an actor’s role in an improvisational script. If the CM’s do not engage themselves as the character they are playing, they are probably going to get little enjoyment from the experience. The CM must be willing to develop personality to their character and take chances to play out the game in different ways.

S7: Suggestion: Cast members will switch weekly and get to control or have creative decision over random events that happen during gameplay.

S8: I think that if each student in the class is assigned a character(if there are enough) at the begening of the semester and have to stick with that character for the duration, then they will learn the character and give it their own identity or personality. This way it won't be changing every week and different students will not have to do the voice for that character on command. That can be hard to come up with a unique voice for a character you have no knowledge of.

By assigning a character to a student, this makes them responsible for that character and the success of it in the game. I think this will make them show up to class every week and want to improve on that characters performance.

S9: Have cast members rotate roles so that there is variety in the characters and personalities they play and also so that there are new ideas and twists brought into the game through the variation in roles and people.

**Q4.6. How do you generate interesting banter/rivalry between characters, without distracting from the plot and story line?**
S1: Within their banter, have them drop hints about completing the main objective. This is a tactic I’ve seen being used in other games. Also, have them do something that may actually do a task for the guest that they have to do. For example, the guest has to knock down a vase. But the cast members fight and they knock it down themselves.

S2: The cast members should always prioritize the plot and storyline above any humor or character development. The banter/rivalry should never last more than a minute or so and this should be looked at as another opportunity to teach something to the guest without them knowing it. The banter/rivalry should attempt to associate with the main storyline if possible.

S3: Like I mentioned in other statements make sure that each character should mention something about the main issue as well as their interest-gaining conversation so that the player can realize that what the main issue is (and filter out all the other talk when they realize the repetition of what the issue is).

S4: If we have the cast members meet before the game, either in chat rooms or forums (if an online setting) or before the game starts (in a face-to-face setting), they would be able to recognize personalities they might have.

There could also be little incentives to reward cast members with randomly, such as the Queen giving Dora the “best looking shop” award, leaving Beltra jealous. This could spark banter between the characters and they could play off each other. Another idea is that Squinx could act very proud and snobbish over the fact that the Queen selected him to be the guest’s aid, and the shop keepers can mock and tease him.

S5: It’s important to remember that dialogue should serve some sort of narrative purpose. It’s fun just to have friendly banter, but students would need to remember the goal of the game. It’s part of the cast member training. Have fun, but remember the intended educational purpose.

S7: Have them as memorize or partly memorize lines of banter between the two characters that lead back into the story line with an “anyway” or another character interrupting the banter as part of the memorized script.

S8: I think you have to leave this open for improvisation on the characters parts. As they get more familiar with their role and the other characters, this will most likely be automatic. It also relies on the personality of the human playing the character. If they have no personality then so will the character and vice versa.

S9: Practice. Have some guidelines about how off-topic cast members may go. Encourage CMs to incorporate the plot and general objectives into their banter. Use humor, but keep it light.
Q4.7. How can cast members interact with one another during the session, so as to be able to work out problems not in front of the guest?

If we are using microphones and IP telephony, we could have a 'mute' button so that the cast members' internal conversation would not be transmitted to the guest.

S1: Or we can use that AJAX application that was built and implement a chat feature on it.

S2: Also, within the program Ventrilo it is possible to create different channels on a server. When given admin status on a Ventrilo server one can make a channel that requires a password in order to enter. Switching to another channel prevents those in a Lobby channel from hearing what is being said in the private channel. It is easy to quickly switch between the different channels.

S3: When each character is talking there should be the talk bubble over their head and a picture of their face with their location should appear in the text area so the guest will know who is saying what and where they are. Even better for this project specifically their X, Y coordinates will be displayed when they speak.

S8: This is an issue I thought about during the semester. It was very distracting when something would not show up or the bull would not be dozing the barrels out of the way for the guest. I strongly feel that the next test played should have the guest and the “voice of God” in one room and all other characters in another room. The microphone and mute button would work great I think.

S9: Also, it was discovered that NWN has a “DM Chat” feature where DMs can communicate with each other. If deemed necessary, cast members could have predetermined “signals” to convey a message to other cast members without the guests noticing. (ex: if one cast member is yakking endlessly about irrelevant material, another cast member could turn in a circle or take a few steps backward to indicate that).

Q4.8. How do you generate voices for characters?

If we are using microphones and IP telephony, we could seek out a software or hardware system that disguises voices.

S2: The Ventrilo software allows someone to modify the way their voice outputs by adding various effects to it.

S4: I looked up software online that could help us, and I found the one that we might want to look into for the future:
- Morph V0x Pro
- www.screamingbee.com
- This program is designed for online RPGs
- Voice packs (these are the ones that specifically relate to characters in our game)
  - Male (all ages)
  - Female (all ages)
  - Fantasy (including one that would fit for Squinx!)
- Prices:
  - Software: $39.95, but can download a free trial
  - Voice packs and sound effects: free to download and use

S8: I think the voices for those characters who can alter their voice to be understandable and fit the role, should do so without any alteration device. For those who may not be able to generate a voice to fit the character should use the above mentioned software or device.

I think the comfort level with the other characters is also an issue that should be addressed early. Some people may be shy and not comfortable about making funny voices like you mentioned already.

Q4.9. How can we provide a view of the guest’s viewpoint so that the cast members know what s/he is seeing?

There are two problems: capturing the guest's viewpoint, and delivering it to the cast members. If the cast members are all in one place, we could project the image on the wall as we have done in our developmental testing. If they are distributed, we may have to develop a picture-in-picture presentation technique.

In order to capture the guest's current viewpoint, some modifications to the game engine will be necessary. The guest's camera's parameters would be transmitted to another station running another copy of the game engine. This station would render an image, that would either be projected (if all cast are in one place) or video streamed to the other stations (for picture-in-picture) delivery.

S1: You could have a video camera on the guest’s screen but that would be too problematic.

S3: Just a comment, at this point in bandwidth speed, it may be hard to have an up-to the second display, but snapshots every so often can work if this problem arises.

S5: Unfortunately, this is one of those issues that is easiest to resolve by simply having an adequate amount of playtime with the game engine. The Torque engine provides more freedom in the camera viewpoint, but for
now the best solution is to just let guests have time with the game before running the actual scenario.

**Q4.10. How do you re-deploy cast members to cover characters that arise in later parts of the story?**

Each cast member could have a 'sequential assignment', so that they know to move forward to another character, once the segment in which they are acting is done.

S4: This ‘sequential assignment’ would include which character the CM would be next, and where s/he can be found.

S8: This would work. The only issue would be to make sure the voice for the second characters is different from the first. We have a tendency to reuse the same voices over and over because we do not practice generating new ones as actors.

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5, Guests

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**Q5.1. What should be done at the beginning of a session in order to determine the guests’ particular background, game playing skills and experience, psychological preferences, playfulness, etc?**

S1: A verbal survey could be done just to get a feeling for the guest. Ask him or her if they have played video games before. If they do play games, ask them what type of games they play.

S2: A brief questionnaire could be made to include questions to determine these things. That questionnaire would be given to the cast members and they would ask the guest prior to the beginning of the play session how they would rate their: Game playing skills 1-10, Experience 1-10, etc, etc…

Based on the answers given, they can modify the session to cater to the needs of the guest. Something such as a scoring guideline could be given alongside the questionnaire that would give the guest a “rating” to easily classify and determine what play style would be necessary.

S3: Open with some type of funny event or joke and see the way that they respond. Then, ask them if they have every played Neverwinter Nights, and give them some easy tasks to do that prove they can change the camera angles when needed and move the character in an efficient manor.
S5: A brief skill test can be run by the queen in the beginning of the game to make sure the guest is ready, testing basic skills such as changing the POV of the camera, run/walk in a circle, etc. If the guest does not know how to do this, she would explain how to do so.

When reviewing how the guest did with each test task, she can mention “Great circle! Have you done this before?” in order to gauge the level of game experience.

The guest’s responses to the queen throughout the game main objective information and this basic skill test shows off his or her personality and/or playfulness.

A simple questionnaire may help provide some background as to their game playing skills. Behavior would best be observed by simply engaging them in conversation, but it should be noted that most people behave differently when role playing and it is sometimes difficult to predict what their in game personality will be like.

S6: Squinx can interact with the guest before they start to explore, and give them a brief tutorial in a fun and interesting way. Establishing his playful character right away, he can tell the guest specific things to do to control the avatar in the wrong way. (I.e. instruct them to walk into walls, or go backward) The guest’s reaction to Squinx will show if they already have knowledge of how to navigate through the world.

S7: Although a game of this type relies heavily on the guest acting out toward the cast member during play, I don’t think it’s possible to do anything preliminary to make them “come out of their shell” if they are entering an environment that they are unfamiliar with. Such a thing should happen naturally after repeated play of this kind of game style. One could provide a survey in which the guest would say what kind of game experience they’ve had, especially with MMORPGs, and use that to determine how they’d most likely act in game to have cast members act accordingly.

S8: There could be some sort of survey or questionnaire that could be filled out prior to the meeting for the testing. This paper could have questions about all the aspect that you would need to know. A personality test if you will. This must be turned in before the tester can play. This will keep the unknowns to a minimum.

S9: Use the initial introduction into the game to test game skills, creativity, etc. (ex: could have a few planned questions ready to be asked casually). Could also have a simple “questionnaire” that is given out before a guest starts the game experience.
Q5.2. What should be done at the beginning of play, to prepare the guest for her or his role in the story?

S1: An intensive narration sequence should be spoken. Also, maybe you can have someone control his view and show him the city. That will help a lot in the locating of shops.

S2: Simply enough, the guest could be given a prologue prior to logging onto the game. This back story could be presented to them on a website before loading the game, on a loading screen while loading up the game, or simply be told by the cast members via Ventrilo or whatever voice-over software that is in use.

S3: Since this part will be very repetitive and important information cannot be left out; the cast members can record one perfect sequence of an introduction explaining the whole backstory, who some of the important characters are, why the guest is here, and all the information the guest needs to begin adventuring through the world. This will be played at the beginning of the guest’s experience this will ensure that the guest has all the necessary information and the cast member does not get board repeating the same parts over and over and can actually spend time teaching. Squinx should be introduced as your tour guide during this introduction.

S4: Before the guest starts to play, it would be good to create a short movie, similar to a preshow, that could show the power in the city slowly disappearing and the queen being told about it. NWN does this periodically in the games, and it’s useful because the guest can get a feel of what just happened and what needs to be done.

S5: An adequate run through of the game controls is necessary to help the guest immerse themselves in the experience. Nothing kills the atmosphere more than when a player gets confused by the game engine.

S6: In the beginning of the game, the guest should be given the background of why he is there and what he must try to do. Informing the guest that many have tried to get to the darkness generator but have failed and never returned, will make him weary of doing the wrong thing and make them more careful about the decisions he makes throughout the game.

S7: Have a mini area in which the guest starts and is taught basic controls by a cast member. If they already know the controls by coincidence, they can leave the area immediately.

S8: We should make a short video. A trailer perhaps. If we just hand them a piece of paper it does not hype the user up to play because reading a summary is boring, they want to see and then do. An exciting or energetic trailer would do the trick.
S9: Clearly and carefully explain their intended goal and objective; provide a “cheat sheet”, must like the cast members’ script guide with basic explanations of their role in the game (ex: name, occupation, purpose, etc.); provide guest with in-game reminders (ex: a clear label with “where is the light in the Dark City?” at the top of the browser screen) and options to jot down notes (ex: a game journal); also provide guest with reminders of purpose and vital information throughout the game.

Q5.3. How can we keep the guest aware of what the overall objective is?

S1: Maybe have a list of bolded text that constantly appears in the chat window so they can see it whenever they walk around. Also, have the cast members refer to them occasionally.

S2: Similar to the answer above, the goal could be given to the guest before they enter the game or during the game by the cast members. Many RPGs allow the player to see what the goal(s) is at any point during game play within the game’s interface.

S3: Every character that they interact with should have some mention to what the guest’s overall objective is besides their spiel about what they have to offer the guest. Little reminders should be given every time a character interacts with the guest. This is because all the other improved conversation gets the guest confused and lost with too much information that does not apply to the objective. Statements like “…but that wouldn’t help you fix the problem of…” should be added to useless conversation that takes place. Therefore keeping the guest on track to what they should be focusing on (not the blah blah blah, but the actual task). This will allow these great interactions that or normally quite funny and enjoyable to the guest to be left in without distracting the guest too much.

S4: If the cast members start to notice the guest forgetting about the objective, they can make discrete comments:
  o “Business has gone downhill since the city went dark.”
  o “I’m all out of torches thanks to the city’s lights being gone.”
  o Etc.

S5: This is an area where the story can make or break the experience. It needs to be engaging enough so that the guest cares about what happens in the game. The cast members are pivotal in engaging the interest of the guest and keeping that interest.

S6: Like I previously suggested, the guest should find the darkness generator blocked by the rubble prior to exploring the village and the shops. Maybe the guest should begin their journey in the dark city and then navigate their way to the village to purchase the necessary items. Knowing their exact objective before
wandering will keep the guest from buying any unnecessary items, and will keep them aware of what exactly they need to accomplish in the game.

S7: An in game journal can be provided for them that either automatically inputs information or allows the guest to add information as they see fit.

S8: Well without having squinx remind them all the time we could generate a clock tower going off *ding dong ding dong*, ya know like in back to the future when Marty only had a few minutes till 7:55 or whatever the time was. We sort of got away from the time limit issue we mentioned in the beginning but I think a clock going off every 5 minutes or so would remind the guest that oh yeah, I got to get that generator turned off.

Of course we would have to tell them what the clock is going off for.

**Q5.4. How do guests control the camera direction and character movement? Do they take off and go away from the intended scene of action? What should we do about it?**

S1: This may be an unpopular answer but you might not want to let the guest control the character. Instead, you just have them recite where to go and what to do. In Wii Sports Tennis, the player doesn’t move around. Instead, they just swing the racket and hit the ball. This could be the same here but that does take away from the control of the guest. This is probably why it would be unpopular.

S2: Within the Neverwinter Nights game, the player controls the camera using the arrow or directional keys on the keyboard. They move their character/avatar around by pointing and clicking on the spot in the game environment that they wish them to move. During our play tests there have been times where the guest has completely run off to another location in the map from where they were intended to be. In the Neverwinter Nights game there is a simple solution to this. When given Dungeon Master privileges on a server, the cast members can easily teleport the guest to any point on the map they wish.

S3: Like we have discussed to solve other issues, the cast members should be able to see a view of what the guest is seeing so we know how they are doing with the navigation among other things. Important scenes that require guest’s view to be a certain way should be take control of through cutting to a scene with all the characters doing the action indented and then zooming back to the guest view and give back control. (If this cannot be done though the game engine we can possibly take control of the character manually or through a script and make them look the way we need to have them look and then go back to them controlling.)

S4: Camera Direction
• Pressing the scroll button on the mouse while simultaneously moving the mouse up or down changes the perspective of the camera.

• Can also be done on the keyboard, but I personally do not know how to do that.

Taking Off

• If the guest starts to take off, have Squinx run after and say something along the lines of “Wait! Wait! You forgot _________!” or “Wait for me! My short penguin legs don’t allow me to run as fast as you!”

S5: If the guest is new to Neverwinter Nights then it is fair to assume that they have never played a game with similar controls. Having some playtime with the game engine is the best solution to this problem. Before playing the game, a cast member should sit down with the guest and teach them all about the controls and the interface.

S6: The control of the character and camera views will be left up to the guest. It will become the cast members’ responsibility to interact with whatever he/she chooses to do or see. If he walks away from an intended scene of action, the action would follow him, as cast members (same or additional) create different action.

S7: Camera controls are done with the arrow keys on the keyboard and character movement can either be done by clicking the ground with the mouse, clicking and holding the mouse in a particular direction or using the W, A, S, D keys to turn left, move forward, move backward and turn right. As it is, the guests have generally stayed in the desired area when a conversation starts. An invisible free DM could potentially follow and lock a door once the guest enters and only unlocks it when what needs to happen is finished.

S8: I may be confused by the question but the controls on the keyboard are the easiest way to control the camera movement and movement of the character.

S9: Make sure that guests understand the operation of the controls. Don’t just relay “use the arrow keys to move the camera”; tell the guests specifically which button/key moves what, in what direction, show them, and have them try it themselves if possible before moving on to the next control or topic.

Q5.5. How do you deal with a guest who really is not “playing with us?” or conversely, with a guest who takes our reins and controls us?
S1: The above answer could answer this question already. But if we were to go with the traditional setup, I think that we have to remind them about the time limit. If they know about the time limit, then they won’t have time to play around. As for a guest who controls the cast members, you could allow that to a certain degree. If it doesn’t help them out in their objectives, then the cast members need to remind them that they have certain things to do and that they are just a guest and can’t do what they are doing.

S2: Dealing with a situation like this can be written into the “guide” for the cast members. The cast members should avoid becoming angered in situations like this. One cannot expect to force the guest to do everything exactly the way it was intended. Each individual’s experience will differ from the next. It is important for the cast members to be able to react accordingly to the play style of the guest and adjust to it.

S3: End useless conversation with different statements like “…but that wouldn’t help you fix the problem of… …but if there was some way to see when I leave this place… its sooo dark” and things of that nature to keep them on track. They will realize by these statements that they are just wasting everyone’s time, because they are not progressing the story at all, and hinting to what they need to be asking about or figuring out. We also need to create a sense of urgency when the guest is purposely wasting time and not trying to progress the story, by using statements like “…. we need to get fix [this] before it’s too late and it can never be fixed..” (e.g. bringing light back to the kingdom)

S5: Unfortunately, it is difficult to change someone’s perspective of role playing games in one sit down session. Cast members would hopefully, with experience, find their own techniques to work with various personalities. There is simply no set formula.

S6: It is ultimately up to the guest to interact with the cast members and character around him. However, if the guest seems to ignore the CM, the CM will have to intervene and make themselves part of the action. For example, when the guest purchases something from a shop to take to the dark city to help them get through the barricades, Squinx can steal it from them, or destroy it. The guest will be forced to interact with the CM playing Squinx as he/she becomes angry that his gold coins have been wasted.

S7: Providing in game restraints that forces them to have to follow certain direction for guests that try to take control. For those that don't seem to want to “play”, the cast members should still act like the usually do, but treat them as the “stong silent type” and give general directions for the guests to follow so at least they can still progress though the game and the intent of the game in maintained.

S9: The cast needs to work together (perhaps communicating this by specific “signals”, as previously mentioned) to “rein in” the guest or get them to interact
with the story if necessary. Pre-game guest evaluation may also aid in avoiding these situations or at least preparing the cast for dealing with them.

Q5.6. What should be done at the end of the story, to provide a satisfying ending?

S1: Again, the idea of having different endings ranked is a good one because guests will know that they have to find a way to get that certain ending. It could affect the decisions they make in order to get the best ending.

S2: Towards the end of the game, the guest should have learned the skills that the game was meant to teach. In the final area of the game the guest should be tested to ensure that they can repeat that skill and the outcome of performing that skill to “beat” the game should provide some kind of positive reinforcement. This positive reinforcement may be things such as restoring the land to its former self, freeing prisoners, etc. The guest also awarded some kind of virtual “certificate” showing that they successfully completed the game.

S3: It should have an ending movie sequence that ties everything up and allows the guest to sit back and enjoy completing the mission. In this movie it should show them what they learned from this so they get an extra sense of accomplishment knowing that not only did they have a fun time completing the mission, but they also learned a valuable lesson that can be applied to real life. All(/Most) the cast members should have one last goodbye of some sort (because of their personal interaction with the character).

S5: This varies with the story, but the guest should feel as though they have some control over the outcome of the story. The end should in some tangible way relate to what they’ve been working on throughout the course of the game. Avoid endings that come out of left field.

S6: I believe in order to provide a really satisfying ending to the game, there has to be more obstacles that the guest has to overcome or escape. When including actions like a chase, or a basic combat scene, the guest will feel more accomplished when achieving the goal. Once the darkness generator is turned off, the environment needs to instantly change into a bright happy setting and characters should all congregate to celebrate.

S8: This has been a hard question the entire semester. I am still drawing a blank on how to end the game in a way that will give closure to the player.

S9: The game must recognize the guest’s story-based achievement (ex: bringing light back to the cursed city), remind of aspects of the gameplay they enjoyed (the world, the guide, the objects, exploring, etc.), and provide meaningful practical applications of what they have learned (ex: “now you know how to use the Cartesian coordinate system!” or “now you can read maps and go anywhere!”).
Additional suggestions:

S2: If an element of danger is introduced into the game, the guest will not be so quick to wander around everywhere so freely and may make game play more interesting and accomplishing the goal more rewarding. The shop keepers could even help in making the guest grow weary of areas by constantly talking about the dark city and its curses.

S7: Have a surprise twist ending, such as an evil demon appearing after the Darkness Generator is finished given the player a reason to do another game after it's completion down the road.

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Testing
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Q6.1. How did you organize the testing process?

We have not yet developed a formal testing process. Our developmental 'play tests' were entirely formative, in that we concentrated on discovering the major obstacles and opportunities inherent in the cast/guest model.

Q6.2. What were the significant obstacles?

Look at the last twenty questions and you will see a lot of them.

- S4: I had an idea for this section where we could do a problem/proposal/solution list about the obstacles in the game.
- Example:
  - Problem One: the guest runs off before the queen can talk to him/her
  - Proposed Solution One: Squinx chases after and gets attention of the guest
  - Solution One: The proposed solution worked 4/5 times this problem occurred. The best thing to do when experiencing a guest who wants to run off in the game is to have Squinx follow.

Q6.3. How were they overcome?

Check back with us in another semester; maybe we can give you more information at that time.

General comments from the students
S1: This is just a general comment and it probably doesn’t fit in any section. I think maybe shifting the focus off of the game and more on some sort of humor could help. I took Jeff Wirth’s Creative Problem Solving class and most of the techniques we learned had nothing to do with the main task at hand. I think that veering off to something completely off like having something silly to think about and not about the game and then linking it to the game could help ease the minds of the cast members.

In short, implement more of Jeff Wirth’s techniques for creative problem solving in the creative process. This will definitely help in the story creation.