

# Playable Experiences at AIIDE 2016

## AAAI Press

Association for the Advancement of Artificial Intelligence  
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### Abstract

We overview the AIIDE 2016 Playable experiences track goals and summarize the four entries for 2016. Each highlights unique opportunities for AI to be the focal point of a playable experience, from simulations to prepare an experience to active systems altering characters and contexts during play.

AIIDE PE is to celebrate novel applications of AI to games

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### Rogue Process



Figure 1: Example generated skyscraper for the player to infiltrate.

*Rogue Process* (Figure 1) is an action hacking game about running through skyscrapers at high speeds and hacking their security networks in slow motion. You play as a renegade hacker who makes their living stealing dark corporate secrets hidden away in the tops of skyscrapers. It's being made by Michael Cook, with art and animation by Marsh Davies. Music is currently courtesy of Strangelette.

Most of *Rogue Process* takes place at the tops of skyscrapers, as the player breaks into various buildings in a city block to look for servers, prototypes and valuable data. Skyscrapers are procedurally generated using logic-driven catalogue systems that define the relationship between elements of a

building and allow natural structures to form from these rules. They also allow for subtle emergent gameplay scenarios to emerge, because different room types offer different affordances to the player, allowing them to find alternate routes through a building, or solve problems in unexpected ways. A chemical storage warehouse might be hacked to vent fuel into a room situated beneath it, which can then be set alight by a power surge sent to a cleaning robot, blowing an otherwise locked door off its hinges.

The worldbuilding of *Rogue Process* is also heavily reliant on procedural systems. Every building has a corporate owner, with a slogan, logo, specialism, name and relationship in the world generated through a combination of systems and approaches. We're exploring the idea of 'medium-permanence' PCG, where content is generated for an individual player, but it persists across multiple playthroughs, allowing the player to develop a longer-term relationship with the generated corporations instead of instantly discarding them.

Procedural generation extends throughout the game beyond these examples—the pedestrians in marketplaces, the ships in the background, the skylines they fly past. We want the game to feel rich and varied, procedurally lavished with little details.

We're also using *Rogue Process* as an opportunity to explore how procedural generation can be better supported in a developer workflow. *Danesh*, a tool for exploring generative spaces, was born out of prototype tools made for *Rogue Process*, and we hope to continue to learn and expand on these ideas while working on the game and encountering new problems.

We're also hoping to just make a very fun game, and so we'd love you to come and play and tell us what you think. There's a lot of interesting design issues to be solved within the game, especially reconciling precision typing with fast action, but we're enjoying exploring these problems and talking about them with players. Visit us, have a go, and let us know what you think!

You can find out more about the game at <http://www.rogueprocess.run>, or on Twitter @rogue-process

## Bad News

### Summary

*Bad News* is a novel playable experience that combines procedural generation, deep simulation, and live performance. Players explore procedurally generated American small towns inhabited by detailed characters with simulated backstories. Whenever the player encounters a resident, an improvisational actor reveals himself to perform the character live, adhering to his or her generated personality, life history, and subjective beliefs. With *Bad News*, we strive to showcase the humor, drama, and tragedy of everyday life.

### How To Play

It is the summer of 1979, and an unidentified resident of a small American town has died alone at home. The county mortician is responsible for identifying the body and notifying the next of kin, but a matter in a different part of the county demands his presence. Being occupied in this way, the mortician is forced to delegate this important task to his newly appointed assistant, the player. To carry out the task, the player must navigate the town and converse with its residents in order to obtain three crucial pieces of information, each of which can only be discovered by knowing the preceding piece: the identity of the deceased, given only the person's physical appearance and home; the identity of the next of kin, given the identity of the deceased and an explicit notion of a next of kin (that we provide); and the current location of the next of kin, given his or her identity and any other relevant information that the player has gathered. Finally, upon locating the next of kin, the player must notify him or her of the death. Throughout, she should remain discreet, so as to respect the privacy of the family.

The player sits on one side of a constructed model theatre (shown in Figure 3), with a tablet computer, a notebook, and a pen. A live actor sits across from the player, hidden by the theatre's adjustable curtain; behind a permanent lower curtain, a hidden screen displays a special actor interface and a discreet microphone captures sound. Out of sight, a *wizard* listens to the audio feed. Gameplay always begins at the death scene, where the actor reveals himself to play the mortician, who explains what has happened and what the player must now do. This happens diegetically and occurs as embodied face-to-face conversation; the purpose of this scene is to subtly tutorialize and to gently ease the player into both the diegesis and the live-action role-playing that the experience requires. Crucially, the mortician and the player collaborate to construct a believable backstory that the player can rely on when talking with residents in the town—after all, it would not be discreet to openly parade as the mortician's assistant. From here, the mortician disappears by deploying the curtain, and the player is left with the tablet computer (see Figure 4), which displays a player interface that initially describes her current location (including the body).

From here, the player proceeds by speaking commands aloud; the wizard executes these throughout the experience by live-coding modifications to the simulation in real time. Permissible commands include moving about the town (in a direction, or to an address), viewing a residential or business



Figure 2: A player, left, engages in embodied conversation with the actor, who improvisationally performs as a resident of the town.

directory, approaching a character to engage in conversation, and more. As the player moves about the town, her interface updates to describe her current location. When a player approaches a town resident, the hidden actor interface updates to display details about that character's personality, life history, and subjective beliefs. After spending a few moments preparing for the role, the actor pulls back the curtain to play that character live. As the subject of conversation shifts between residents of the town, the wizard crucially updates the actor interface to display the character's beliefs about that particular resident. Meanwhile, the wizard queries the simulation for narrative intrigue (again by live-coding), which he can deliver to the actor directly through a live chat session (e.g., "you went to high school with the subject"). Gameplay ends once the player notifies the next of kin of the death. A typical session lasts roughly 45 minutes, though the wizard and actor can coordinate in real time to control this. For more details, see our longer paper (Samuel et al. 2016).

### Why To Play

*Bad News* is appealing as a novel, AI-driven, and tender experience. While *mixed reality* is a growing and fairly active area (Ohta and Tamura 2014), there are surprisingly few media works that specifically combine computation and live improvisation. In fact, we are aware of only two other examples of this—*Coffee: A Misunderstanding* (Squinkifer 2014) and *Séance* (TwoCan Consortium 2016)—though interest is growing (Martens 2016). Incidentally, *Séance* features our same actor, Ben Samuel, who appears to be the world's expert in improvisational acting under computational constraints; watching him perform in myriad roles is a core appeal of the experience. Beyond its novelty, this work is deeply AI-driven. Each *Bad News* town is procedurally generated using the *Talk of the Town* AI framework (Ryan et al. 2015b). Specifically, towns are simulated for 140 years of diegetic time, yielding hundreds of residents who are socially embedded and who harbor subjective beliefs about



Figure 3: A constructed model theatre separates the player and our live actor.

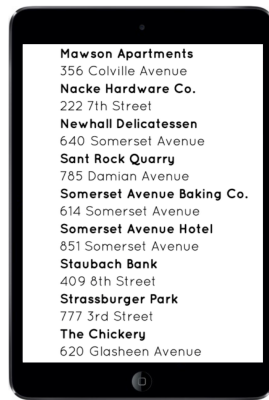


Figure 4: Excerpt from a business directory for a procedurally generated town, as displayed on the player interface.

the town (which may be wrong for multiple interesting reasons). This provides an abundance of narrative material and dramatic intrigue (*e.g.*, family feuds, love triangles, struggling businesses) that exceeds the capacities of a 45-minute playthrough and that could not have tractably been hand-authored. Several players have reported feeling like they were *transported* to the generated towns that they visited (Green, Brock, and Kaufman 2004). Finally, *Bad News* is a tender experience. As a game about death notification, it compels the player to be sincere and tactful—many have commented on the emotional intensity of their notification scenes. Set in run-of-the-mill American small towns, we strive in each playthrough, through acting and wizardry, to showcase the humor, drama, and tragedy of everyday life.

### Where To Play

Because the actor and wizard must both be present, *Bad News* can only be played in person at scheduled performances. Though we have accommodated private requests, it is primarily intended as an exhibition piece. An early test incarnation was conducted at the 2015 Experimental AI in Games workshop in Santa Cruz (Ryan et al. 2015a), and

more recently our refined, longer version was performed at the ACM Conference on Human Factors in Computing Systems (CHI) in San Jose (Ryan, Summerville, and Samuel 2016) and at Gamenest in San Francisco. The middle performance was part of the Innovative Game Design track of the CHI Student Game Competition, which *Bad News* won.

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