

## **Hopstory : a location based narrative distributed in time and space**

<b>Title</b>	Hopstory
<b>Subtitle</b>	a location based narrative distributed in time and space
<b>Lead-in / Abstract</b>	A multi-perspective cinematic story recounts a day in the life of four fictional characters. Story bits are distributed in space according to the characters point of view and in time, as the action progresses. Collecting data at different locations and times, each person edits her own version of the story according to their passage through the space.
<b>Participants and speakers</b>	nisi, valentina (IT / IE)
<b>Short biography of participants</b>	<p>Valentina is a researcher at MedialLabEurope with G.Davenport in the Storynetworks group, and Ph.D. candidate in the department of Computer Science of Trinity College Dublin (TCD) with Dr. M.Haahr, Her fascination lies within the use of wireless, networked and mobile technologies for telling stories in new ways. She researches how to design interactive and distributed narrative experiences in public places merging the real space with the narrative experience.</p> <p>Her current project is a distributed location based story about an old Dublin neighbourhood, incorporating the community feedback into the narrative database. The story is available to the public in form of media fragments wirelessly distributed</p>

the GPS enabled mobile devices to the wandering audience.

She holds an MSc in Multimedia Systems at TCD, First class Honour Fine Art Degree from the Albertine Academy of Fine Arts in Turin, and a Diploma in Classical Studies.

Her work has been presented and published in festivals and conferences in Dublin and abroad.

## Full text

### Hopstory

Extending research on location based cinematic narrative, HopStory, takes a digitally-enhanced story beyond the computational desktop and distributes it in a physical space. It transforms the physical navigation of the space into an editing process through which an audience member assembles her own version of the cinematic narrative. HopStory explores how story content can be linked to the setting in which the story is being experienced, allowing the space to express history and personality.

As Marie Laure Ryans in her book, *Narrative as Virtual Reality*, suggests three forms of involvement with narratives: spatial immersion or response to the setting; temporal immersion, response to the plot, and emotional immersion, response to the character. When considered within this framework Hopstory questions what influence the real physical space can exert on a story experience. As Ryan continues: "Spatial immersion is often the result of a madeleine effect... The taste and smell of a madeleine dipped into a cup of tea transported Proust instantly back to his childhood village". We suggest that stories linked to specific places can use their settings to trigger the "Madeleine effect". This synesthesia, in the case of Hopstory due to the fact that the story is set and experienced in the same place, strengthens the spatial immersion of the audience in the content.

With this as our creative goal, we began to investigate the history of the building that would host the installation. This research informed the development of the perspective-based story, which focused on four character's different points of view on the same events, taking place during a single day of work in the installation building, originally a brewery. Access to the physical setting of the characters' lives provided a concrete starting point for research, visualization of scene descriptions, and conception of plot events. In the installation, the audience uses a keyring-sized device to collect story parts. Different segments are available at different times and locations. They can then view their clips in the order that they collected them at a designated playback station. Only in this moment of playback do the audience members fully experience their personally assembled story.

As David Rokeby points out in his essay, *transforming Mirrors*, story space can be conceived as a navigable structure or world: "The navigable structure can be thought of as an articulation of a space, real, virtual or conceptual. The author structures the space with a sort of architecture, and provides a method of navigation. Each position within the conceptual space provides a point-of view, defined and limited by the surrounding architectural structure. Exploring this structure presents the spectator with a series of views of the space and its contents. The sequence in which the spectator experiences these vistas forms a unique reading of that space". In the case of the HopStory the architectural metaphor can be taken literally.

HopStory is novel in the way in which it marries physical navigation through the installation with character point of view; furthermore, the story connects to the audience's sense of time. As the story progresses, the characters move through the building, living out their day in the early 1900s. Similarly, as the audience wanders through the same building, experiencing the installation, they encounter the four characters at different locations and times. Sculptures modelled after the brewery cat, the special character in the story, indicate the locations where the story content is available.

### The Interaction

The audience uses a simple physical object, a portable metal button, for interacting with the sculptures collecting scenes. When a scene is collected, an audio segment from that scene is played. Essentially, through contact with a cat, a participant receives a new scene and briefly uncovers a character, who reveals part of his or her story. The instantaneous audio response may encourage audience members to seek out more scenes to add to their collection. Each audience member controls the

number of clips they collect but does not know what events they will witness before they make contact with a sculpture. Much like wandering through an actual building and choosing to eavesdrop on chance conversations, audience members edit their own movies by navigating the building space. However, rather than viewing each scene at the moment it is encountered, the audience saves up their collections for later viewing, as a public projection at the playback area. This viewing mechanism allows audience members to compare story paths and learn more about the character's different experiences during their day in the hopstore. Furthermore, it links back to the cinematic experience of narrative and reflects upon the differences between public screening as a collective experience, and the private and personalized navigation and editing of the story. At the playback area audience members are able to compare their assembled movie with those gathered by others

## The Technology

The technology used in HopStory enables the audience to collect and play back their story scenes through physical contact with the cat sculptures. The contact occurs through iButtons, metal coins made by Dallas Semiconductor which store digital information. Small metal contact points, the iButton receptors, were embedded in the cats. Touching an iButton to a receptor establishes a connection down which digital information can be transferred. Each receptor was connected to a computer. The audience roamed the space with their iButtons and then, as convenient, touched the sculptures to collect data. Upon touch a short audio segment from the scene was played. At the same time data was uploaded to their iButton. Video clips associated with this data could then be retrieved and viewed at the playback station. Each story fragment was tagged with a two-digit ID number indicating the time slot and location. This was the information stored on the iButton and used to reference the video clips at the playback station using custom software written in Isis .

## The Content and the Story Structure

Following the Aristotelian paradigm of a fictional story where the plot is a succession of incidents that develop the story from beginning through climax to resolution we designed the narrative starting from the classical elements of setting, characters and plot. We then applied these concepts to a physically distributed story structure where a real space coincides with the story setting and the story time is mapped to real time.

This story structure results in a two dimensional grid, where time is mapped to the X axis and space to the Y. Characters move around this grid according to the different locations they occupy at different times of the day. Within these constraints the plot progresses through its incidents, climax and conclusions, all perceived from the different characters perspectives. In the case where no character is present in a certain place at a given time, a special plot independent character, the brewery cat appears and relates an historically inspired anecdote. This does not progress the plot, but adds flavour and atmosphere to the story.

The story has been written and produced with the intention of providing the audience with a flavor of a day in the hopstore when it was an industrial building. Four fictional characters, a foreman , his daughter, a boy and a planner working for the Guinness Trust, bring the audience in four different journeys through the hop store during normal a day of work. The characters are informed by personal accounts of social conditions in the Liberties, the area surrounding the brewery, and the lifestyles of workers at the brewery in 1920. A cynical brewery cat character, inspired by a word of mouth anecdote about a cat that used to live in the building, was created to fill in scenes where the main characters were not featuring. Plot events center around an accident caused by a combination of arbitrary actions from each character, providing many causal threads from which the audience build connections. Each character enters the building, and the story, at a different point in the day. Ambient scenes supplement the narrative, providing background historical information during the story times in which no character is present. The narrative is composed of forty-eight story fragments that illustrate the lives of the four characters as they progress through their day.

The story is ultimately portrayed in the style of traditional cinema, through a linear movie. This final movie is assembled differently by each audience member who interacts with the system, and each movie will possess a different number and combination of scenes, characters, or plot events. Simple themes are referenced in multiple scenes to unify the character's stories. For example, a recurring theme is food. The foreman is very hungry throughout the whole story as he missed dinner

the previous evening and forgot his lunchbox for the day. This hunger is mentioned repeatedly throughout his story, influencing his actions during the day. To connect to this theme, the other characters often refer to food and meals during the day, creating a common theme among the story fragments narrated by the different protagonists. For example, the foreman's daughter starts her day by bringing a lunchbox to her father.

The character's days are very different from each other. The foreman attends to the machinery while the foreman's daughter simply wanders through the building. Sometimes they can be seen at the same time in the same location or dealing with the same event from a different perspective, giving the impression of a connected overall narrative. An example is the accident that happens in the hop store in the late afternoon. Each character experiences it in some form, even if just auditory. This technique is used to emphasize the differences in point of views of all the characters regarding the same incidents. The accident involves the boy falling on the ground and it can be experienced by the audience from each character's perspective: the boy falling from the stack; the foreman witnessing the accident and feeling guilty about having assigned the task to the boy; the foreman's daughter who is scared by the noise but curious about its source; and the surprised planner, who hears the noise and wonders what's happening on the other floors of the building.

The perception of the different story fragments as a whole is further facilitated by the presence of some characters in other character's scenes. For example, the boy arrives late into the hop store building. As he sneaks inside, he sees the foreman drinking a glass of beer with his men near a window. The viewer can see the men laughing from the boy's point of view. At the same time, the story experienced from the foreman's side does not mention the boy, because he cannot be seen. In another incident while hiding from the foreman behind a wall, the boy is spotted by the planner. From the planner's point of view the encounter is of minimal importance as he is completely absorbed in his work and barely notices the child. The boy would be just a shadow in the background for the planner, but from the boy's point of view, the incident is quite important. In the boy's scene, the planner walks by in front of him and stares at him for a second. The boy then puts a finger in front of his mouth asking the planner not to tell the other workers his whereabouts. We believe that this presentation of the characters from each other perspectives is an effective mechanism for bringing unity to the story and suggesting continuity of place and time.

With these techniques, we attempt to ensure that an audience member receives a coherent and meaningful narrative regardless of the number and order of the scenes collected and independently of the presence or absence of any specific scene.

## The Guinness Hopstore Installation

Hopstory was showcased at "Extreme Interfaces" an exhibition and demonstration day held in 2001 in an old and historically significant Guinness hopstore building. The Hopstory installation featured seven cat sculptures, which were embedded with iButton receptors. Six of the cats were spread through one floor of the building, and the seventh was seated on an armchair in a lounge area. The movie scenes collected by the participants were carried to the lounge area and projected onto the wall, for anyone nearby to view. Participants were given a key ring, which contained an iButton for storing clips, and a card with brief instructions for navigating the Hopstory. When a cat was located, a participant was able to connect his or her iButton to the receptor store a scene on the iButton. When participants were satisfied with the collection they had stored, they could touch the iButton to the cat at the projection area and watch the movie they had collected. The story lasted around one hour, with the scene advancing every few minutes within each cat.

### Conclusions

HopStory succeeded in the marrying real physical locations to the story content, enhancing each audience member's spatial immersion in the narrative context. This synergy is in stark contrast to how three-dimensional VR environments propose virtual space as an immersive tool and serves to transport the audience deep into the story setting. Furthermore, HopStory presents a navigable structure that is traversed by interacting not in a virtual environment but in the real, tangible, physical world.

### Related internet addresses

<http://ic.media.mit.edu/>  
<http://storynetworks.mle.ie/>  
<http://www.mle.ie/~vnisi/hopstory/index.html>