

Designing for Accessibility and Better eLearning Game Design.

Adrian Mallon



QUEST (game in development)

- Language-learning, third-person perspective, adventure
- For children 7+ (in English language)
- Any age second-language learner (Latin, French, Irish)
- Remember: Language Learning.

Points

- Accessibility features in eLearning videogame design augment learning & play opportunities for general users
- Create inclusive eLearning videogame resources
- Add replay value
- Better eLearning videogame design than designing for the average learner.

Inclusive design

- Blind, deaf, autistic, non-special needs

Modelling the end user

- All types, not just average type
- Challenge assumptions

General aspects of multimedia & learning styles

- text, graphics, audio, dynamic visual elements (motion-video, animation), mathematical and physical modelling and simulation, stereoscopic-3D, binaural and surround sound, text-to-speech, speech recognition and, to a lesser extent, motor feedback
- Subtitles & spoken feedback mechanisms
- Text scaling

Accessibility features:

- Look, Listen, Smell, Towards
- Spoken letters/text
- Autism and believable character design
- Positional sound

Input via keyboard only

- Natural language input in target language



INDĀGŌ

Adrian Mallon Multimedia
hunc lūdum scripsit

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A medieval-style courtyard with stone buildings and a statue on a roof. The scene is dimly lit, suggesting dusk or dawn. The ground is paved with large, irregular stones. Two figures in medieval attire are visible in the distance, one standing and one walking. The overall atmosphere is historical and mysterious.

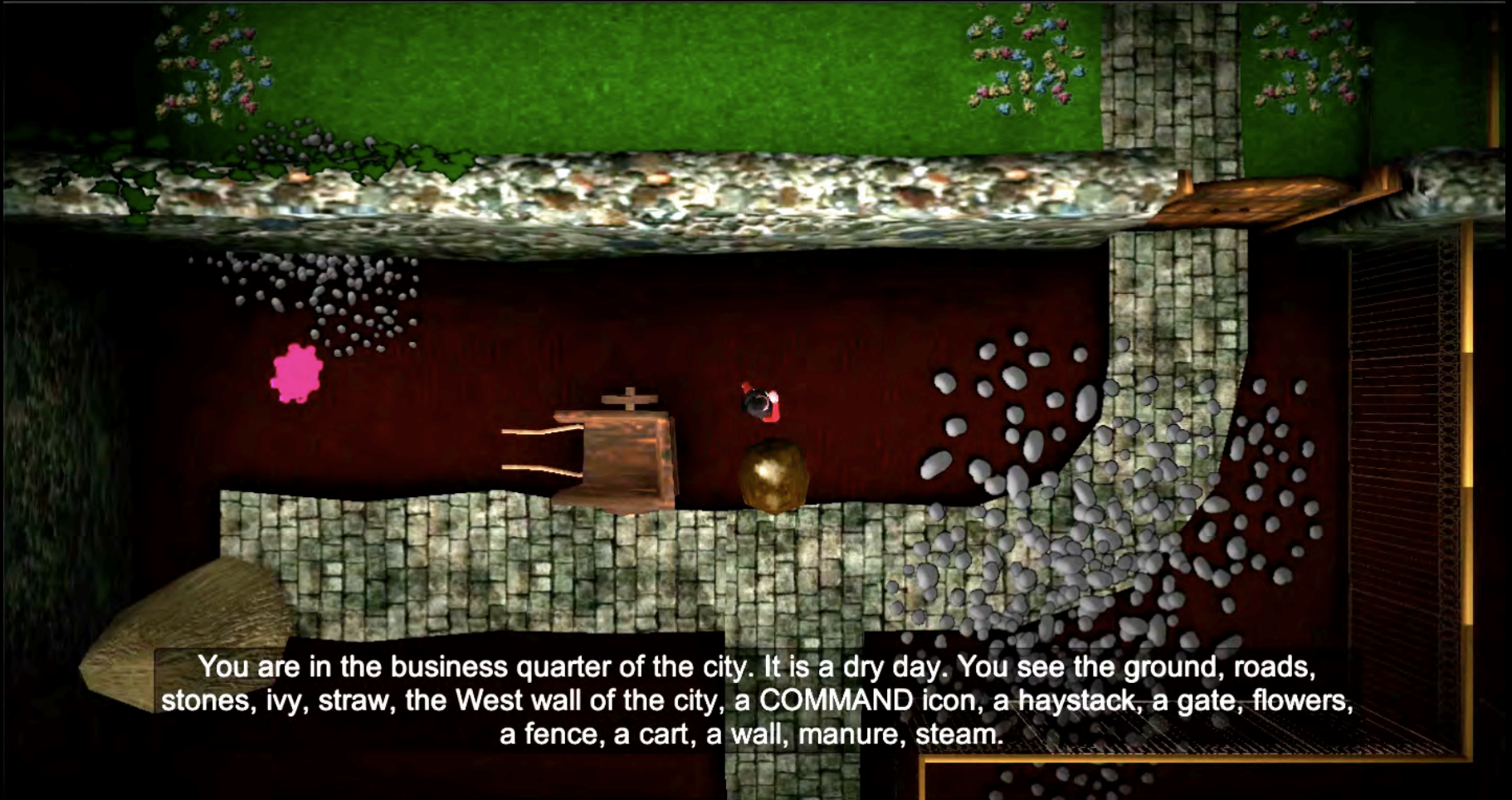
QUEST

An
Adrian Mallon Multimedia
Game

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Look command



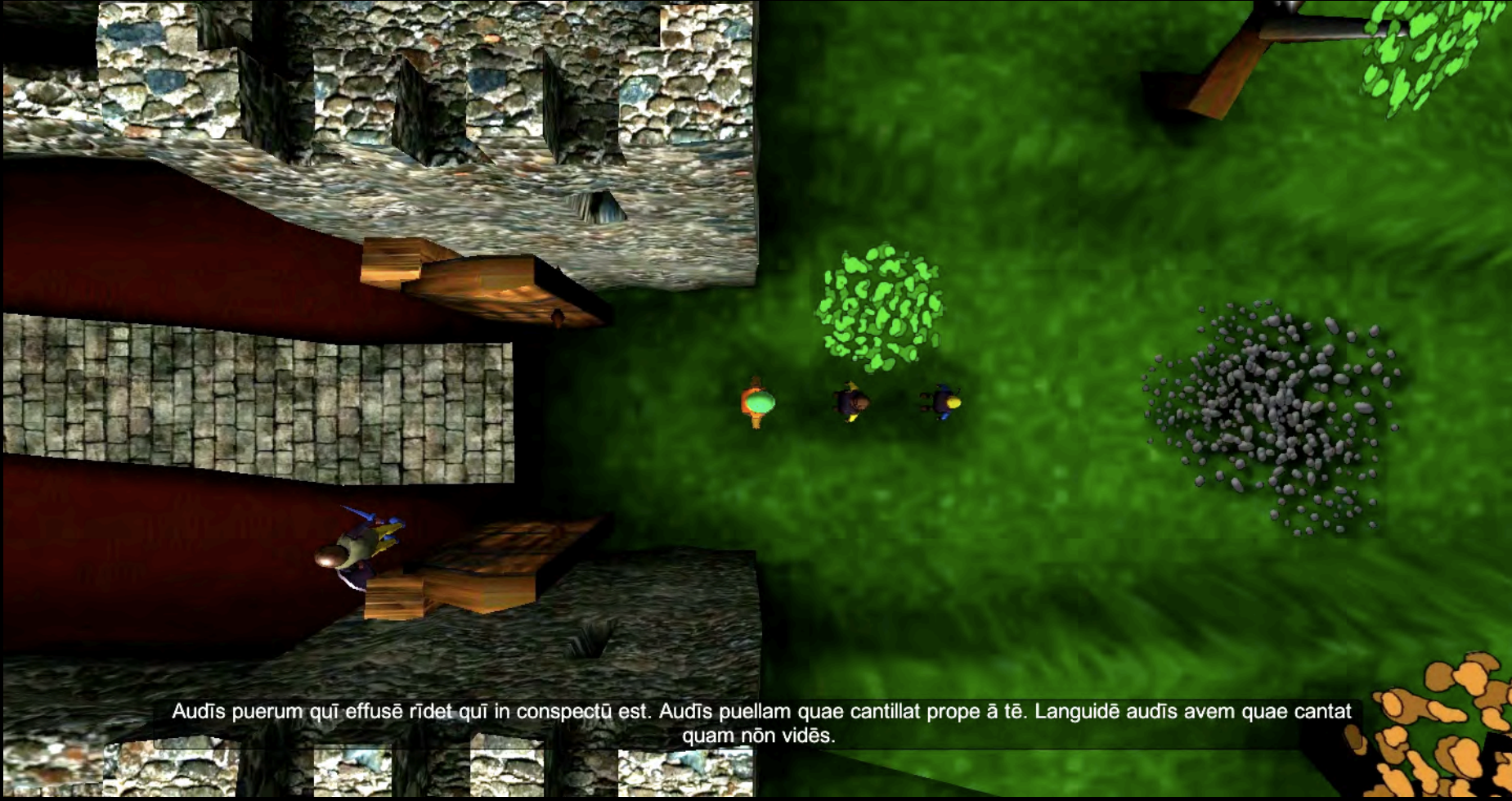
You are in the business quarter of the city. It is a dry day. You see the ground, roads, stones, ivy, straw, the West wall of the city, a COMMAND icon, a haystack, a gate, flowers, a fence, a cart, a wall, manure, steam.

Listen command



You hear a fly buzzing very close to you.

Listen command



Smell command



Keyboard input: Spoken letters/text

- Natural language input in target language
- Turn on/off spoken letters
- Repeat that
- Spell that

Towards

- The first puzzle: "You are outside the City. It is a dry day. You see DIRECTIONS icons, a COMMAND icon."



Towards

- “You arrive at...” / “X is in the way”



You cannot go there because a directions icon is in the way.

Towards

- “Talk to everyone in the town” (Choices: “Are you blind?”)



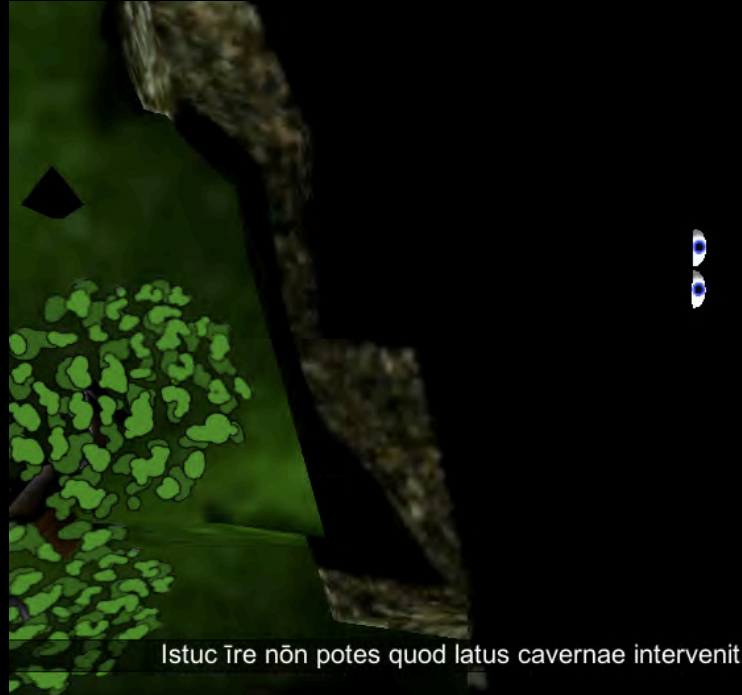
Towards

- Crossing the lake: "You reach the second point across the lake and stand there."



Towards

- Getting through the cave: "You cannot go there because the cave wall is in the way."



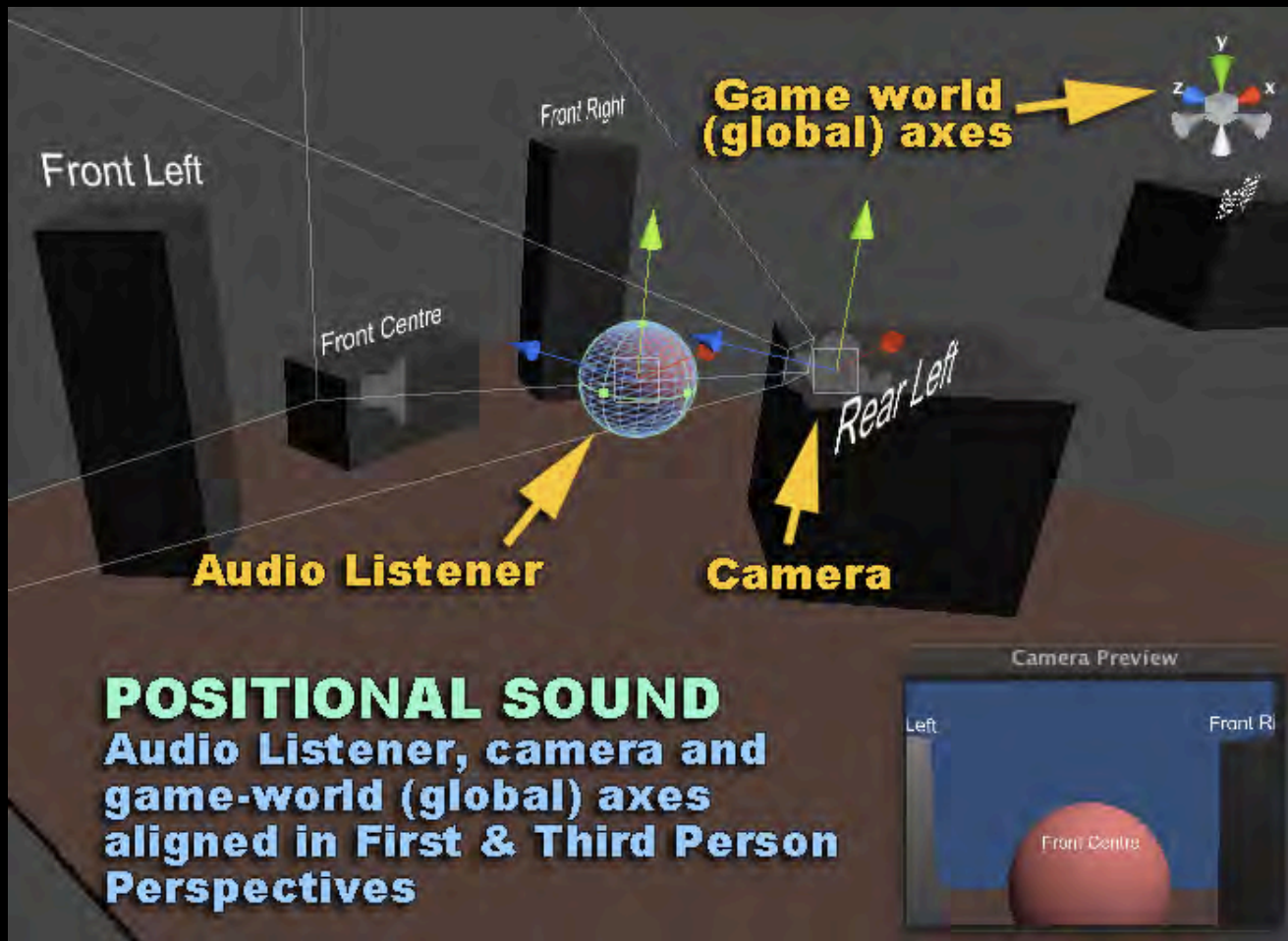
Istuc ĩre nōn potes quod latus cavernae intervenit.

Autism and believable-character design

- Gestures and acknowledgement



Positional Sound



Only when the Audio Listener and camera axes are aligned and their vertical axes match the global vertical will surround-sound outputs match game-world positional sounds.

Adding replay value

Incentives to replay

- Better storytelling
- Better or more varied puzzles

NEW GAME

LAST QUEST

NEW GAME or restart from your LAST QUEST? (Type NEW GAME or LAST QUEST.)

Extending the concept

Will inclusive design considerations work in other contexts to enrich play and learning possibilities for all?

- Many contexts: e-Learning, puzzle/detective games.
- Interesting and novel features.

Extending the concept

Options

Pick a neighbouring townland.

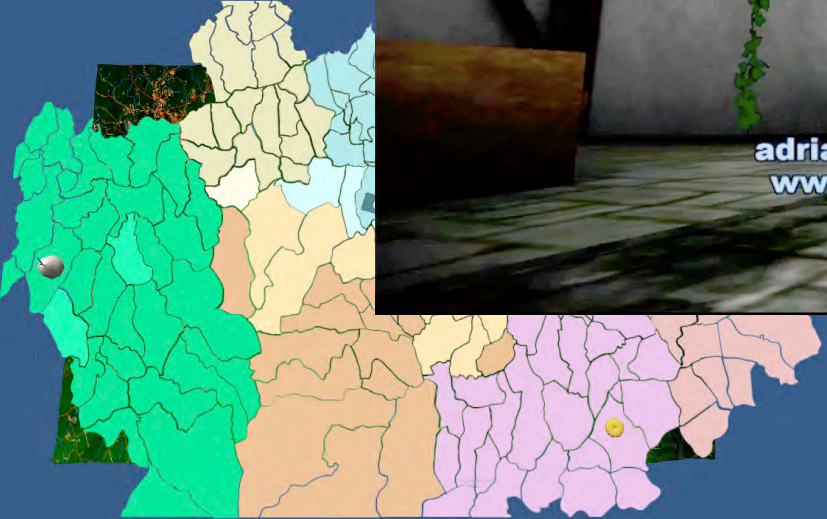


The townland of Gosford Demesne in the parish of Mullaghbrack in the Barony of Fews Lower. This townland is to the North-West of Ballygorman.

- A screen from an online local-history eLearning game, *Townlands* (Adrian Mallon Multimedia, December 2013). The second sentence in the subtitled feedback came from accessibility considerations.

Last slide

Options Pick a neighbour



The townland of Gosford Demesne in the parish of Mullaghbrack in the Barony of Fewes Lower. This townland is to the North-West of Ballygorman.

