

The Design & Development of Smart Learning

learning
design

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GRONI

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- What sort of learning, who are the learners
- Learning design (aims, outcomes)
 - Activities and tasks
 - Collaboration
 - Participation
 - Creativity
 - Purpose



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- **The learning and the learners**
 - Topic
 - Level and complexity
 - Age
 - digital literacy
- **Activities and tasks**
- **Purpose**
 - Collaboration
 - Participation
 - Creativity



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○ Designing learner interactions

- | | |
|--|---|
| <ul style="list-style-type: none">○ Consider aspects of interaction design:<ul style="list-style-type: none">○ in relation to the knowledge○ in relation to other interactions○ in relation to the learners ability to make choices or understand your 'navigation' system | <ul style="list-style-type: none">○ Universal Design for Learning○ User Centred Design○ User Interface Design○ User Experience & Usability○ Accessibility |
|--|---|

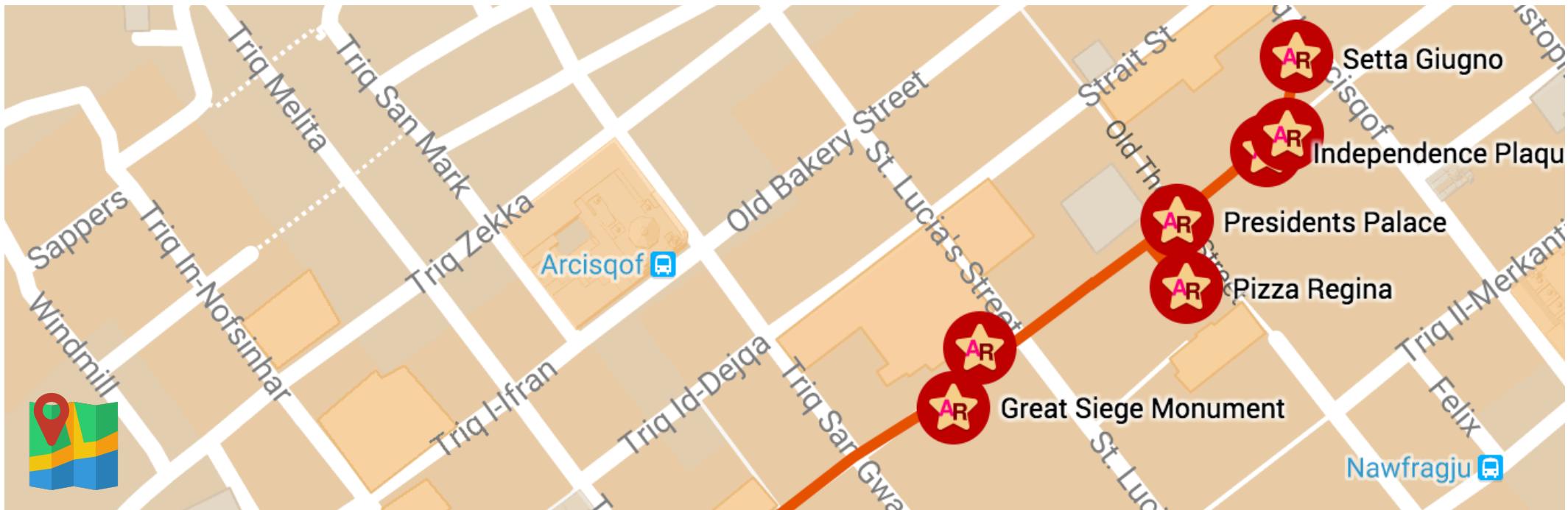


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- Smart learning can involve *micro-pools* of interaction sets
 - Each location has several interaction choices
 - All the locations form a whole
 - The interaction ‘sets’ should have some design and function consistency
 - Together they should provide the learner with the opportunity to build knowledge, their own as well as what you provide them



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Scouting locations and scoping topic opportunities in relation to learning design

Topic choice and types of location influence the kind of content you'd like to use.

Amount of content provision and how choices are provided determines the way interaction design is approached

Choice of content selection (when, how, where) can be determined by learning design



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The screenshot shows the 'New Scene' interface for 'Directing'. The top navigation bar includes tabs for 'New Scene' and 'Directing', along with a close button (X). Below the tabs is a horizontal navigation bar with five steps: ① GENRE, ② INFO, ③ GAMEPLAY, ④ MAP, and ⑤ PUBLISHING. The 'GENRE' tab is active, highlighted in blue.

The main content area displays three categories of genres:

- Tours**:
 - Indoor *
 - Storyline *
 - Mystery Tour *
 - Extra Passenger *
 - Sightseeing *
- Games**:
 - Adventure ***
 - Secret Trail *
 - Collect and Trade **
 - Free Play *
- Rules**: (This section is currently empty)

A large callout box on the right side provides instructions and context:

- Select a Genre for your Scene. The Genre defines the type of Scene, is it a Tour or a Game?**
- More stars (*) means more difficult!**
- Click a Genre to view all the rules.**

A red 'Continue ▶' button is located at the bottom center of the main content area.

The 7Scenes 'New Scene' interface. They refer to journey types as genres, and you can see how they split them up.

NB 7Scenes is no longer available to use as has been purchased by the commercial company 'Authentic'.



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Tour

- A tour is probably the most popular journey to make
- It's similar to a museum tour or a tourism app. You progress at your own pace through a series of connected places which are planned on a map, to learn about an area or the people who live or work there.
- It is suitable for almost any topic
- Pedagogies to research: mobile, location based, guide on-the-side



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New Scene / Directing

1 GENRE 2 INFO 3 GAMEPLAY 4 MAP 5 PUBLISHING

Tours

- Indoor *
- Mystery Tour *
- Storyline *
- Extra Passenger *
- Sightseeing *

Games

- Adventure ***
- Collect and Trade **
- Secret Trail *
- Free Play *

Rules

Sightseeing is a scene genre that you use when you want players to freely discover locations. There is no specific order in which they need to open locations, they can wander from place to place.

So the rules are very simple:

- Places can be set at any location. Be sure to keep in mind that you don't make locations depend on each other too much.
- Players can play for as long as time permits. Setting an unlimited time range often makes sense for this genre.

Select a Genre for your Scene. The Genre defines the type of Scene, is it a Tour or a Game?

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Click a Genre to view all the rules.

Continue ►

Sightseeing



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New Scene / Directing

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- Indoor *
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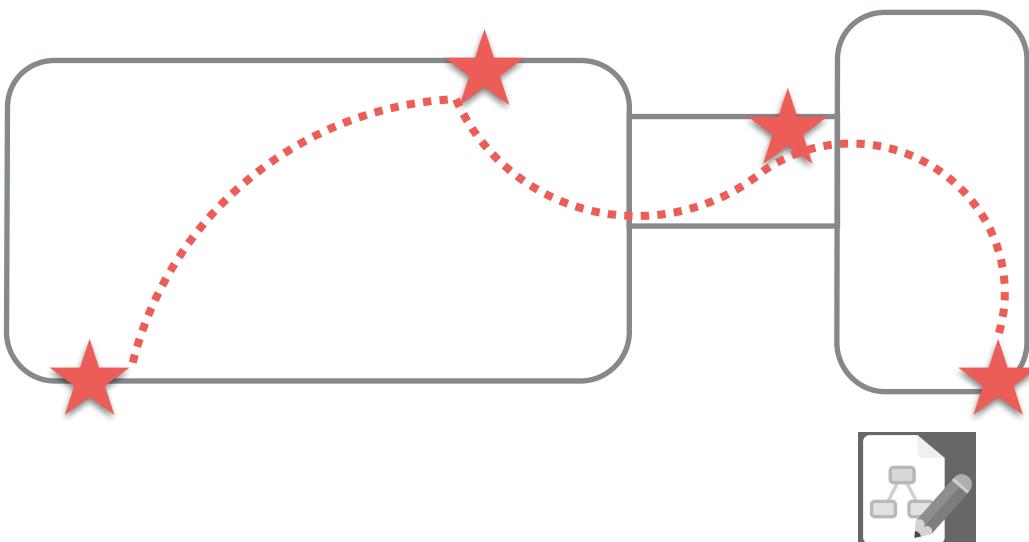
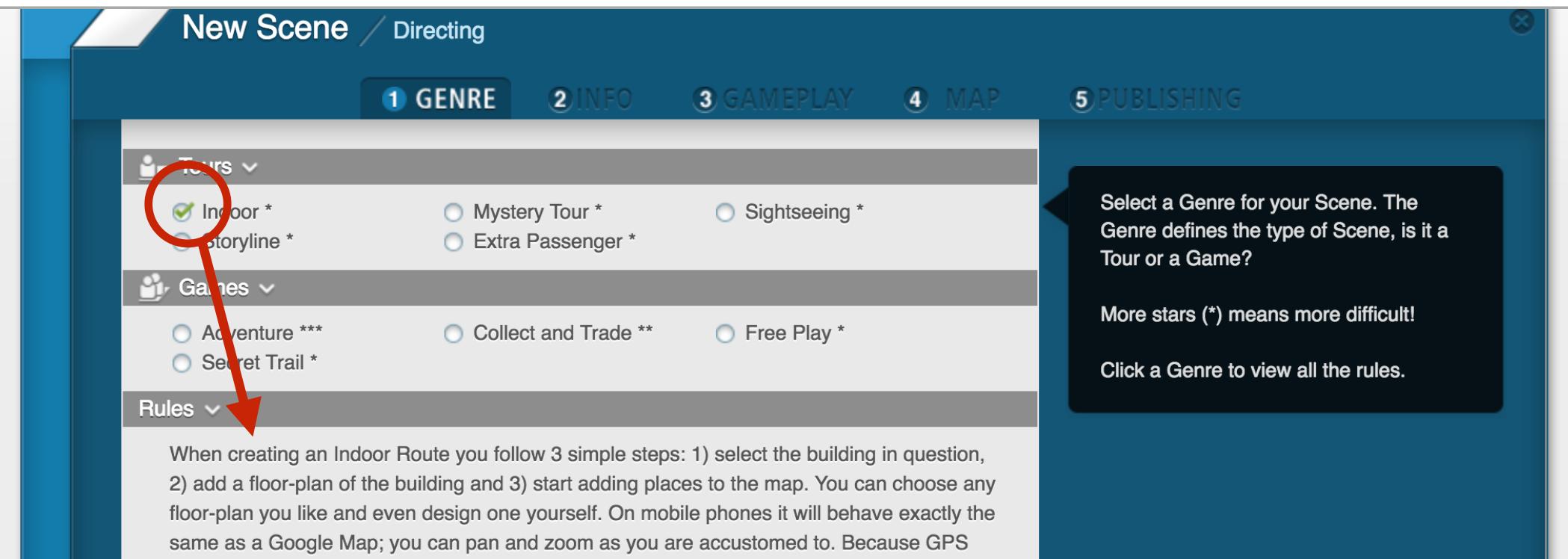
Rules

When creating an Indoor Route you follow 3 simple steps: 1) select the building in question, 2) add a floor-plan of the building and 3) start adding places to the map. You can choose any floor-plan you like and even design one yourself. On mobile phones it will behave exactly the same as a Google Map; you can pan and zoom as you are accustomed to. Because GPS

Select a Genre for your Scene. The Genre defines the type of Scene, is it a Tour or a Game?

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Here's a simple example of how to draw the classroom, the connecting hall and the entrance lobby, showing where auras with learning content might be found.

Indoor

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Discovery

- A journey can be a process of simple discovery
- Location A can have a set of tasks which lead to ‘discovery’ of location B.
- This can be achieved quite simply, by planning your tasks carefully and cleverly.
- It’s the beginning of ‘gamifying’ your journey.
- Pedagogies to research: mobile, location based, gamification, guide on-the-side, guided discovery



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Mystery

- A mystery journey might start at location A, and the next location you progress to might depend on your choices at the first location.
- So it's like discovery and a game but there's more than one option for where you might end up next.
- Pedagogies to research: mobile, location based, gamification



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Rules

A Mystery Tour is a treasure hunt passing by different locations with the goal of solving a secret. Players find out about the secret through a fixed order of hints and parts of a storyline. In a Mystery Tour you can only adjust the play time. All other rules are already set and can not be adjusted.

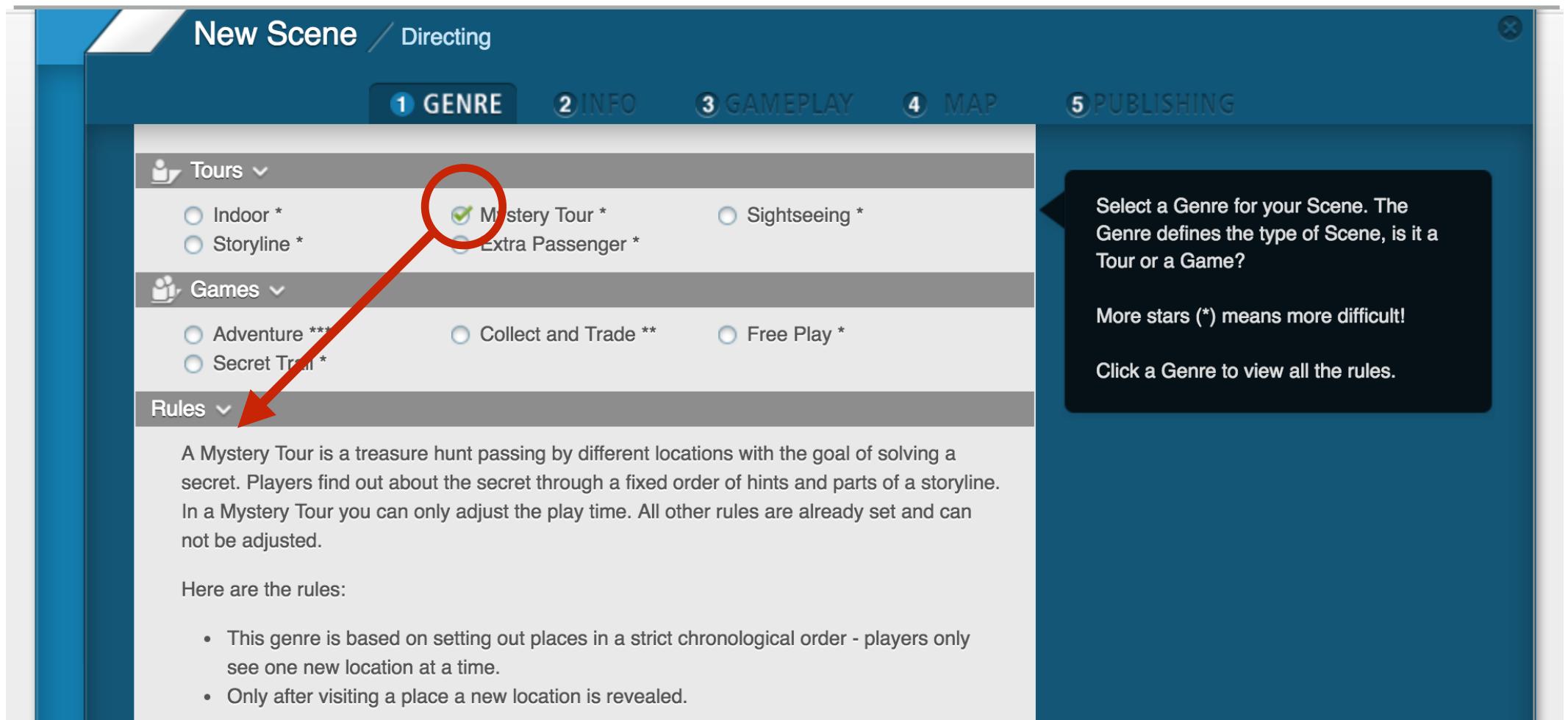
Here are the rules:

- This genre is based on setting out places in a strict chronological order - players only see one new location at a time.
- Only after visiting a place a new location is revealed.

Select a Genre for your Scene. The Genre defines the type of Scene, is it a Tour or a Game?

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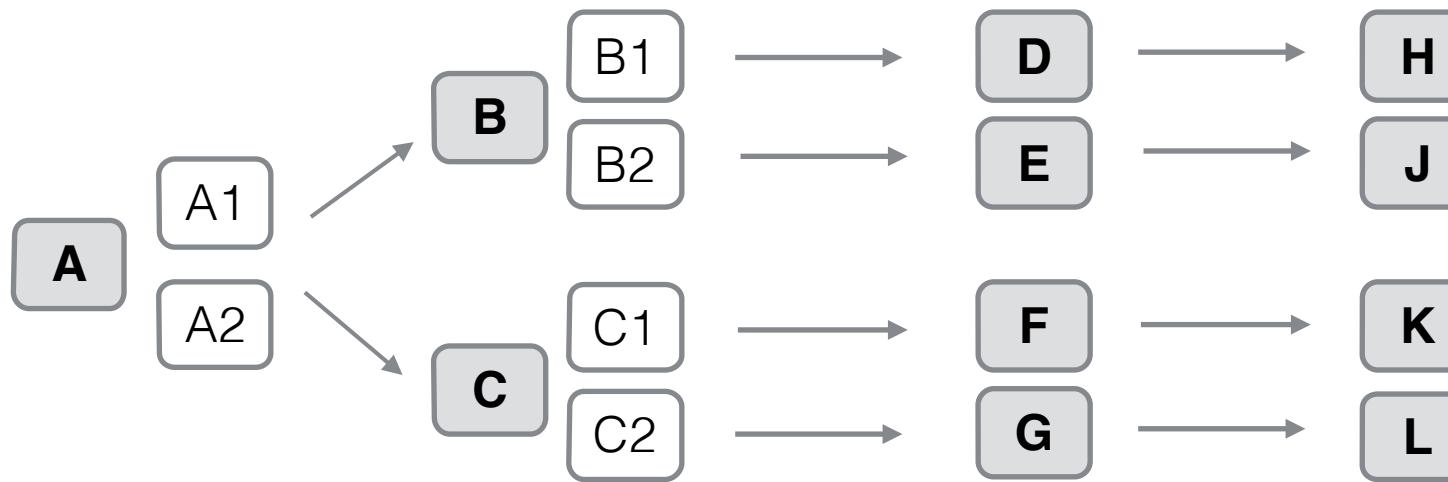


Mystery Tour



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Mystery - navigation example



Point of Interest

Link option



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Game journeys

- Game journeys can get more complex.
 - You can set time on task
 - A question must be answered correctly to progress to the next location and ‘unlock’ the next tasks
 - Collaborative tasks between gamers (groups of learners)
- Think of ways you can make your journey a game *in relation to the technology you have available*
- Pedagogies to research: mobile, location based, gamification



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Rules

In an Adventure players can play one of four roles. Each role needs to complete its own mission and can collect skills to get stronger. Players need these skills to open tasks. At locations you place different tasks, hints and skills. An Adventure is won by scoring as many points within the playing time.

Here are the rules:

- A total of four different roles can be configured - set a name, picture and description.
- The visibility of tasks on locations can set for different roles.
- Players can acquire up to four different types of skills by picking them up on location or by earning them when completing a task.
- When players come near they enter into a confrontation. The total value of all the skills determine if you win a confrontation.
- You win or lose 10% of your current score in confrontations
- In a confrontation you are unaware of the other player's strength, so players never know who will win.

Select a Genre for your Scene. The Genre defines the type of Scene, is it a Tour or a Game?

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Adventure

Instead of roles we could have topics in the same locations, for example the modern journey, the historical journey, the business journey, the entertainment journey.

Making simple SLJ auras (say 3 each for each location). You could motivate learners by encouraging them to collect photographs or video clips, or answer questions only available at one location for each aura, and include all the options.

You could reward learners with an hour off study, some free online resources on their module, or a session at the swimming pool. You could even include this in formal assessment. Be inventive!



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Learner directed journeys

- A learner directed journey is more complicated but can be very engaging and interesting for the learner.
- You might start the learner at location A with the task of selecting a topic and ‘finding’ a series of locations to create some learning content – the learner themselves is tasked with making the content.
- They then have to find good knowledge content online that they can share to the location in some way. They might also be asked to make their own video or upload their own photographs to some platform and share to other learners in the group. If everyone in the group is doing this, you soon end up with learning locations which might offer multiple journey configurations.
- Pedagogies to research: mobile, location based, gamification, guide on-the-side, student directed, student as producer, creative pedagogy



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Facilitating smart learning: tasks

- Tasks can be an overall activity supplemented with interaction tasks for each Point of Interest
- Tasks can be set individually for each Pol
- Tasks can be determined by content created or found by the learners
- Tasks can be group or individual, or a mixture



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Facilitating smart learning: tasks

- Set tasks that require collaboration and active learning
 - Regular contact with the tutor?
 - Regular input from group members?
- Active knowledge developing, building and sharing
- Self and peer critique and review



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Facilitating smart learning: communication

- Facilitating learning ***from the tutor perspective*** in smart learning journeys can take different forms:
 - Tutor contributes to collaborative group work
 - Tutor keeps up to date and take part in Pol discussions
 - Tutor offers out-of-hours feedback using online chat, e.g. Hangouts or Edmodo Messenger
 - Setting tasks that require contact between tutor and the student



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Smart learning and accessibility

- Accessibility and disability - *sight, sound, mobility and physical access*
 - Use common sense to provide suitable materials if required
 - If physical access is problematic, find alternatives
-
- Accessibility and online considerations
 - Core Usability
 - Online browser tools such as WAVE or Fangs (Firefox)
 - Providing *equivalency* in smart learning



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Learning Design and Content

- Type and amount of content is determined by learning design
 - *The more complex, the more content*
 - *The more expert, the more content*
 - *The more tasks, the more content*
- Therefore, think carefully and plan the design in relation to how content will be created and deployed



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Background: Design

- **Usability & User Interface Design** <https://www.usability.gov/what-and-why/user-interface-design.html>
- **What is Instructional Design?** <https://www.instructionaldesigncentral.com/whatisinstructionaldesign>
- **Learning Experience Design** <http://www.learningexperiencedesign.com/learn.html>
- **Universal Design for Learning** https://en.wikipedia.org/wiki/Universal_Design_for_Learning
- **What is Universal Design for Learning?** <http://www.udlcenter.org/aboutudl/whatisudl>
- **Designing A Learning Journey** <http://smartlearning.netfarms.eu/designing-a-learning-journey/>



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Background: Accessibility

- **Web Accessibility Evaluation Tools List** <https://www.w3.org/WAI/ER/tools/>
- **Web Accessibility Checker** <https://achecker.ca/checker/index.php>
- **Web Accessibility Evaluation Tool (WAVE)** <https://wave.webaim.org/>
- **Fangs Screen Reader Emulator (Firefox Add On)** <https://addons.mozilla.org/en-GB/firefox/addon/fangs-screen-reader-emulator/>

