

Methodics of Game Evaluation Based on Implicit Feedback

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What is it?

Learning Case Mining - A method for evaluation of gameplay learnability in games during development, based solely on eye tracking data and user interaction.

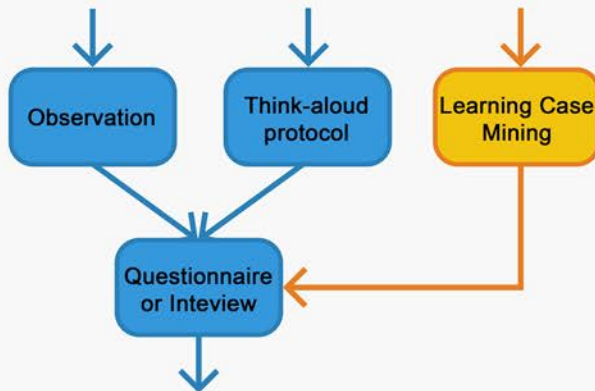
Who is it for?

For game designers to use during development.

Why?

To determine the problems players have when learning to play a game, and to determine the source of these learnability deficiencies.
To provide an easily scalable source of feedback without it influencing the way the players play the game.

Integration in playtests



★ Gaze tracking provides insight into the mental processes of the player

Players must come in contact with the tested gameplay mechanic/dynamic for the first time during the test

A pilot playtest is recommended to verify the design of the learning cases

Learning Case

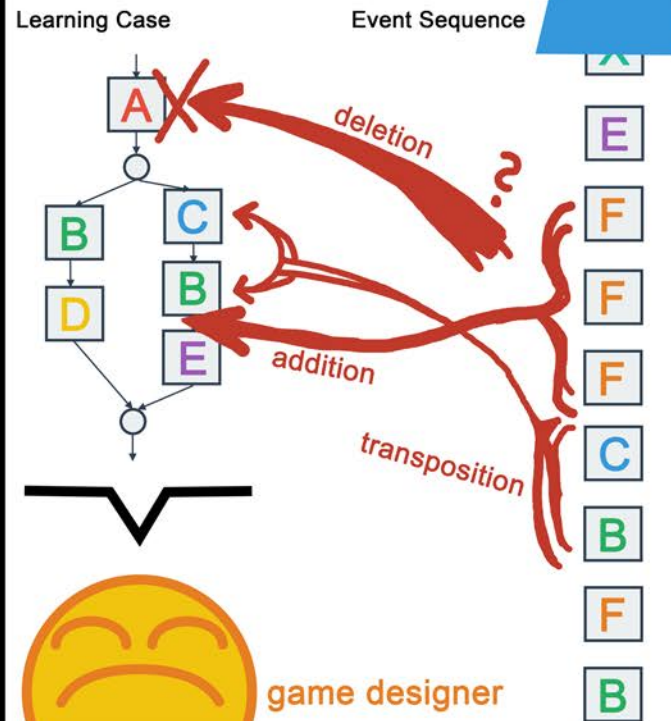
Model of an interaction between the game and players, objective of which is to teach players certain game mechanics or game dynamics.
They are created by game designers before the execution of the playtest. We represent them as UML activity diagrams.

Event Sequence

Collected during a playtest. Events can be gazes upon the game interface, inputs, or custom events collected from game logs.



Matching the model with playtest results:



Experiment

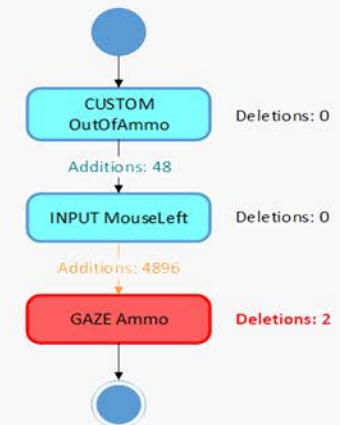
2 games in development
10 participants (3 casual, 4 core, 3 hardcore players)
5 learning cases (2/3 per game)

Players were let to interact with the games as they naturally would. There was no strict time limit. Gameplay lasted from three to five minutes per game.

Additional feedback about the player's experience with the tested gameplay mechanics/dynamics was collected via a video review of the playtest session with the participant, and an interview.

Results

The evaluated LCM method results enabled us to discover problems with learnability and their sources similarly to the rigorously collected explicit feedback, which was collected for the purpose of the comparison.



Exemplary evaluated learning case. Players had problems with noticing their depleted ammo.