Script & Slide Outline
10 Minute Presentation and 5 minutes for Questions

START
Me
“Hello everyone, I am Chance Womack and as I have said many times, I just want to make video games.”

The Paper
“Today I am presenting on the research paper titled ***Game Software Engineering: A Controlled Experiment Comparing Automated Content Generation Techniques***.”

- SLIDE: show title and authors and keywords

What are they doing
“The conductors of this study were attempting to investigate the perception of content produced using the generation techniques of PROCEDURAL GENERATION and REUSE-BASED GENERATION.”

“PROCEDURAL generation is the method of using conditions and variables defined by the developer to produce a desired product.”

“REUSE-BASED generation refers to the process of using aspects from existing products and adding them to a new host to produce new content through that combination.”

How did they test it
“To achieve this, they set up their study with the participation of 44 subjects profiled as either a DEVELOPER or PLAYER. These participants were set to play the video game KROMAIA, which had the players traverse a level in a spaceship and combat a BOSS at the end of each level. This BOSS is the product of the content generation techniques.”

“To profile the participants, the conductors had them fill out a questionnaire asking about things such as; their experience in playing games similar to KROMAIA and their experience in game development. Part of the experiment was to also measure how these experiences could possibly influence their opinions on the generation techniques.”

- SLIDE: Participant Breakdown
    - 12 Professional Devs
    - 34 third year undergraduate students - In particular, part of those students are specifically studying video games design and development.

“Now, each time the participants played a level, they were NOT informed of which generation TECHNIQUE would be used for the boss.”

- SLIDE: Screenshot of KROMAIA

“A developer of the Game contributed to the experiment by creating a TEST SCENARIO of the game, a smaller version of the game so to speak. In this scenario the players would be given a tutorial of the game's functions and then play a short level and fight one of two bosses selected by the developer as the “best” bosses produced using the two different generation techniques.”

“The participants were then questioned on the dimensions of DIFFICULTY, DESIGN, FUN, and IMMERSIVENESS. With Difficulty being measured using three variables.”

- SLIDE: Some visuals showing the dimensions…

“Game duration is the average time spent by each participant in their games. The value of this variable was calculated by dividing the time each participant spent playing with a boss by the number of games played against that boss.”
“Won rate is the percentage of games won by a player out of all games played against a boss, calculated by dividing the number of games won by the number of games played against a boss.”

“The difficulty variable of BOSS DIFFICULTY and dimensions of DESIGN, FUN, and IMMERSIVENESS were all measured using 7-item Likert-type questionnaires with different items for each topic.”

- SLIDE: Image of **TABLE 1**

“Alongside these variables, participants were also asked to fill out an open question to provide additional comments. These responses were then rated by the conductors on the base of LENGTH and TYPE. With TYPE referring to a category based on how closely the comments related to the topic of evaluating the boss itself.”

What were their findings
“Ultimately, the study resulted in support for the claim that the boss generated by REUSE Based Generation is of superior quality in comparison to the PROCEDURALLY generated one.”

“They could not reject the NULL hypothesis for their second research question, meaning they could not state that the PROFILE of the participants had a significant impact on their opinions. However, developers did provide notably better details in their comments.”

“RCG obtained better results than PCG in 77% of the cases based on difficulty, in 34% cases for design, in 28% cases for fun and 5% for immersiveness.”

NOTES

What is the paper i am covering

- Title; Game Software Engineering: A Controlled Experiment Comparing Automated Content Generation Techniques
- Authors
    - Mar Zamorano
    - Carlos Cetina
    - África Domingo
    - Federica Sarro
- KEYWORDS; Empirical Study, Game Software Engineering, Video Game

What are they talking about

- Our goal is to analyze different techniques for content generation, namely Procedural Content Generation (PCG) and Reuse-based Content Generation (RCG), for the purpose of comparison, with respect to perceived quality; from the point of view of of players and developers; in the context of content generation for an existing video game.

- The Authors are carrying out this research in the efforts to advance the use and applicability of empirical data in the field of Game Software Engineering (GSE)
- Aims Our goal is to carry out a rigorous empirical evaluation of the latest proposals to automatically generate content for video games following best practices established in software engineering research. Specifically, we compare Procedural Content Generation (PCG) and Reuse-based Content Generation (RCG). Our study also considers the perception of players and professional developers on the generated content.
- Subjects questioned on the topics of;
    - ‘difficulty’, ‘design’,‘fun’, and ‘immersiveness’ (Offer definitions in slides???)
    - Participants were not told how the content they experienced was generated.
- conducted three distinct sessions, one for players and the other two for developers, in order to investigate whether the profile of the participants assessing video games influences their perception. A total of 44 participants took part in the experiment, assessing the generated content in two scenarios of the game.
- Have a Slide Overviewing the two methods
    - PCG
    - RCG
- They have both groups play the game Kromaia

What are their metrics

- Using the Goal Question Metric (GQM) template
- A test group of 44 subjects featuring a mix of developers and players
- Comparing the reactions/opinions from the two “subject profiles” in regards to the two methods of content generations on whether or not the two methods have a significant impact on the quality of the generated content
- At the end of every level of Kromaia, the player engages in a generated Boss Battle…

What were their conclusions

- According to the subjects; RCG > PCG
- RCG obtained better results than PCG in 77% of the cases based on difficulty, in 34% cases for design, in 28% cases for fun and 5% for immersiveness.