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| **Data Extraction Form** | | | | | | | | | | | | | | | | | | | | | | | |
| **Title** | An Automated Model Based Testing Approach for Platform Games | | | | | | | | | | **Authors(s)** | | Simon Varvaressos, Kim Lavoie, Alexandre Blondin Massé, Sébastien Gaboury, Sylvain Hallé | | | | | | | | | | |
| **Year** | 2015 | | | | | | | | | | **Venue** | | * Journal | | * **Conference** | | | | | * Other \_\_\_\_\_\_\_\_\_\_ | | | |
| **Quality Assessment criteria** | | | | * **QC1** | | | | * **QC2** | | | | | * QC3 | | * QC4 | | | | | * **QC5** | | | * QC6 |
| **Inclusion Criteria** | | | | * IC1 | | | | * IC2 | | | | | * **IC3** | | | * **IC4** | | | | * IC5 | | | |
| **Exclusion Criteria** | | | | * EC1 | | | * EC2 | | * EC3 | | | | * EC4 | * EC5 | | | | | * EC6 | | * EC7 | | |
| **Approach Used**   * **Supervised Machine Learning algorithms (Model based testing)** * Unsupervised Machine Learning algorithms * Natural language processing * Deep Learning algorithms * Data mining based techniques * Statistical Method * Tool * Other (using Game loop video) | | | | | | | | | | **Type of Solution** | | | | | | | | **Yes** | | **No** | | **Unclear** | |
| Novel Technique (Method, Tool, Technique) | | | | | | | | Check mark, Wingdings font, character code 252 decimal. | |  | |  | |
| Evaluation of existing techniques  (Evaluation framework, tool, platform) | | | | | | | | Check mark, Wingdings font, character code 252 decimal. | |  | |  | |
| Supporting techniques | | | | | | | |  | |  | | Check mark, Wingdings font, character code 252 decimal. | |
| **Review dataset** | | **Total number of apps** | | | | 2D and 3D games | | | | **Evaluation Method Used** | | | | | | | | N/A | | | | | |
| **Total number of crawled reviews** | | | | N/A | | | |
| **Year** | | | | 2015 | | | |
| **Research Type Facet**   * Validation Research * **Evaluation Research** * **Solution Proposal** * Philosophical Papers * Opinion Papers * Experience Papers | | | | | **Solution Type**   * **Single** * Hybrid/Integrated | | | | | | | **Contribution**   * Technique * Tool * Comparison * Model * Framework * Prototype * **Taxonomy** | | | | | **Evaluation Strategy**   * **Case Study** | | | | | | |
| **Features used**   * Categorical * **Textual** * Both | | | | | | |
| **Factors Considered** | | | Model based testing to model the conceptual and behavioral details to be tested | | | | | | | | | | | | | | | | | | | | | |
| **Notes** | | |  | | | | | | | | | | | | | | | | | | | | | |
| **Limitations** | | | * Focused only on functional testing of the game * Developers have to develop separate test ready models * No work on bug reports and it’s identification | | | | | | | | | | | | | | | | | | | | | |
| **Description / Summary** | | | The paper provides a detailed modeling methodology to support automated system-level game testing. As part of the methodology,  they provide guidelines for modeling the platform games for testing using our proposed game test modeling profile. They have used domain modeling for representing the game structure and UML state machines for behavioral modeling. They presented the details related to automated test case generation, execution, and oracle generation. Demonstrate their model-based testing approach by applying it on two cases studies, a widely referenced and open source implementation of Mario brothers game and an industrial case study of an endless runner game. | | | | | | | | | | | | | | | | | | | | | |