**Automated Narrative Generation**

* Ammanabrolu, P., Broniec, W., Mueller, A., Paul, J. and Riedl, M.O., 2019. Toward automated quest generation in text-adventure games. *arXiv preprint arXiv:1909.06283*.

Automated narrative generation for in-game scenarios was explored as an alternative to manual generation, for the purpose of saving time and reduction of scope. This paper showcases automated quest generation methods in text adventure games. The authors present and evaluate games using two generation techniques: (1) a Markov model, and (2) a neural generative model. Results are measured using four metrics: coherence, unpredictability (surprise), novelty (originality) and value (accomplishment). The authors conclude that their automatically generated games *“consistently perform at least as well as human designed games”* and state that *“the generative process can be automated without a loss in perceived game quality”.* It is noted, however, that both generation techniques require continuous fine-tuning of data at various stages of the process. Thus, the conclusion is reached that implementation of automated narrative generation is an involved and resource consuming effort, therefore contradicting the original goal of a time-saving method to generate narrative for the project. Implementing automatic narrative generation would perhaps be more suited to projects with greater scope, or in an environment where the system would be used in the generation of multiple games.

**Game Experience Measurement (Questionnaire)**

* Poels, K., de Kort, Y.A. and IJsselsteijn, W.A., 2007. D3. 3: Game Experience Questionnaire: development of a self-report measure to assess the psychological impact of digital games.

This paper discusses game experience measurement, mainly through the form of a Game Experience Questionnaire (GEQ). The GEQ is intended to be a *“freely available and widely applicable measure which allows researchers to obtain a reliable and valid indication of participants’ subjective experiences associated with digital gameplay”* The authors outline several criteria or properties which show a good measure of game experience. These are reliability, validity, sensitivity, robustness, non-intrusiveness, and convenience.

* **Reliability** – *consistent data*
* **Validity** – *relevant data*
* **Sensitivity** *– take things into consideration*
* **Robustness** – *enough data measurements*
* **Non-intrusiveness** – *don’t distract from task at hand*
* **Convenience** – *simple, easy, cheap*

These criteria will be applied where possible in the creation of the questionnaire for purposes of evaluating the project.

**Player Modelling**

* Quick, J.M. and Atkinson, R.K., 2011, June. A data-driven taxonomy of undergraduate student videogame enjoyment. In *Proceedings of the 7th international conference on Games+ Learning+ Society Conference* (pp. 185-190).
* Kahn, A.S., Shen, C., Lu, L., Ratan, R.A., Coary, S., Hou, J., Meng, J., Osborn, J. and Williams, D., 2015. The Trojan Player Typology: A cross-genre, cross-cultural, behaviorally validated scale of video game play motivations. *Computers in Human Behavior*, *49*, pp.354-361.

*Quick, J.M. and Atkinson* present a study into various taxonomies of player types. One of the earliest and most well know is Bartle’s (1996). It provides one of the most simplistic and succinct categorisations of players – achiever, explorer, killer and socialiser. The categories find strong relevance in a multitude of different games and genres.

Following from Bartle’s (1996) work, Heeter (2008) expands the number of player types to 13. Various other works expand on the core taxonomies, each brining a unique and novel addition to the previous. Over time, taxonomies develop into more specific sets, and becomes more tailored to certain types of games. While more differing taxonomies appear, their core values and principles stay the same, and *“the past and present game design taxonomies show stark similarities”.*

*Kahn, A.S., et.al.* present an interesting take on player typology. The authors study two cases involving two different game types in two wildly different global markets: (1) *League of Legends* and (2) *Chevalier’s Romance Online 3*. The paper presents a “Trojan Player Typology” which is applied to both cases. It consists of 6 categorisations: socialisers, completionists, competitors, escapists, story-driven and smarty-pants. Some of the categories overlap with taxonomies such as Bartle’s (1996) while others present an interesting and unique take on player categorisation. The more notable among which are:

* **Escapists** – *“I like to do things in games which I cannot do in real life”, “Video games allow me to pretend I am someone/somewhere else”*
* **Smarty-pants** – *“Games make me smarter”, “I play games to enhance my intellectual abilities”*

Both papers provide interesting an unique classifications of player typology which will be applied where possible in the player modelling stage of the project.