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UGC Generator: An Open Access Web Tool to Model Unified Game Canvas

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Abstract. Game Design Canvas (GDC) is a framework that can be used to define fundamental game elements, and is able to provide a general view of a game designer idea. Unified Game Canvas (UGC) combines common GDC characteristics in a 5W2H perspective, increasing the design possibilities for a GDC creation of a desired game. This paper presents the UGC Generator, a simple and interactive open access web tool that helps game designers to fill UGC panels and to provide UGC models in a fast and dynamic way.

Keywords: Game design canvas · UGC · Open access web tool.

1 Introduction

Game design can be defined as “the act of deciding what a game should be” [6]. It is an important step to view the game as many perspectives as possible [6], working as a planning/documentation step in the process of creating desired analog/digital games.

Among the different ways of creating game design documents, Game Design Canvas (GDC) is a framework that can be used to define fundamental game elements [8]. It allows a quick synthesis of game ideas that will be developed, showing the game project overview in a unique design panel [7]. GDC also describes the information in a systemic, integrated and quick way, showing perceptions about how the developer team should act to compose the desired game [7].

Several types of design canvas were proposed to define the necessary information to model a GDC, being a little exhausting to choose which fits better in a desired game project. As a result, the Unified Game Canvas (UGC) [5] was proposed to provide an unified canvas model for game designers. It organizes the modeling information found on available GDCs in a 5W2H perspective [3, 2, 1], achieving as a result a fast modeling of fundamental game elements available in important GDC models [5].

This paper presents the UGC Generator, an open access web tool for the production of desired UGC models. It is a simple and interactive modeling tool that helps game designers to fill UGC panels and to provide UGC models in a fast and dynamic way.

2 The Unified Game Canvas (UGC)

5W1H is described [3] as a document that, through questioning, identifies actions and responsibilities able to guide what should be developed. Those questions are: “What?”, “Why?”, “Where?”, “When?”, “Who?” and “How?” [2]. Later, Candeloro [1] suggest the inclusion of another questioning: “How much?” (the cost), generating the 5W2H tool.

For the UGC model, 5W2H is used as a game design information classifier, which should be related to: representation (*what*); responsibility (*who*); decision making (*when*); motivation (*why*); execution (*where*); production approach (*how*); and business (*how much*) [5]. This information is organized in panels, that must be fulfilled by the game designer to start the development of a game.


Eight panels are proposed by the UGC [5], which should be filled in the following way:

- **Game Impact:** defines what the game must bring to the player, highlighting motivations and reasons of emotion, fun and learning;
- **Game Concept:** seeks to attend the demand in identify the game responsibility, highlighting their name, objective, intention and inspiration to the game being created;
- **Game Player:** describes the information about who is playing the game, varying from player ages to possible community involved;
- **Game Play:** describes the game representation, highlighting their start, middle and end steps according limitations and rules inside a defined game space;
- **Game Flow:** seeks to represent the game time experience of the player, highlighting the repetition loop, the permanence in the playing act and the concept of “my turn to play”;
- **Game Core:** indicates elements for the game building, describing mechanics for the game rules, dynamics for game systems and the aesthetics for modeled game components;
- **Game Interaction:** presents the execution environment of the game itself, varying in platforms, implementation resources and technology involved; and
- **Game Business:** indicates financial concerns and the market view of the game.

3 The UGC Generator

Developed by the integration of web technologies, the UGC Generator, which is available at <https://ugc-generator.herokuapp.com/>, starts on a screen that shows UGC panels waiting to be filled (Fig. 1). Each UGC panel contains fields with placeholders that give hints about the information that is expected to be filled by the user. The user is free to fill the panel with any necessary information for the game design.

If a UGC panel has too many information, the application will reduce the text font size to fit all in the respective panel, when the PDF is generated. The



Unified Game Canvas (UGC) Generator

[Load Json File](#)

Game Impact

Emotion, Fun, Enjoyment, Learning, Behavioral Changes, Sociability, Metrics

<p>Game Concept</p> <p>Name, Title, Version</p> <p>Objective, Intention, Idea</p> <p>Theme, Story, Inspiration</p> <p>Genre, Type</p>	<p>Game Play</p> <p>Start, Intention-Flow, End, Win Condition</p> <p>Rules, Options, Powers, Behaviors</p> <p>Goals, Mission, Challenges, Enemy & Boss</p> <p>Boundaries, Space, Level Design, World</p> <p>Resources, Objects, Scene, Window</p> <p>Components, Play Elements</p> <p>Punishment, Failure</p> <p>Reward, Improvement</p>	<p>Game Flow</p> <p>Loops, Turns</p> <p>Time, Randomness, AI</p> <p>Choice, Decisions, Uncertainty, Anticipation, Experience</p> <p>Skill Challenges, Incentive, Longevity</p>	<p>Game Core</p> <p>Actions, Mechanics</p> <p>Effects, Dynamics</p> <p>Elements, Cut Scenes, Aesthetic Layout</p>	<p>Game Interaction</p> <p>Platform, Accessibility, Operational Systems, Technology, Frameworks</p> <p>Controls, I/O Devices</p> <p>Settings, Single or Multiplayer</p> <p>Cameras, Menus, UI</p> <p>Feedback, Scoring</p>
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Game Business

Minimum Viable Prototype, Cost, Revenues, ROI, Channels, Positioning, Bonus Material

Type your email to retrieve the files.

[Generate](#)

Fig. 1. UGC Generator website.

“*Generate*” button (end of the page) produces the respective UGC PDF with all panel information, which can be download immediately. The user can also provide an email to receive the UGC PDF, together with an extra JSON file.

A JSON file represents each subsection that the user can fill in a UGC panel. It provides the necessary content to load the UGC model and perform desired changes on it. To upload an UGC JSON file for edition, is necessary to press the “*Load JSON file*” button (top of the page) and select the desired file to upload.

Regarding the UGC Generator usage, it was successfully applied in the *Master of Process* game design [4]. It is a paper-based board game developed to teach how to take decisions during software project phases, where you can hire, fire and train employees in development activities. The filled UGC for this game can be checked in <https://ibb.co/8B8qwjJ>.

4 Conclusions and Future Work

This paper presented the UGC Generator, an open access web tool able to create and edit UGC models in a fast and dynamic way. For that, the UGC design canvas was described, together with the main functionality of the proposed tool.

The UGC Generator is in an initial development version, but already presents a useful resource to optimize the time of anyone who needs to design games and their features, without having to worry about small details and the canvas formatting.

As future work, some features will be changed to make it more suitable and comfortable for their users, such as personal user account, usage monitoring and usability assessment, for example. The integration with game patterns, game elements and game features, showing possible contents to be filled in a respective panel, will be also performed in the future.

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