Resources for Co-Designing Games with Children

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1 Introduction

As part of a co-design project, we designed and assembled a kit of resources for co-designing games with children. This kit is intended for researchers or designers who wish to co-design computer games with children. Moreover, our kit is specifically focused on raising interest and understanding of game design among the participants, and has been tested with girls aged 11-12.

In this document, we describe each of the resources, their goal, and how to use them. We anchor our resources in the game design process presented on figure 1, and based on a process with an emphasis on learning [1].
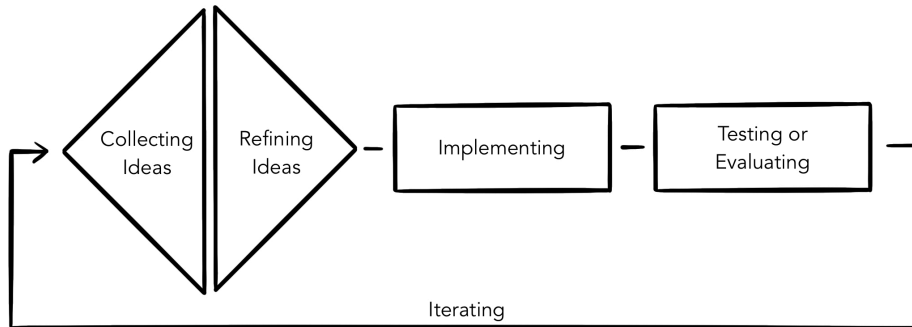

Figure 1: Game design process

2 How to use the kit?

In this section, we describe the different resources composing our kit, and how to use them. All the resources can be found in a usable form in the appendix. For all the resources, we used a minimalist yet engaging style, to give space to the participants to appropriate the resources. To support this, we recommend providing colored pens as well as stickers during the sessions.

2.1 Game pillars template

This template is used to describe a game idea and provides a visual help of all the elements needed in the game. It is composed of several levels, from general, at the top, to specific, at the bottom. In the upmost level, the participants describe the main game idea in one sentence. In the different levels, the participants specify different elements of the game concept and game universe. We present an example on Figure 2.

Who? We recommend using this template for co-design sessions with children participants, ages 9 to 16, in groups of 4 or 5.

When? This template is used after a phase of idea generation, as a phase of idea refinement, to specify the main game ideas in more depth.

Why? The goal of this template is to structure and concretize a game idea, and foster converging conversations about the most important aspects of this idea.
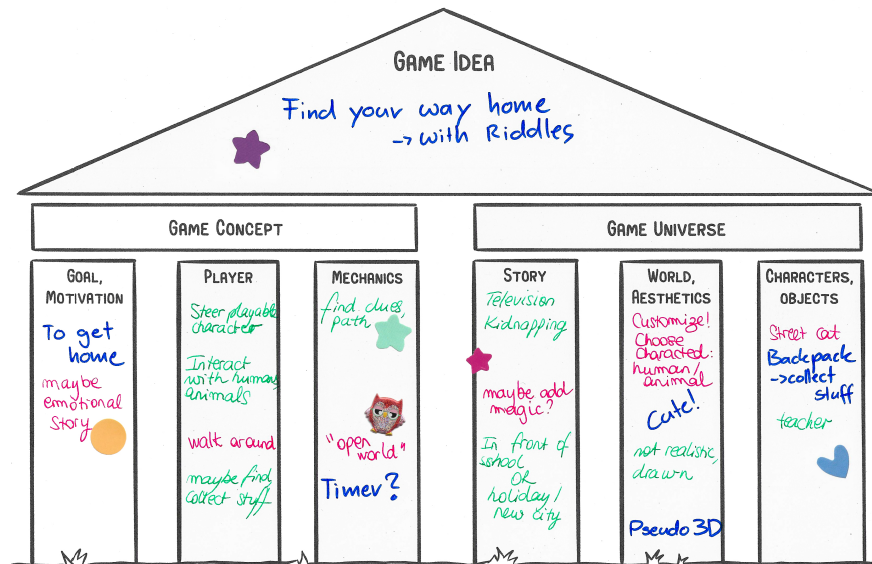

Figure 2: Game pillars template - Example

How? To the discretion of the person leading the session, and based on the outcome of the preceding idea generation phase, this template can be used

in either a bottom-up approach or a top-down approach. If the participants have a clear general idea, but struggle to concretize it, a top-down approach is preferred. However, if the participants focus on details and struggle to organize these into a general direction, a bottom-up approach should be selected. We recommend printing the template on a large piece of paper, and gather the participants around it. Through conversations, the participants define and select the different elements, and once agreement is reached, write the conclusions on the template. It is also possible to pre-fill the template with sticky notes from the idea generation phase to support the conversation. In the following, we offer suggestions on how to use each of the sections of the template. Based on the level of guidance needed by the participants, the template can be used blank, or prefilled with questions and suggestions such as the ones from this list:

- Game Idea: A one sentence summary of the game idea. What is the core value of this idea? What is its novelty?

- Goal, motivation: How does the player win? Why does the player want to win? What does the player have to achieve?

- Player: Who or What and does the player play? What can the player do? How does the player interact with the game?

- Mechanics: Which decisions and actions can the player take? What are the rules of the game?

- Story: What is the general background of the story? What is the background of the characters?

- World, aesthetics: How does the game world look like? How does the game interface look like?

- Characters, objects: Which characters and objects are there? How can the player interact with them?

2.2   Feedback template

This template is a general template to gather feedback at different phases on the co-design process. We present an example on Figure 3.

Who?   We recommend using this template for co-design sessions with children participants, ages 9 to 16, in groups of 2 or 3.

When?   This template is used during the phases of prototype testing and playtesting.

Why?   The goal of this template is to gather feedback related to a specific question, and suggestions on how to improve the current prototype, focusing on weaknesses as well as strengths.

Figure 3: Feedback template - Example

How? To use this template, we suggest defining a clear and specific focus point, for example the game mechanics or the game universe. In a first phase, upon testing, the participants fill in the first column on the template, listing all the strengths and weaknesses of the current prototype. Once this phase is completed and the testing is over, the participants discuss and complete the second column of the template in order to make the strengths of the prototype even more prominent, and to correct course on the weaknesses.

2.3 Playtesting template

This template is specifically designed for a final evaluation of the created game, but can also be used in intermediary steps if relevant. We present an example on Figure 4.

Who? We recommend using this template for co-design sessions with children participants, ages 9 to 13, in pairs.

When? This template is used in the final stage of the project, to evaluate the resulting game.

Why? The goal of this template is dual: on the one hand, this template should inform the participants and researchers of how players perceive the cur-

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rent version of the game, on the other hand, this template is also useful to teach participants about user studies, how to conduct them, and their importance as different players might have different experiences of a same game.

BEFORE

PLAYER

Age: _12_   Gender: ☒ F   ☐ M   ☐ O   ☐ Not disclosed

Plays video games: *never* 💚💚💚🤍🤍 *very often*

DURING

OBSERVATIONS   *Tip: Tell the player to think aloud*

Comments
Flag unclear, white houses unclear
Scooter: Allow letters to be stacked
Lots of explanation necessary before start
                                    + Map enlargens
Positive aspects
Tiles, Watch, Schedule → cool!
New Letters, Parcel at houses clearly shown
sticker for language is cute

Negative aspects
colors (blue)
clicking on corners / turns is annoying
not clear whether I will be able to finish level

AFTER

INTERVIEW

What was your favorite thing?
Landscape in Level 7 / levels look different

What did you like the least?
colors not different: Blue Vs turquoise

Did the game react as expected?
Yes, but you have to get used to controls

Other remarks?
→ move time for Delivery car

Figure 4: Playtesting template - Example

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How? To use this template, each participant receives a role: *player* or *interviewer*. In the first phase, "Before" on the template, the *interviewer* asks a few questions to the *player*, to better understand their profile. Then the *player* start playing the game, while commenting on their experience aloud. The *interviewer* takes notes on the "During" section of the template. Finally, once the *player* is done testing, the *interviewer* asks the questions from the "After" section of the template, and writes down the answers. If time allows, the two participants then switch roles, and compare the two completed templates and discuss discrepancies.

The template can also be handed to the participants to playtest the game outside the workshop itself with family or friends to gather additional feedback. In this case, the participant always takes the role of the *interviewer*.

3   Future work

In future work, we will translate the kit to different languages. These will be available on the project page. If you would like to contribute by adding a translation in your language, please contact us.

4   Acknowledgments

This kit was created during a project supported by GirlsCodeToo and the ETH Game Technology Center, where we conducted workshops using these resources with the goal of co-designing a computer science learning game with girls aged 11-12. The authors would also like to thank Xenia Augustin and Anna Laura John for their help conducting the workshops, the participants of the workshops for their great ideas and contributions. Moreover, we used the font Earth Spirit from Chequered ink for our resources.

References

[1] Robert W Sumner, Nils Thuerey, and Markus Gross. The eth game programming laboratory: a capstone for computer science and visual computing. In *Proceedings of the 3rd international conference on Game development in computer science education*, pages 46–50, 2008.

A   Appendix

This appendix contains, in order, the following resources from our kit, in English language:

- The Game Pillars template
- The Feedback template
- The Playtesting template

Game Idea

Game Concept

Goal, Motivation

Player

Mechanics

Game Universe

Story

World, Aesthetics

Characters, objects

LET'S MAKE IT EVEN BETTER!

I LIKED...

LET'S DO IT DIFFERENTLY!

I DIDN'T LIKE...

PLAYER

Age: _____   Gender: ☐ F   ☐ M   ☐ O   ☐ Not disclosed

Plays video games: *never* ♡ ♡ ♡ ♡ ♡ *very often*

OBSERVATIONS

Tip: Tell the player to think aloud

Comments

_____
_____
_____

Positive aspects

_____
_____
_____

Negative aspects

_____
_____
_____

INTERVIEW

What was your favorite thing?

_____

What did you like the least?

_____

Did the game react as expected?

_____

Other remarks?

_____
_____