

Game Design Activity #2

Physical Prototyping

Paper prototyping is a universally-appreciated and valued practice of creating play systems using physical materials that allow us to rapidly test and refine game concepts, before we even touch a line of code.

Youth work outcomes

Outcome 7 Young people develop their perspectives through new experiences and learning. (Outcomes 3,4 and 6 of the [National Outcomes and Skills Framework](#) are also relevant to this activity.)

Youth work skills

organisation and planning,
creating change, teamwork,
communication

Set-up

To run this session in a
physical space
you will need:

- Paper
- Pens
- Other creative resources

If online, you could deliver
using Miro,
or equivalent.

Length of session

60 minutes, flexible

About Paper Prototypes

Here are some examples of paper prototypes for games (or game types) that may be recognisable:

- [An interview with Shigeru Miyamoto](#), the creator of *Super Mario Bros.*, talking about his use of grid-based paper to design the levels of the game. Here, Miyamoto mapped out sections of levels to understand scale, movement, and visual challenges associated with the game's development;
- [A physical prototype for *Runsii*](#), an endless runner game in which the player collects coins and avoids obstacles. The prototype uses cut-outs of characters and objects sellotaped to some wiring which people move in expected behaviours to the game. The prototype also features a score counter, power ups, and a menu system. This game is similar to other endless runners such as *Temple Run* and *Subway Surfers*;
- [An adventure game called *The Secret of the Funfair*](#) in which players control a small boy who completes quests to help other characters. This prototype uses a lot of swappable paper assets to update the player on narrative and objectives. This prototype is similar to other adventure games such as *The Legend of Zelda* and *Don't Starve*.

Getting creative

This is a very hands-on exercise and requires some resourcefulness (using what is available to you) and creative thinking (making the most out of what you have available to you). Here, the intention is not to create a “perfect” system or game that represents the final product: this is a primitive representation of what could become part of a final game, with scope for feedback and iteration where necessary.

Allocate some time (recommended between 45-60 minutes) for young people to create their paper prototypes. Encourage young people to think about a specific, simple scenario within their game (perhaps the first level or scene!) and recreate this through a paper prototype format. Some things to consider might include:

- **Rules:** such as how to play, how to set-up, and what is/isn't allowed;
- **Characters:** such as player, enemies, and allies;
- **Backgrounds:** such as in-game, menus, and cut-scenes;
- **Mechanics:** such as movement, collection, and selecting;
- **Story:** such as narrative, speech bubbles, and text boxes.

Once paper prototypes have been created, it is important that these are now *tested* to evaluate whether the prototype works as intended (and, therefore, is good game design!) To make our game the best that it can be, we need to test games with players and capture what they think, such as:

- **Player Preferences:** what the player likes or dislikes about the game;
- **Capabilities:** what the player can or cannot do within the game based on skill/ability and challenge/difficulty;
- **Communication:** what the player notices or misses within the game;
- **Ideation:** what the player recommends or suggests to improve the game.

In turns, young people should present their paper prototypes to their peers and collect as much feedback as possible. Feedback should be encouraging and respectful: comments such as “this is rubbish” or intentionally breaking game pieces is not good feedback! This can be collected by asking questions and writing down the responses, as well as making observations based on how players respond to the prototype. One way to collect feedback is to complete the table below.

Based on the feedback provided, young people should be encouraged to iterate upon their designs by making changes to the existing paper prototype. (Digital or non-digital, this is the fundamentals of game development!)

Feedback table

What were your **first impressions**
(and how, if at all, did that change as you played)?

What was the **most exciting** moment from the game?

What did you find **most frustrating** about the game?

What was your **strategy for winning** (did it work)?

What **one element would you change** and why
(rules, difficulty, mechanics, etc.)?