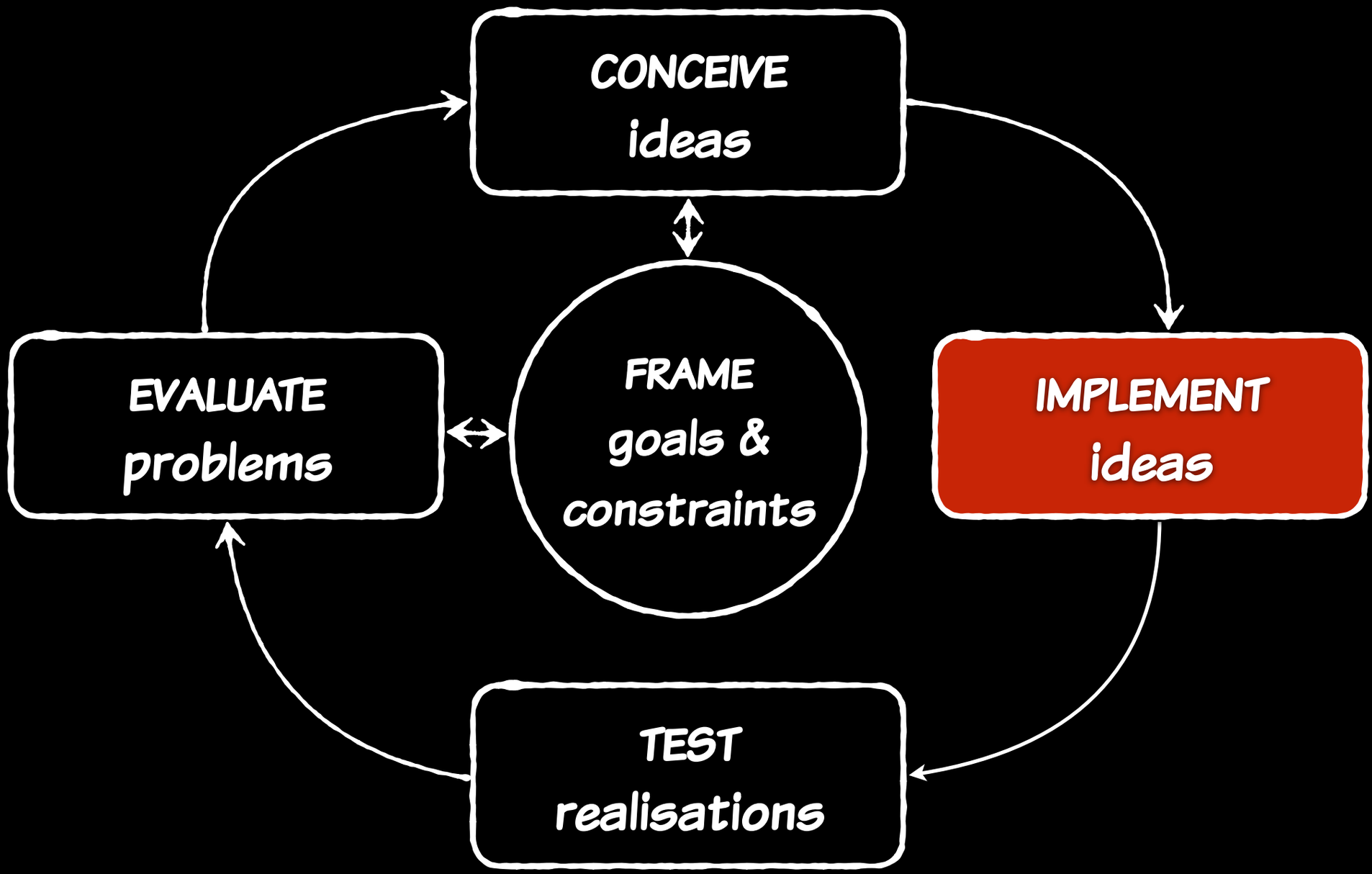
01.08
PROTOTYPING

Transformational Play

Sebastian Deterding
Imperial College London


CONCEIVE
ideas
EVALUATE
problems
FRAME
goals &
constraints
IMPLEMENT
ideas
TEST
realisations

WHAT IS PROTOTYPING?

The minimum viable experiment to test a possible answer to an open design question

- **Gotta have a question**
- **Gotta have a possible answer**
- **Gotta have criteria to evaluate**
- **Gotta be adaptable to quickly play around with**
- **Gotta be The Least You Can Do™**

IDENTIFYING OPEN QUESTIONS

Identify open design questions

A game developer presents the following pitch to you:

Kitty Submarine is a twitch-play Oculus Rift Couch-Coop for three or four teenage girls full of frantic collaboration. Players embody passengers on a decommissioned submarine remodelled into a Hello Kitty advertisement accidentally getting into a real sea fight. Players have to man periscope, sonar, rudder and repair and shout commands at each other in real time to keep the sub running and get out alive.

List risks in project management, game design, development, art, writing, UI, QA, business.

"THE FORMAL LOOP"

1. State the problem.
2. Brainstorm some possible solutions.
3. Choose a solution.
4. Break that solution into testable risks.
5. Build prototypes to mitigate the risks.
6. Test the prototypes. If they are good enough, stop.
7. State the new problems you are trying to solve, and go to step 2.

IDENTIFYING MINIMUM EFFORTFUL PROTOTYPES

DO THE LEAST

YOU CAN DO™

Identify minimum effortful prototypes

Identify the least you can do to learn about the risk:

Business: Is there a market for Crypt of the Necrodancer?

Game design: Will adding these new streets unbalance Monopoly?

Game design: Does this tutorial explain Minimetro?

Game design: Will purchasing power-ups make Super Mario Bros. less fun?

Art: What rendering best retains a comic-book-feel?

UI: Is the menu handling the Resident Evil inventory usable and intuitive?

UI: Which camera position is easiest to use for Resident Evil while retaining a scare factor?

Writing: Does this plot evoke empathy for our main character?

»Build the toy first.«



JESSE SCHELL
the art of game design (2014: 106)

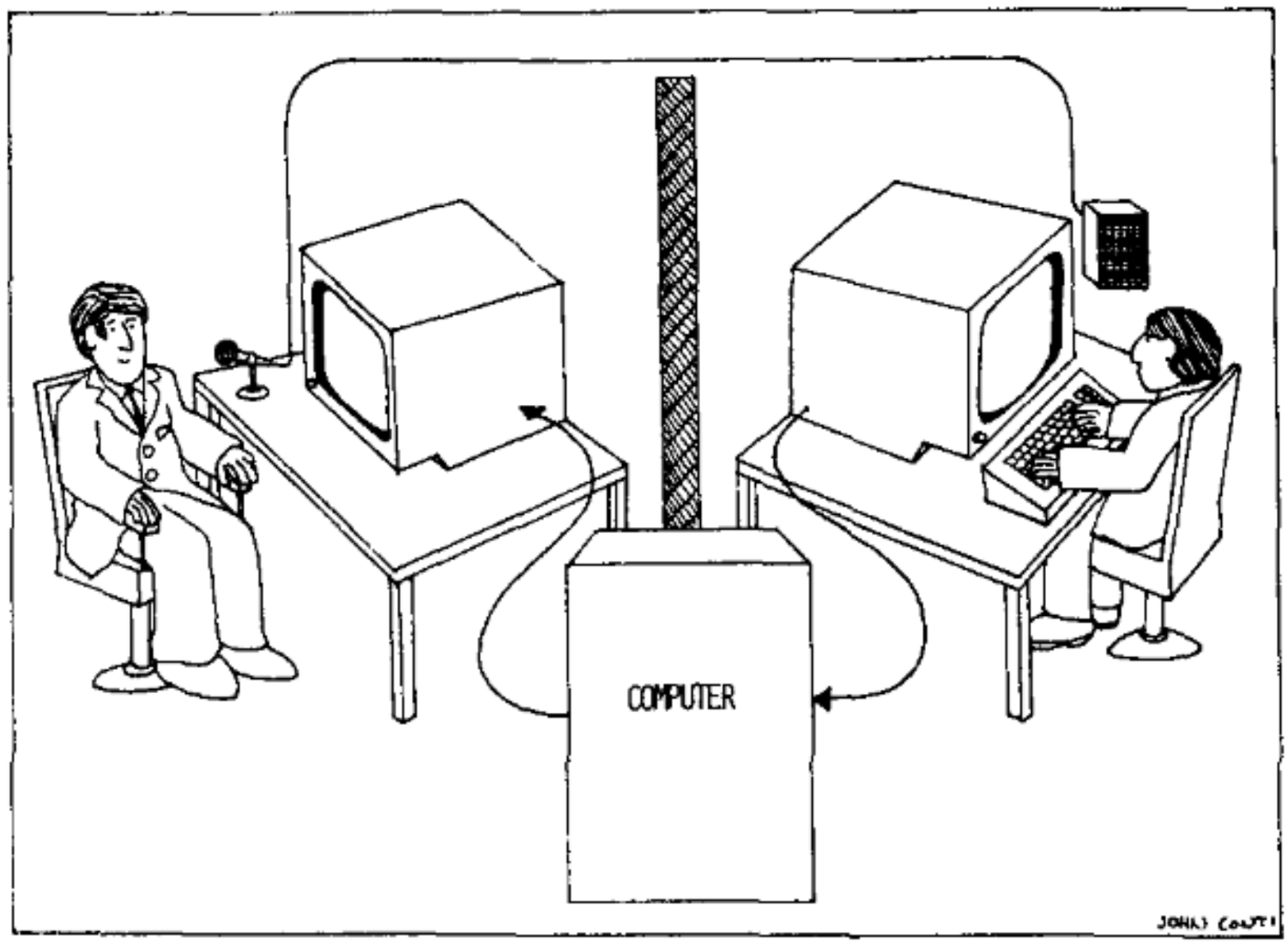


Katamari Damacy
Keita Takahashi/Namco (2004)

What's the
CORE MECHANIC?*

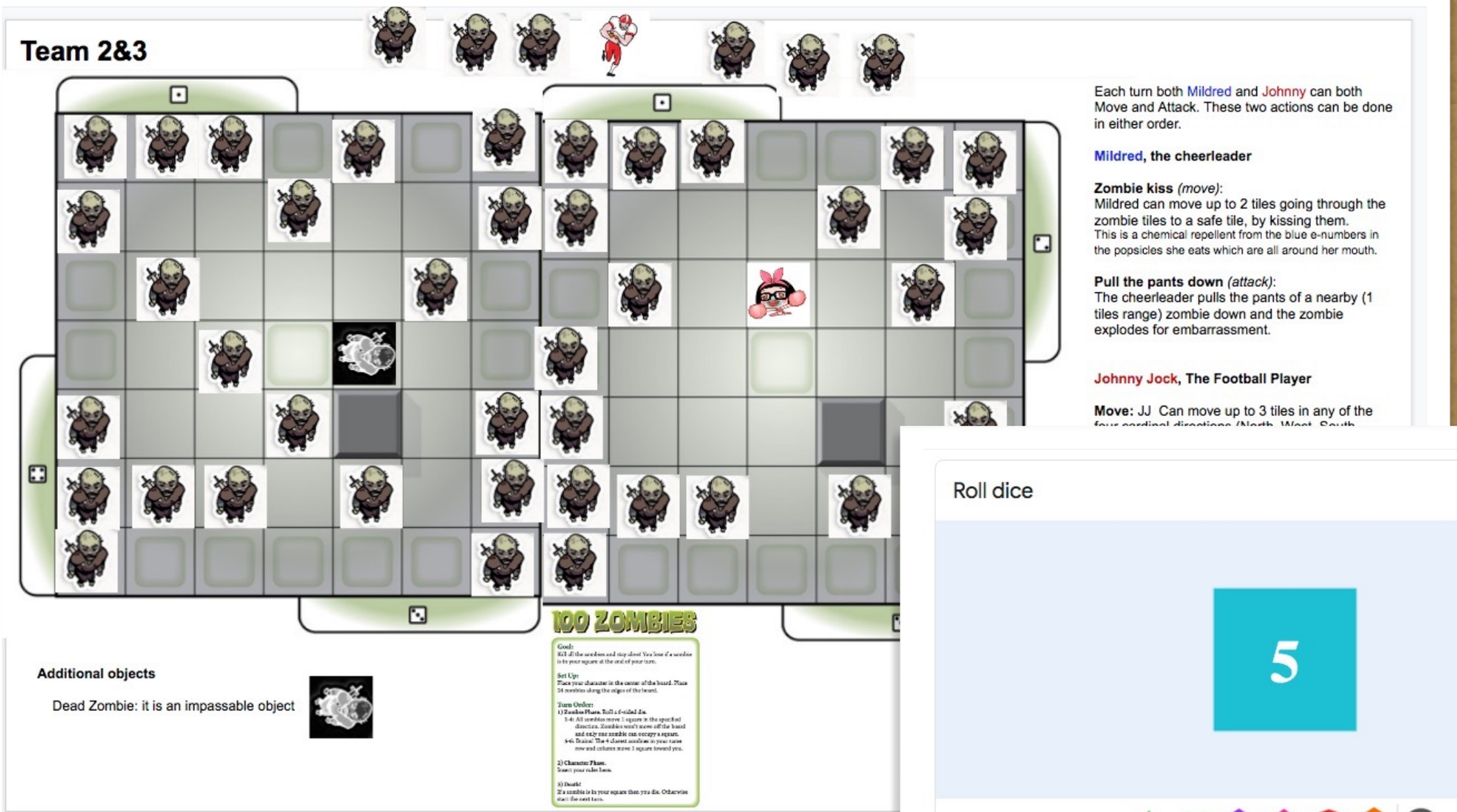
* The one action-feedback loop players do the most

FAKING IT IS FINE



E.G. WIZARD OF OZ TECHNIQUE

PATCHING TOGETHER IS FINE



HOMEWORK FOR MONDAY

In a team of 4-6, ideate and make a first game prototype for playtesting

Requirements

- An analog game for 2+ players, playable in 15-30 minutes
- Uses your team's theme, material, and constraint
- Is the smallest possible prototype to answer your design question (e.g., your core mechanic)

Note

- This will be the basis of your prototype to be handed in on Feb 14.
- It is possible to start from scratch after play-testing your first prototype
- The final prototype will involve a full playable prototype with all components, cleanly written-up rules, fully self-explanatory

MATERIALS AND INSPIRATION

- Prototyping materials and games are accessible in locked cabinets 12/13/14 in ACE workshop ACEX M150, Mo-Fri 9am-5pm
- Ask a technician to give you access. If you take a game, sign it out on the printed sheet (legibly!) so people know who has the game.
- Take only what you need in zip loc bags, return after use what you can
- You can prototype/playtest in the ACEX room – just check Celcat it's free
- You have extra material budget of £30 (game 1) per team for workshop & purchases: Ingrid Logan manages these at ACE - you can use these to lasercut/3d print etc. components, do colour printing, etc.

YOUR PROMPTS AND TEAMS

GRID	VICTORY POINTS	SHORT ROUNDS
CARDS	ONE VS. MANY	RANDOMIZED FIELD OF PLAY
TOKENS	A TICKING CLOCK	MOST IN A REGION
DICE	SHARED OWNERSHIP	REAL-TIME PLAY
TILES	MODULAR UNITS	BUILD A NETWORK

Form 8 teams

1 material

+

1 constraint

+

1 theme

per team

TEAM FORMATION

Form 8 teams

- Sort yourself into three groups according to your greatest relative strength:
  - Game design: You feel strongest in making game rules
  - Graphic design: You feel strongest in visual design
  - Playtesting: You feel strongest in observing and analysing users
  - Prototyping: You feel strongest in making physical prototypes
- We have 8 teams, one for each constraint
  - Starting with game designers, then graphics, etc. one at a time, you choose a constraint/team.
  - If there are one or more with 0 members, you have to pick one of those. Then you have to pick one with no more than 1 member until all have 2, etc.

After we have teams, please add your name and email per team to the spreadsheet here: https://bit.ly/tp25-groups1

INSPIRATION

Each of your prompts comes with some inspiration if you are stuck

- Materials spell out what to start with and what you might do
- Constraints give design suggestions
- Also: Games you can play to see the constraint in action. We have the underlined game in the workshop. You can watch Let's play/how to play videos of the others.

Real-Time Play

Magic Maze, Falling, Space Alert, Galaxy Trucker, Set, Escape: The Curse of the Temple, Pit Crew, Space Cadets Dice Duel

- Players do not take turns. They take actions (or choose to wait) whenever they want
- Build in constraints on player action, such as using only one hand, or acting once per round
- Avoid full-body sports or overly chaotic play
- The challenge here is to make a game that is real-time but still focused and strategic

DICE

Classic randomization device. Pro tip: avoid roll-and-move.

Start with:
One 6-sided die for each player.

- *Roll to do something*—The die number is how well you succeed at something
- *Roll and choose a die*—Roll a few dice but only choose one of them as your action
- *Sort*—After you roll them, sorting dice into groups or an order depending on what you rolled
- *Assign dice*—Roll dice, then choose how to use the number on each one in different ways
- *Match*—Try to get particular combinations of results on multiple dice
- *Poker style*—Roll a handful of dice, then choose to roll some or all of them a second time
- *Real-time rolling*—Rolling the dice as quickly as possible to try and get a particular result
- *Dice as units*—Dice can be pieces on a board or map
- *Information storage*—The number currently facing up can be used to store information
- *Design a hand of dice*—Before the game or between rounds, strategically choose which dice to roll
- *Replace the faces*—Instead of pips, change the faces into icons or other non-numerical elements
- *Hidden dice*—You keep the results of your die rolls secret

GENERATE IDEAS FOR A GAME

Goal: Generate and select ideas for a game

Choose a material, constraint, and theme

1. Brain-storm one or more themes that you haven't seen in a board game. This is the first spark.

2. Read your materials and constraint cards. These are your second and third spark. Read the different ways you can use a material. These can be each different sparks.

2. Nominate a moderator.

3. The moderator forms a prompt by pairing the theme and one or more other sparks. Individually, write down ideas to that prompt on post-its (2 min). Then switch the moderator, and the next moderator presents another pairing prompt. Repeat several times.

4. Quickly explain ideas in group. After each, others can respond with new ideas that spark from it

PRIORITISE IDEAS

Goal: Identify the idea to work on with your team

1. If you have many ideas, first, cluster them into similar ones.
2. Dot-vote on ideas: everyone gets 4 dots, max 1 dot per idea
3. Identify the top 3 ideas with most votes. Dots in a cluster count together. If a cluster is chosen, pick the idea with the most dots or do a quick hand-poll among the cluster.
4. Now do a dot-voting with the dimensions “feasibility” and “fun”, giving 1 dot each to the most feasible idea and 1 dot to the most fun.
5. Discuss the results and choose your final idea.
6. Now articulate design values: the experience, theme, message, or quality you are shooting for.

MAKE A FIRST PROTOTYPE

Goal: Identify and build the minimum testable prototype for your game idea

1. Flesh out your idea into basic elements: the goal, player structure, actions, objects and space, turn order.

2. Determine the smallest possible prototype you can make to test your game. Choose materials that let you build, test, and iterate as fast as possible.

3. Build a first prototype, play-test, iterate. Make big, bold changes. Consider testing discarded ideas (and parts of them) if the current doesn't work.

4. Bring your first playable prototype to class on Monday