

The EBOW Recipe Book

for Engaging Beyond Our Walls

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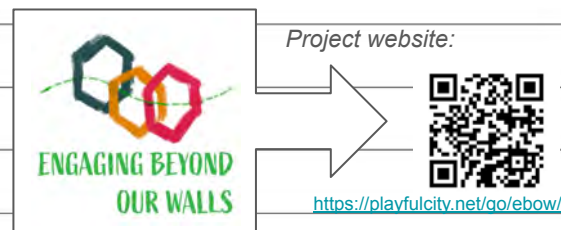
Design principles for borrowing from game design, interactive hosts, and print/physical starting points

Section D. **Advanced recipes**

For makerspaces, playful city data & more

EDITOR'S NOTE

Our goal with this book is to expand the imagination of neighborhood games and playful stories that can strengthen places and communities. The principles are drawn from creations by local libraries and community museums, especially those in the [Engaging Beyond Our Walls](#) (EBOW) project. Led by the Playful City Lab at American University with the DC Public Library.



Funders and collaborators include: IMLS/Institute of Museum and Library Services, WebJunction/OCLC.



Why Recipes?



Like a recipe book, we hope this book will

- get you **inspired** to make something
- build your sense of the **ingredients, proportions** and **sequencing** – and build your intuition about patterns
- empower you to find **substitutions** or **combine ideas** to match your local assets and culture

Our philosophy – and starting design principles

Pick What's in Season

1. **Listen to your ingredients.** Start with the cultural assets of your community. Maybe that's a prominent mural, building rumors of a ghost, or a favorite cat in the bookstore. Even if you want to tackle a problem, start your story and organizing with local strengths (see: *community-based asset mapping*).
2. **Start simple, and taste often.** To get the local flavor right, try out *the most basic version* you can imagine. Taste for “minimum viable joy” (MVJ) – for example, by saying the dialog out loud, or doing a paper prototype. Celebrate the most basic version of the technology - including with paper. Most of us underestimate how long a project can take. Simplicity is delicious, and do-able.
3. **Allow mistakes - and always adapt.** So much emerges. Keep an open mind. Often a “mistake” leads to finding something interesting or a new way to spark joy. Expert designers look for the [beautiful oops](#); do not rush success. Creativity is bravery.



What project is the *right size* to get started?



flickr image by [Eraphemalia_Vintage](#)

A starter size: These projects can be designed with a few sticky notes, some inspiration, and a dash of playfulness. For example, a small library in Milton, Wisconsin [brought to life a sculpture](#) just outside the building that features three metal birds in a garden. Paper prototypes often provide a early taste of the experience; lightweight digital can also be fast for prototyping.

A bigger bite: Audio tours, history scavenger hunts, and cell phone photography quests can all be easier than you might think. But they also take a bit more iteration and development to get the tone and pacing right. For one example, the DC Public Library collaborated with the National Women’s History Museum to create a “[community voice over](#)” for an exhibit in the library.

A specialty platter: Projects that are a heavier lift or with special features include stories that respond to the physical world, like climate stories that vary depending on today’s weather, stories that change when a local bus is late, projects that involve motion sensors or turning on outdoor lights, and stories that use tools like ChatGPT to modify a story in real-time.

Our Design Values

to reach all neighborhoods



(1) Low tech to play

(2) Small investment to make

(3) Stronger places, together

Values at Play

(Flanagan &
Nissenbaum, 2017)

>> [Explore](#) creations that embody our values, made by libraries in the 2021-24 EBOW program supported by IMLS. Many are detailed in the recipes that follow.



Core Recipes

Starting points, especially for texting, voice trees, hunts, tours and more

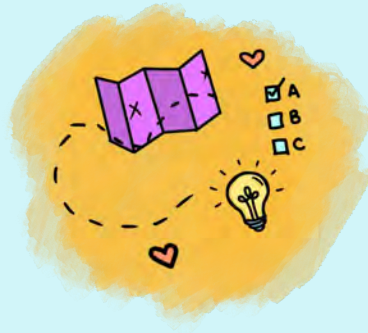
Three Kinds

of recipe are emphasized in our core set



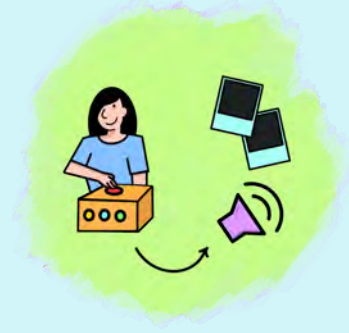
Storytelling games in public space

Engaging with sculptures, murals, buildings, streets



Storytelling games for moving around

Engaging on hunts, tours, escapes, parades, drifts



Storytelling games in a box

Engaging through exhibits, touch-screens, installations



Text with a Sculpture

Imagine: You come across a sculpture – or mural – that wants to share its stories. In reply to your text message, it sends back photographs, images, memories, and anecdotes. The conversation takes unexpected turns as you reply to the questions.

Prepare the ingredients:

1. **Find an interesting, and maybe overlooked, object.** It can be a sculpture, mural, building, stuffed animal, etc.
2. **Transform the object into a protagonist.** Find a personality that “fits” the object and use that to create a character out of the object. See flavoring tips for [interactive hosts](#).
3. **Write the protagonist’s dialog.** Consider the literal and figurative point of view of this object. What might it see that people typically don’t? Write in the first person with drama!

Mix to taste:

4. **Playtest the dialog.** See if adding pictures or other media at key points are helpful in telling the story. Paper or theatrical prototyping is invaluable. See our [playtesting article](#).
5. **Build in the digital tool of your choice.** Try out the first greeting. Also, see our [essential appetizer: signage & paper](#).
6. **Like it? Launch it!** Start small. Go where the people are.

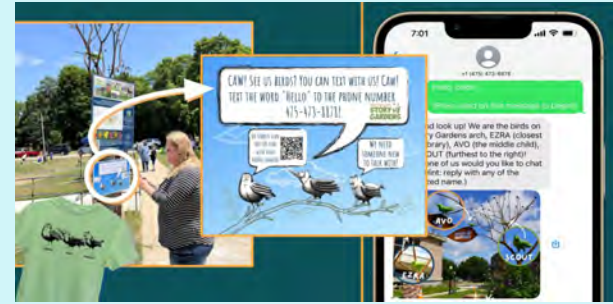
Expansions and substitutions:

- ★ For a “no tech” version, consider using posters with speech bubbles coming from the sculpture or object

As seen in...

Interactive Story Garden with Three Birds

Creator: Milton Public Library (WI)



The project extends existing **sculptures of birds** in the library garden. Participants are invited to text Ezra, Avo, and Scout, sculptures perched at the story garden entrance. Three **unique personalities** were developed for each of the birds by library staff who also invited students from a local school to create one of the characters. Participants start by **scanning QR codes** on signage throughout the gardens with playful illustrations from a local illustrator which helped establish the story gardens’ hosts as familiar and friendly local characters.

>> [See more photos online](#)



Milton Public Library

Milton, WI



Ghost Tour

Imagine: A friendly spectre has invited you to see the world through their eyes. As they guide you around, they reveal a new perspective to familiar surroundings.

Prepare the ingredients:

1. **Trim to 2-3 locations.** You can always add more locations *after* playtesting.
2. **Invent a compelling personality for the ghost.** See flavoring tips for [interactive hosts](#).
3. **Write your ghostly dialog.** Lean on the personality of the ghost to bring out creativity in the content. Figure out where it makes sense to use pictures to accompany the dialog.

Mix to taste:

4. **Playtest your dialog.** Make sure the dialog takes participants on the intended route in the correct order. See our [playtesting article](#).
5. **Build your tour in the digital tool of your choice.** Also, see our [essential appetizer: signage & paper](#).
6. **Launch your activity!**

Expansions and substitutions:

- ★ For a “no tech” version, consider using paper flyers at the starting location with a map of the path and dialog from the ghost tour guide to give them the narrative and any other content as they make their way around the tour path.

As seen in...

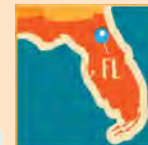
Ghost of the Caboose

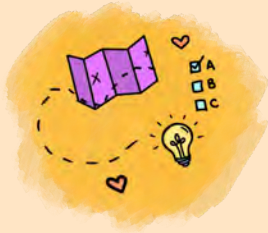
Creator: Umatilla Public Library (FL)



Community members were able to participate in a spooky story led by a **friendly ghost** about a famous historical caboose in the center of town. The library launched this activity in time for Halloween and have since continued to expand on the project by adding narrative flourishes.

>> See [more photos online](#)





An Unlocking Walk with Trivia

Imagine: Just as you arrive, a challenge appears on your phone. You answer the question and are delighted when you have guessed correctly. Anticipation builds for what the next location will bring.

Prepare the ingredients:

1. **Scale down to 2-3 locations.** You can always add more locations *after* playtesting.
2. **Create an enthusiastic trivia host.** Can their personality tie to the local identity? See flavoring tips for [interactive hosts](#).
3. **Craft your trivia questions.** Typically with 2-3 answer choices. Ideally the “wrong” answers still reveal something about the place - and the reply guides the player into the right answer. Consider adding images on questions where it would enhance the experience. Diagramming these on paper can be helpful.

Mix to taste:

4. **Playtest your trivia questions.** Make sure they make sense and the answer choices work well. See our [playtesting article](#).
5. **Build your tour in the digital tool of your choice.** Also, see our [essential appetizer: signage & paper](#).
6. **Launch your activity!**

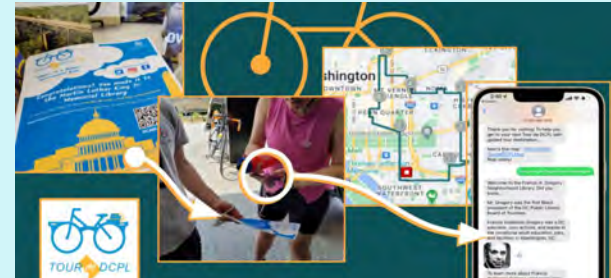
Expansions and substitutions:

- ★ For a “no tech” version, consider using paper flyers with trivia and a map with the path highlighted

As seen in...

Tour de DCPL & Discover Branch History

Creator: DC Public Library (DC)



Seven locations were featured in this annual group bike tour of Washington, DC, libraries. Each location was chosen for being **recently renamed**, or named after a famous resident. The group received a **print flier** at each location with a custom QR code, which revealed their challenge trivia question by text message. They also received **historic photographs** from the archives by text message to take home, and use in answering the questions. Riders also received **goodies** to take home at each location. Solo riders could also go on their own at any time or join later.

>> [See more photos online](#)





I-Spy Photo Collecting

Imagine: Your eyes scan over a familiar area for something unseen - a shape. You see the perceived shape and photograph it, sharing it to a collection of shapes others have found.

Prepare the ingredients:

1. **Reduce to 2-3 locations.** You can always add more locations after playtesting.
2. **Create an intriguing protagonist.** See flavoring tips for [interactive hosts](#).
3. **Write your protagonist's dialog.** As part of the narrative, you will need to challenge participants to find shapes to photograph at each location.

Mix to taste:

4. **Playtest your dialog.** Ensure that the challenge to participants is clear. See our [playtesting article](#).
5. **Build your dialog in the digital tool of your choice.** Also, see our [essential appetizer: signage & paper](#).
6. **Launch your activity!**

Expansions and substitutions:

- ★ To engage the community, a curation of these images can then be printed out and displayed in the library, both as a way to celebrate patrons' participation and as a way to bring awareness and encourage others to check out the interactive storywalk.

As seen in...

Photo StoryWalk on Architectural Shapes

Creator: Spooner Memorial Library (WI)



Participants walk around their community to take **photographs of shapes** they spot. The shapes theme came from a book to teach different shapes to young kids, which they were encouraged to read at each stop of the activity. Participants had the option to participate in the activity as part of another StoryWalk the library was hosting. The virtual activity was integrated with 4 stops on the StoryWalk and involved **taking pictures of shapes** in their surroundings and **answering trivia questions**.

>> [See more photos online](#)





Escape-the-Tour Challenge

Imagine: An enigmatic host has given you a clue. When you solve it, you make your way to a new location, excited to learn its significance and find the clue for where to go next.

Prepare the ingredients:

1. **Limit to finding 2-3 locations.** They should revolve around a theme or set of content. You can always add more locations *after* playtesting.
2. **Create a host with a unique personality.** See flavoring tips for [interactive hosts](#).
3. **Write your dialog and challenges.** The dialog will need to provide participants with the challenges to solve so they can unlock the next location.

Mix to taste:

4. **Playtest your challenges.** Make sure they make sense, are reasonable to solve, and the order is correct. Paper prototyping will be helpful here. See our [playtesting article](#).
5. **Build your tour in the digital tool of your choice.** Also, see our [essential appetizer: signage & paper](#).
6. **Launch your activity!**

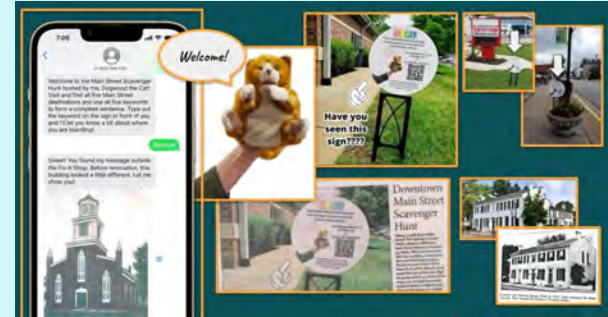
Expansions and substitutions:

- ★ For a “no tech” version, consider using paper flyers at the starting location with the clues for each location and dialog from the host personality to give them the narrative.

As seen in...

Main Street Historical Scavenger Hunt

Creator: Spencer County Public Library (KY)



A history-based scavenger hunt that leads to five businesses and points of interest near Main Street in Taylorsville, KY. Each location displays a **sign to prompt** the text-based scavenger hunt. A puppet from the library, **Dogwood the Cat**, is featured as the host. At each location, a **keyword must be unscrambled** in order to get the clue for the next location. The narrative includes a playful “**Magic 8 Ball**” component developed by library staff that leads to unexpected outcomes for this playful activity in the streets of this small historic town.

>> See [more photos online](#)





Voice Guide with Insider Choices

Imagine: As you walk through an exhibit, you are on the phone listening to an insider give you the exclusive stories that go beyond the exhibit.

Prepare the ingredients:

1. **Identify the exhibit or special location.** This can be a curated exhibit or a location in the community; something that would benefit from sharing a new perspective about.
2. **Select your amazing community host / voice guide.** Find the person who has a unique perspective on this content that you could interview.
3. **Pick interview questions like it's a podcast.** They should ask for anecdotes that are non-obvious; you shouldn't be able to do a quick web search and easily find the same information/stories.

Mix to taste:

4. **Interview the community member.** We found that having one long recording that captured the voices of the interviewer and resident to have the best result. For this particular exhibit, listening to the unedited, conversational-style interview felt the most appropriate.
5. **Build your tour in the digital tool of your choice.**
6. **Playtest the activity.** Make sure the flow of information makes sense, especially for something like an exhibit where people are likely moving around through the space while interacting with the activity. See our [playtesting article](#).
7. **Launch your activity!** Also, see our [essential appetizer: signage & paper](#).

Expansions and substitutions:

- ★ For a “no tech” version, consider using a series of postcards or business cards at each stop in the exhibit tour with commentary, visuals, etc. from the community voice
- ★ For an added design process, consider seasonal voices; swap out the community voice at regular intervals to have a rotating cast of community voices to lend a variety of perspectives, while creating an incentive to return to the exhibit for locals

As seen in...

Black Feminist Exhibit Voice Tour

Creator: The Women's History Museum (DC)



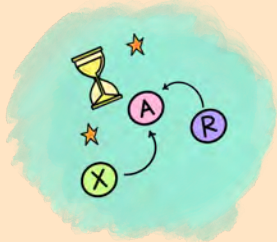
An **audio walking tour** through the “Black Feminist” exhibit created in collaboration with the National Women’s History Museum for the MLK branch of the D.C. Public Library. This physical installation is augmented by the voice of **D.C. community leader Katea Stitt** who provides her insights and stories of the **history “beyond” the exhibit**, guiding participants with images and text.

>> See [more photos online](#)



Sequencing Puzzle for a Place

Imagine: Putting history in order can be a lot of fun. In this activity, a conversation with an object – such as a bus or even a building – uncovers the existence of a puzzle. Unscrambling and sequencing the information reveals history in the rear-view mirror.



Prepare the ingredients:

1. **Find a compelling object.** The puzzle should be grounded in a location by the host object. Consider how your object fits with the narrative/content/location of the puzzle.
2. **Give the object a vibrant personality.** See flavoring tips for [interactive hosts](#).
3. **Write your narrative dialog and your puzzles.** The narrative should transition into writing the puzzle pieces that need to be arranged in a specific order (chronological, spatial, etc.).

Mix to taste:

4. **Playtest your puzzle.** Use paper prototyping (etc.) on just the puzzle. See our [playtesting article](#).
5. **Build your puzzle in the digital tool of your choice.** Also, see our [essential appetizer: signage & paper](#).
6. **Launch your activity!**

Expansions and substitutions:

- ★ For a “no tech” version, consider using signage to anchor the puzzle experience and having the information that needs sorting printed with velcro on the back. The information can then be ordered on a felt wall.

As seen in...

Chat with the Bookmobile

Creator: Spooner Memorial Library (WI)



The Bookmobile's files have gotten scrambled and she needs your help to sort them out; **answer questions** to help the Bookmobile get functioning again. This playful **text based puzzle** created by library staff prompts participants with **custom signage to engage with this important resource** of the Arrowhead Library System.

>> [See more photos online](#)





Phone Calls that Lead a Hunt

Imagine: After an initial text, you receive a surprising call with the first clue. The dramatic voice calls at each place, sending images, secrets and tips to progress.

Prepare the ingredients:

1. **Pick a super dynamic personality and voice.** Fiction may be especially fun for this one. See flavoring tips for [interactive hosts](#).
2. **Reduce to 2-3 locations.** You can add more locations after playtesting. They should be on a theme.
3. **Write your dialog to maximize personality.** As part of the narrative, you will need to challenge participants with clues to the next location.

Mix to taste:

4. **Playtest your dialog and your hunt clues.** See our [playtesting article](#).
5. **Record the dialog.** The recording should be done in character for the host of the hunt.
6. **Build your hunt in the digital tool of your choice.** Also, see our [essential appetizer: signage & paper](#).
7. **Launch your activity!**

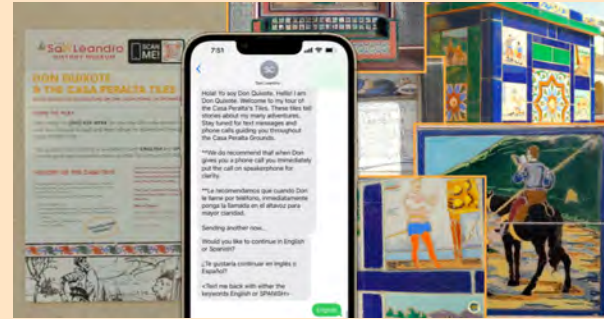
Expansions and substitutions:

- ★ For a “no tech” version, consider using paper flyers at the starting location with the clues for each location. Include the dialog from the host personality to set the tone and provide the vibrancy of the narrative.

As seen in...

The Casa Peralta Tiles

Creator: San Leandro History Museum & Public Library Dept. (CA)



A **bilingual audio scavenger hunt** exploring the grounds outside the library by the historic Casa Peralta, a unique architectural gem known for custom tiles depicting the story of Don Quixote. The tour is led by **Don Quixote who narrates from a phone call** to participants as they explore the property. While hearing accounts of select custom tiles, participants are exposed to this underappreciated local jewel and the story of Don Quixote which was such an important inspiration to the original owner of Casa Peralta and a wonderful tie-in to this California town.

>> See [more photos online](#)





Reenactment Tour with Media

Imagine: Participants chat with a host personality, take selfies at historic locations, and are led around on a tour through text, images, videos, and audio clips.

Prepare the ingredients:

1. **Identify 2-3 locations.** You can add more locations after playtesting. They should be on a theme.
2. **Create a vibrant protagonist that matches the content theme to be the guide.** In this case, the guide was a historical character with amnesia. See flavoring tips for [interactive hosts](#).
3. **Write your narrative.** This team used ChatGPT to help generate initial content that was then edited. Be sure to note how the narrative will be delivered (text, image, video, audio) to know what assets need to be created later.

Mix to taste:

4. **Playtest your questions.** See our [playtesting article](#).
5. **Create your multimedia assets.** Collect the images and record the video and/or audio that you plan to use.
6. **Build your tour in the digital tool of your choice.** Also, see our [essential appetizer: signage & paper](#).
7. **Launch your activity!**

Expansions and substitutions:

- ★ For a “no tech” version, consider using paper flyers with trivia and a map with the path highlighted and include images throughout to bring some of the multimedia elements in.

As seen in...

Bellows Falls in Time

Creator: Rockingham Free Public Library (VT)



A guided **multimedia** tour through the village of Bellows Falls led by a **mysterious character** who knows the charming history and stories behind the landmarks of the village. Help her remember the order of how things happened on this interactive tour around town.

>> [See more photos online](#)





Storytelling Box w/ Touchscreen

Imagine: Participants use a touchscreen interface to explore a narrative told through a physical installation.

Prepare the ingredients:

1. **Write your narrative dialog.**
2. **Pick a dynamic protagonist personality.** See flavoring tips for [interactive hosts](#).
3. **Prototype the branching narrative on paper.** The narrative style that works best is a branching narrative: think “choose your own adventure”. Sticky notes are helpful here to quickly reorder branches.

Mix to taste:

4. **Build your narrative in the digital tool of your choice.** We suggest Google Slides as a free, easy-to-use tool to create a dynamic slide deck with elements that work as “buttons” to take you to specific slides. See our [dynamic slide deck article](#).
5. **Build your box.** See our [storytelling box lessons learned article](#).
6. **Create box signage.** Draw attention; make people aware of it and that it is meant to be interacted with. Also, see our [essential appetizer: signage & paper](#).
7. **Playtest your box.** Try a “soft launch” to test not just if the box design works, but also to test out placement of the box and the signage. See our [playtesting article](#).
8. **Launch your activity!**

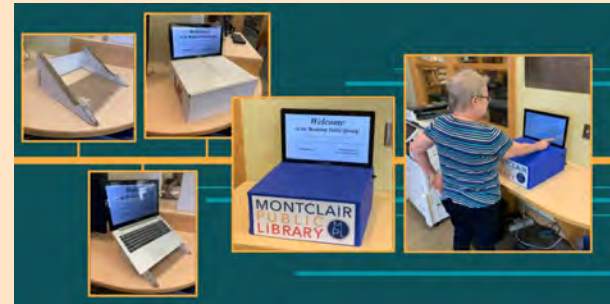
Expansions and substitutions:

- ★ For a “no tech” option, consider creating something like a “comment box” that is a physical box where people can make submissions with slips of paper they have written on.
- ★ Use additional technology to make a more complex storytelling box. Some ideas include using arcade buttons, RFID, Raspberry Pi, Scratch-based digital systems, standalone monitors, etc.
- ★ Create an interactive sculpture that has pieces made from play-doh that, with the help of a Makey Makey, are the “buttons” to control the digital system.

As seen in...

Circulation Desk Box

Creator: Montclair Public Library (NJ)



This box was created to be an FAQ style of interaction for people seeking common information at the circulation desk. The blue is eye-catching and the box feels almost like a **stage for the screen**. We were drawn in, and found ourselves asking, “What can you do here?” Inside is a repurposed laptop with touchscreen capabilities. The physical structure is mostly **cardboard** with about \$15 worth of **wallpaper**, and **signage** printed in the library. The narrative is controlled with **Google Slides** using a hot-linking. The whole thing is positioned next to the front desk at the branch library.

>> [See more photos online](#)





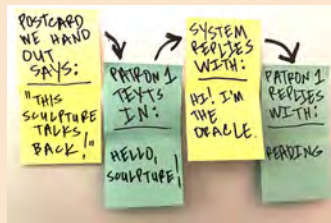
Flavors & Technique

*Design principles for balancing
and fine-tuning your creations*

Technique:

Interactive Hosts

(a.k.a., your “Protagonist”)



Give your story some flavor! We believe that *every interaction with an interactive system is a conversation*, so get creative and pick a protagonist for your story who would be fun to have a conversation with.

Who are you texting with? At the center of our approach is an **interactive host** or “protagonist” for nearly all our story games. Conversation is deeply human, and dialog (either by text, or by phone call) is one of the most accessible and engaging ways to involve people in interactive stories. The hard part is the bravery to be creative. Most of us have to overcome our training to write in an institutional tone from a third-person perspective (**boring!**). Here are a few essential ingredients:

1. Pick a **distinctive host** or “protagonist” to guide your experience. Borrow from your town’s favorite legends, treasured pets or just a sculpture that interests you. Then ask yourself: what would I get back if I texted or called this host? Try for a protagonist with a distinct personality that can be fictionalized.
2. Brainstorm **dialog with amplified personality - beyond boring information**. Brainstorming an engaging story is easier than you might think. Keep it simple: start with post-its and a friend. The essential and hard part is to insist on an interesting voice or unexpected opinions. **Be outlandish** or even silly – you can always walk it back later. Think of a deliberately strange or unexpected version of your obvious story. What might a historical character have said if they travel to the future? Or if they were in a crime novel? Draft dialogue in your everyday word processor *before* using any fancy technical tools. Turn every menu or choice into dialog coming from *someone*.
3. **Say it out loud**. Practice your dialogue by playing your character with a trusted friend or colleague. *Say it out loud*. Have fun pretending what your host might say in different scenarios. How might your protagonist explain a historic photo you’re sending?

SUCH VARIETY!



statues
of cats



bookmobiles



the imaged
voice of Don Juan



stuffed
animals



mascots



ghosts

local
celebrities



Local
wildlife



Seasoning:

Borrow from Game Design



"Big Urban Game" (2003, Twin Cities)
Nick Fortugno, Frank Lantz, and Katie Salen

We can borrow from the emerging science and art of game design – even when we are *not* making games!

It turns out that interactive stories and engagement activities benefit from some of the same principles.

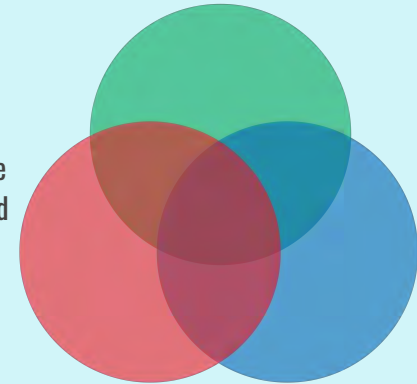


For more on game-based activities, read our book "Locally Played" by Prof. Benjamin Stokes (pages 8-10 in particular)

Try to amplify any one of the three elements from the definition:

Game-based activities
structure participation through...

1. **Playful challenges.** For example, are you bringing a playful spirit into transition lines of dialog? Are you trying to give participants a challenge rather than make everything boringly obvious?
2. **Feedback loops.** For example, when a participant makes a choice, do you compliment them on it, or show them the implications in a wonderfully exaggerated way?
3. **Uncertain outcomes.** For example, can you ask participants to reflect on something that is always changing, like a park bench or the length of a shadow? Can you introduce an element of randomness in who your participants will meet, or what conversations they will have?



Technique:

Exploring Digital Tools



Once you have a vision, explore possible free and low-cost tools that might work. It might be **easier than you think**. The secret can be to imagine a “radically low-tech” version (like texting instead of full apps) – and see if that can work!

Ideas for how I might...

- **Text participants their choices?**
Twilio Studio... Hive Mechanic... Hello Lamp Post... ([see more](#))
- **Call participants on the phone?**
Hive Mechanic... Twilio... CallFire... RingCentral... ([see more](#))
- **Make scavenger hunts with digital integration?**
Scavify... Edventure Builder... ([see more](#))
- **Track participants while they engage in your activity?**
Scavify... GooseChase... ([see more](#))



These are just a few **starting points**, based on possible forms of media or interactivity. For **more**, see our [landscape scan of free and low-cost tools, technology and services](#).

Our exploratory platform:



We built a **custom game engine** called “Hive Mechanic” – and it helped us to identify ways to **rethink existing tools** as well. It is free and open source.

We discovered broad **new possibility spaces** – like turning on smart lights, ChatGPT for multi-user madlibs, or even controlling a water fountain with text messages and voice trees.

We use a “cards” in our editor to make sure that **anyone can edit** our games - including ordinary librarians – without training in programming or writing any code.

>> [Read more about Hive Mechanic.](#)

Technique:

Tasting Menus

Success stories bring a wonderful concreteness to the imagination.
Read about as many as you can... or try a few!



Image by Schellack: https://en.wikipedia.org/wiki/Tasting_menu#/media/File:Polkvan-1st_first_course.JPG

>> Try our sampler of EBOW projects:
<https://playfulcity.net/go/ebow/tasting-menu/>



Advanced Recipes & Inspirations

Advanced and bold examples to take your ideas to the next level



Recipes for storytelling with...

Playful City Data & Services

... like the current **weather**, **pollution** levels, **bus** arrival times, **city** data, **ChatGPT**, and more.

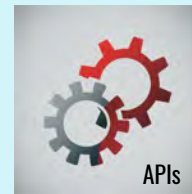
What if your story changed with the weather? Or when a new restaurant appeared within 5 blocks? Many sources of data can be accessed in real time, and used to tell dynamic stories tied to local flows of information. The recipe ideas below are stubs to stretch your thinking. They can be combined with many of the more basic recipes too.



Inspirations:

- A) **Today's weather changes the story.** Imagine a story that changes on the first day that snow falls, or when climate change leads to yet another usually hot day. New parts of the story are revealed and adventures unlocked!
- B) **Pollution data.** Like a story that changes if the particle count today is higher than usual in your city.
- C) **Bus data.** Like starting a game when the bus is just about to come, or giving a different clue after the bus departs, or giving a different line of dialog if foreclosure rates have recently gone up.
- D) **Foreclosure data.** Like a different line of dialog if foreclosure rates have recently gone up.
- E) **Business data.** Like a story that incorporates the most recent positive review of a new restaurant for your city.
- F) **Visualizing the future together.** Visualizing an alternative future. Like telling a story of how a local park might look different in five years that synthesizes what three residents have said, or even draws an image of how a monument could be revised

We have successfully used the following **third-party services** To make story games:



- **Local pollution levels:** Purple Air API
- **Local weather:** Open Weather API
- **Local business reviews:** the Yelp API
- **Bus delays:** DC City Government APIs
- **AI synthesis of local text:** ChatGPT
- **AI visuals:** DALL-E
- **Internet of Things (IoT):** Raspberry Pi

For an example, see our [example API/weather story starter](#) for Hive Mechanic. (Part of the reason we created Hive Mechanic was to explore the possibilities of storytelling with APIs.) Twilio Studio can also check external APIs, when paired with the right code - although this is often fairly technical.

The use of APIs is a growing frontier as the physical and digital layers touch locally.

Part of our series on
"Expanding Interactivity"





Recipes for makerspaces - intermediate

Listening Stations for a Storytelling Hotline

Imagine: Picking up the handset, and being connected to a hotline with oral histories and choices to dive deeper into audio

Prepare the ingredients:

1. **Analog phone.** You will need one regular analog phone (nothing fancy!). Classic phones and payphones can still be purchased, ranging from \$20-200 USD.
2. **VOIP box.** To auto-dial, you will need a VOIP (voice over IP) box. Some workplaces and homes may already have them ready to go. You can also buy a standalone box for \$100-200 that plugs into your internet (via ethernet)

Mix to taste:

3. **Hotline.** Create a branching phone hotline, such as with Twilio Studio or Hive Mechanic. See prior recipe ideas for the hotline.

Expansions and substitutions:

4. **Sculptural Materials.** Consider what materials might create additional ways to interact with your box. For example, what if the box was painted with chalkboard paint and as people go through the experience with the box, they are encouraged to draw on the box? Or, similarly, a cardboard box where people are encouraged to paint or doodle on it, creating a community mural box, one person at a time. Select materials that will enhance the experience and encourage more than the digital interactions.



Developed with the Smithsonian, as part of their Right to the City exhibition



Smithsonian
Anacostia Community Museum



Payphone Box (with auto-dial powered by voice over IP system)

Chalkboard Painted Box with RFID-Reader Phone



Bilingual Storytelling Boxes with voice over IP auto-dial phones

For more information on these and more, check out our [storytelling box blog posts](#).





Recipes for makerspaces - intermediate

Storytelling Box with Two Buttons

Imagine: Your own storytelling box with two big buttons to guide a linear audio story, perhaps with trivia for a mural just behind you.

Prepare the ingredients:

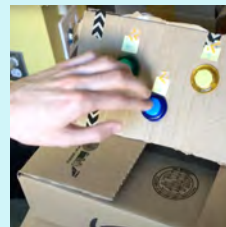
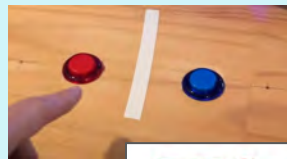
1. **Pick a linear story.** Timelines are great because you can go left and right. Books format also works since the “next page” can be a single button. Trivia can work if you assume the answer is always revealed on the next slide (for more sophisticated feedback, see the next recipe on Scratch boxes).
2. **Buttons** connected to a “**Makey Makey**.” Arcade buttons feel great and are affordable. Just hook them up to a Makey Makey (\$50 USD). The basic version has two buttons: one for “left” in the slide deck, and one to move “right” in the slide deck. Pop them into **cardboard** in just a few minutes to try your story system (see photo at right), then later install them in a nicer wood or metal box.

Mix to taste:

3. **Audio that plays with each slide.** Each slide can start an audio clip (or with a button). The story can be made by a content team outside the makerspace.

Expansions and substitutions:

- ★ **Phone headset.** Listening through a classic analog phone
- ★ **Touch screen with slide “hotspots”.** You can make a true choose-your-own-adventure that branches (non-linear!).
- ★ **Wood or plastic box.** Cardboard is best for prototyping, but wood has a lovely DIY feel. Or plastic/metal for a professional feel.



Inside the Makey Makey kit >>

As seen in...

MLK Mural Storytelling Box

Creator: DCPL & Playful City Lab



This **box** was made for a giant mural on the life of Dr. Martin Luther King Jr. If you pick up the red handset, you hear an **audio greeting** with **questions** that require looking more closely at the mural. Answer the trivia prompts by pressing the **red or blue button**. Many of the elements are optional: the phone can simply be replaced with headphones, etc. Pictured here is a staff member from the DC Public Library (at top) and a screenshot (below).

>> [See more photos and videos online](#)





Recipes for makerspaces - intermediate

Storytelling Box with Tap Objects

Imagine: a story that changes when you tap stickers, cards or 3D objects onto the storytelling box. Each object can play a different audio file, or branching stories.

Prepare the ingredients:

1. **RFID stickers or cards.** People can tap RFID cards or stickers on readers that act like “buttons” to make your Scratch-run program react with a sound, text, visual, or something else!
2. **Scratch Programming.** Scratch is a great tool to create powerful, but simple coding projects.

Expansions and substitutions:

3. **Interactive Materials.** Consider what materials might create additional ways to interact with your box. For example, what if the box was painted with chalkboard paint and as people go through the experience with the box, they are encouraged to draw on the box? Or, similarly, a cardboard box where people are encouraged to paint or doodle on it, creating a community mural box, one person at a time.
4. **Raspberry Pi.** If you do not have an extra laptop for the installation, consider installing Scratch on a Raspberry Pi – an inexpensive computer that can fit in your pocket that can be a cheap (\$100) and portable “brain” for your storytelling box.



As created for the
KID Museum in Washington, DC



For more information on these and more, check out our [storytelling box blog posts](#).

Part of our series on
“Expanding Interactivity”

