

Philly Games: Research and Puzzle Design Exploration with the Philadelphia Inquirer

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Abstract

This report documents the research, design, and user testing process behind Philly Games, a suite of six digital puzzle games developed for the Philadelphia Inquirer as part of a UC Berkeley School of Information capstone project. The project responds to a structural crisis in digital news publishing: declining search and social media traffic has eroded the audience channels publishers have historically relied on, creating urgent demand for owned, direct relationships with readers. Drawing on a competitive analysis of the games market, semi-structured expert interviews, and generative play sessions, we identified a consistent gap and developed a design brief around three levers: classic game formats to reduce onboarding friction, daily habit mechanics to drive retention, and Philadelphia-specific content to build brand alignment. Using AI-assisted development tools, we built six playable prototypes and tested three with Philadelphia locals through unmoderated think-aloud sessions and mixed-methods surveys. Findings confirmed that local content is a genuine engagement driver and that the design direction is worth pursuing, with Philly Fib emerging as the strongest candidate for a pilot with real audiences. The report closes with a reflection on the research process and next steps for bringing Philly Games to the Inquirer and, potentially, to other local news organizations facing the same problem.

Context & Problem

Publishers built their digital models on search traffic, which has been declining for the last few years. Google's organic search traffic to over 2,500 publisher sites fell 33% globally between November 2024 and November 2025, and 38% in the United States (Newman, 2026). The cause is more structural than a temporary shift in algorithms: AI summaries at the top of search results take away from traffic that would otherwise have gone to publishers. The Guardian reported in July 2025 that sites previously ranked first in search results can lose 79% of their traffic when Google's AI Overview appears above them (Savage, 2025). Overall, media executives now expect search referrals to drop by an average of 43% over the next three years, with some anticipating losses exceeding 75% (Newman, 2026).

Social media, another alternative source of traffic, offers no rescue either. Facebook referrals to news websites have declined approximately 80% since September 2020. Between November

2023 and November 2024 alone, Facebook traffic to publishers fell from 6.4% to 4% of overall traffic (Fischer, 2023).

The picture for individual news outlets is stark. Business Insider saw organic search traffic fall 55% between April 2022 and April 2025. HuffPost lost half its search referrals over the same period (Savage, 2025). Among the top 50 U.S. news websites, 37 experienced year-over-year traffic declines in May 2025 (Perez, 2025).

Our Client

The Philadelphia Inquirer is the largest newspaper in the United States under nonprofit ownership.. Founded in 1829, it has been a cornerstone of news and information in its region for nearly 200 years, with multiple Pulitzer Prizes and a reputation for investigative journalism that reaches well beyond Philadelphia.

The Inquirer has about 170,000 subscribers, of whom 125,000 are digital-only. That compares with 50,000 subscribers back in 2021, a remarkable growth run. In 2025, the organization saw its first year-on-year revenue increase since 2004 (A Media Operator, 2026). The Inquirer is, by most measures, one of the local news success stories of this decade.

The Inquirer has invested heavily in recent years in expanding its food and sports coverage, and it has built custom seasonal interactives around both. The challenge is converting new subscribers into loyal, engaged users, and bringing in readers who have no existing relationship with the brand. To help solve this problem, we partnered with Becky Bowers, VP of Product, and Julie Westfall, Lead Product Manager for Storytelling & Tools, at the Philadelphia Inquirer, to **explore novel ways of bringing in new users, retaining existing ones, and building upon the Inquirer's local branding.**

Solution Directions

Three directions emerged from our early conversations with the Inquirer team and our own research: gift links, newsfluencers, and digital puzzle games.

Gift links are a subscriber feature that allows paying readers to share paywalled articles with non-subscribers. For a publisher like the Inquirer, they serve a dual purpose: rewarding existing subscribers with something to share, and exposing potential new readers to content they would otherwise never see. The hope is that a non-subscriber who reads a gifted article finds enough value to subscribe themselves.

Newsfluencers are internet personalities who build their own social media followings, often on platforms like TikTok, Instagram, or YouTube, by presenting news in formats native to those

platforms. For a publisher, investing in newsfluencers means reaching audiences who do not visit news websites directly but do follow individual creators they trust.

Both directions were viable, but neither was entirely new to the Inquirer. Each had already been explored internally in 2025, so pursuing either would have meant duplicating or expanding on work already underway rather than opening new ground.

Digital puzzle games were, to us, a more promising direction. External signals were strong. LinkedIn and Netflix had both entered the puzzle game space, signaling that media companies outside traditional news were betting on games as an engagement tool. The New York Times was the clearest example: its games portfolio was growing year over year in both revenue and audience, at a moment when its editorial side faced the same traffic pressures every other publisher did.

Internal signals pointed the same way. The Inquirer had already tested adjacent territory with seasonal interactives like Birdle, an Eagles-themed Wordle variant (Philadelphia Inquirer, 2025), and was actively exploring a custom game in collaboration with Eric the Puzzler, a local “experience designer” (Philadelphia Inquirer, 2024). Those experiments showed appetite, both from the team and from readers, for playful, participatory formats tied to Philadelphia life.

Personal interest and expertise brought the two together. As game enthusiasts, we came to this direction with genuine curiosity rather than obligation. One team member had spent years engaged in the puzzle game space. These factors combined gave us a starting point from which we felt confident proceeding.

Goal and Roadmap

Our goal was to create puzzle games for the Inquirer that could drive growth, retention, and brand loyalty. In order to make high-quality games the Inquirer would actually implement, we planned for a three-phase process involving research, prototyping, and testing.

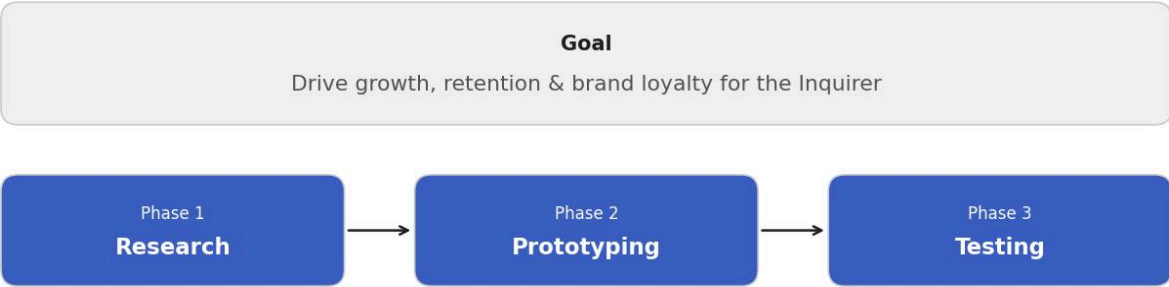


Fig 1: Project Roadmap

The first phase was research. We conducted a competitive analysis scoring games across eight dimensions, conducted interviews with practitioners in the news and games space, and held structured play sessions with competitor games. While we playtested games found in our competitive analysis, we used benchmarking as a way to evaluate our own understandings of what makes a great game against real criteria. In order to achieve Philadelphia brand fit, we also took the time to read about and incorporate themes of Philadelphia culture into our games.

The second phase was prototyping. With research findings in hand, we moved into rapid prototyping to design and test core gameplay loops. Structured for quick ideation, we held prototyping workshops to build a number of original concepts rather than settling on polishing a single idea. Beyond using the sessions to generate new ideas, they also served as places to pilot other team members' game prototypes and identify design problems as a critique group. As a whole, we wanted to get playable versions in front of people quickly, kill weak ideas early, and double down on what worked.

The third phase was testing. We tested game appeal and brand alignment through two channels: conversations with Inquirer stakeholders, and user testing sessions with Philadelphia locals. Stakeholder check-ins happened weekly with the VP of Product and Lead PM at the Inquirer, keeping the work aligned with the organization's priorities throughout. User testing with locals gave us clarity not only about the playability of our games, but also the Philly-themed content.

Non-Goals

Narrowing our scope, we decided not to focus on the specifics of marketing and placing our games on the main Philadelphia Inquirer website. We also avoided lingering on back end code development. Given our backgrounds as designers, UX researchers, and product managers, we also leaned into our research insights and design skills to build a range of well-designed game prototypes rather than concentrating on details such as product placement and back-end code development.

Our clients were also enthusiastic about our exploratory direction. We learned from early conversations that The Inquirer wanted a low-lift product that could be quickly rolled out. They were looking for an initial signal to test whether games could move the needle for their audience. For us, this constraint led us to focus on innovating on simple game concepts rather than designing games that could be difficult for developers to implement.

Research

Our research unfolded across three methods: a structured competitive analysis of the existing games market, semi-structured expert interviews with practitioners at the intersection of games

and journalism, and firsthand play sessions with games from our competitive sample. These methods ran in parallel rather than in sequence, with findings from each informing how we interpreted the others. Together they produced a clear picture of what the market was missing and what design direction would address it.

Competitive Analysis

We needed to understand two things before designing anything: what makes games work in general, and what the existing market for news games actually looks like. We approached these as two separate but related questions, running them in parallel rather than sequentially.

Sampling Strategy

To answer the first question, we selected platforms and products that represented the full range of the market we were entering. Our sample covered established news publishers with mature games products (The New York Times, The Washington Post), non-news platforms that had recently entered the space (LinkedIn), social party games with strong community ecosystems (Jackbox Games), and older games that maintained a loyal user base (FarmVille, QuizUp). We chose these not because they were direct competitors to what the Inquirer might build, but because together they mapped the design space we were working in. Each category represented a different answer to the question of how games build and retain an audience.

Methods

Our competitive analysis combined structured scoring with qualitative observation across the team. One team member developed and applied the eight-dimension scoring rubric, rating each game in the sample through firsthand play and criteria-based expert judgment. This single-rater approach introduces the risk of individual bias, and the absence of inter-rater reliability checks is a limitation of this analysis. Findings should be read as a directional framework for identifying patterns across the sample rather than a definitive comparative ranking.

Alongside the structured scoring, all three team members played games from the sample independently and shared observations, reactions, and emerging hypotheses through ongoing team discussion. These conversations informed how we interpreted scores and identified patterns that the rubric alone could not capture, for instance, noticing that games requiring number-based reasoning felt categorically harder to pick up than word or pattern-based formats, regardless of their nominal friction score.

Secondary research focused on publicly available discourse around each product. We conducted a systematic review of Reddit threads, app store reviews, YouTube commentary, creator interviews, and industry reporting, drawing insights directly from the material rather than delegating synthesis to automated tools. This kept the analysis grounded in the actual texture of player and creator experience rather than abstracted summaries.

Scoring Dimensions

We structured our initial competitive analysis around eight dimensions:

1. **Gameplay Friction:** how fast and lightweight a session feels
2. **Mastery Depth:** does skill meaningfully improve outcomes?
3. **Social Mode Strength:** quality of competitive or collaborative play
4. **Shareability Quality:** how easy and polite it is to share results
5. **Habit Strength:** how well it drives repeat visits
6. **Identity Signaling:** does playing say something about “who I am”?
7. **Editorial Extensibility:** ability to plug into topical or informational content
8. **Subscription Adjacency:** how naturally it supports paid retention or conversion

The eight dimensions did not emerge from a single source. They developed through a combination of literature review, firsthand play, and the specific constraints of our research context.

Five dimensions mapped directly onto established frameworks in game design and behavioral psychology, which we reviewed before finalizing the rubric. Self-Determination Theory argues that games satisfy three psychological needs –competence, autonomy, and relatedness –all of which independently predict enjoyment and continued play (Ryan, Rigby & Przybylski, 2006). Competence maps onto **Mastery Depth** (dimension 2), which asks whether skill meaningfully improved outcomes over time. Autonomy maps onto **Gameplay Friction** (dimension 1), which measures how quickly and easily a player could begin. A game that is too hard to enter removes the player's sense of choice before they have started. Relatedness maps onto **Social Mode Strength** (dimension 3), which assesses the quality of competitive or collaborative play within a game.

Habit Strength (dimension 5) drew from Kahneman and Tversky's research on loss aversion (1979). Streaks work because once a player has built a streak, missing a day feels like losing something already owned rather than simply failing to gain something new. This asymmetry makes streaks a more powerful retention tool than leaderboards or social sharing alone, which is why apps like Duolingo and The New York Times Crossword have built robust daily activity tracking systems. Our social media research revealed that streaks are an essential part of the NYT Crossword experience; on the subreddit r/crossword, posts lamenting broken streaks as well as highlighting unusually long ones appear regularly and attract significant engagement.. The value of streaks also came up independently in our interview with John Temple, cofounder of Amuse Labs, who ranked streaks above every other mechanic for driving subscriber retention.

Shareability Quality (dimension 4) and **Identity Signaling** (dimension 6) drew from Social Identity Theory. Players share results to signal competence and group membership, not just to

communicate (Cauberghe, De Grove & Van Looy, 2014; Tajfel & Turner, 1986). This is why a shareable result snippet, like Wordle's colored grid, drives organic distribution in ways a leaderboard alone does not.

The remaining two dimensions, **Editorial Extensibility** (dimension 7), integration with existing news coverage, and **Subscription Adjacency** (dimension 8), emerged from the specific context of our project. We could not find an existing game design framework that accounts for the ways a publisher might use games to connect audiences with local reporting, archives, or community-specific content, or for the relationship between game engagement and subscription behavior. These dimensions were relevant because they captured what the other six could not: whether a game could actually serve a news organization's editorial and business goals, which was the central question driving our analysis.

Scoring

The table below shows scores for each game across all eight dimensions. Scores were assigned on a scale of 1 to 5, where 1 indicates low performance or low skill requirement, as applicable, on a given dimension and 5 indicates high performance or high skill requirement. Blank cells indicate insufficient data at the time of scoring. Each score reflects criteria-based expert judgment applied through firsthand play and secondary research, as described under Methods.

Game	Friction	Mastery	Social	Shareability	Habit	Identity	Editorial	Subscription
NYT Wordle	1	3	3	5	5	-	2	-
NYT Mini	3	3	3	3	3	4	3	4
NYT Crossword	5	5	2	3	4	5	3	5
WaPo Keyword	1	2	3	3	4	3	4	2
LinkedIn Games	3	4	2	2	3	3	2	4
QuizUp	4	4	5	2	3	3	4	-
Jackbox	3	4	5	2	2	3	2	2
FarmVille	2	2	5	2	5	1	1	1

1 2 3 4 5 ← low high →

Table 1: Scores from our competitive analysis

Scores were assigned through single-rater expert judgment by one team member with extensive firsthand experience across the full sample. While this approach introduces the risk of individual bias, it reflects a structured application of pre-defined criteria rather than subjective impression. A limitation of this analysis is the absence of inter-rater reliability checks. Findings should be read as a directional framework for identifying patterns across the sample rather than a definitive comparative ranking.

Expert Interviews

To supplement our competitive analysis and prototype testing, we conducted semi-structured interviews with three experts working at the intersection of games, audience engagement, and journalism: John Temple, cofounder of Amuse Labs; Juliette Seive, managing director of game audience insights at The New York Times; and Sam Morris, interactives editor at The Philadelphia Inquirer. These interviews helped us connect our research findings to the real-world goals and constraints of publisher game products.

John Temple (Amuse Labs)

John Temple is a journalist and cofounder of Amuse Labs, which created PuzzleMe, a digital games platform used by publishers including The Washington Post, The Guardian, and the Los Angeles Times.

Temple argued that publishers should not expect games alone to convert large numbers of strangers into subscribers. Instead, their value comes from reducing churn among existing readers by creating habitual engagement. He framed this in economic terms: if a publisher spends significant resources acquiring a subscriber, every additional week or month that subscriber remains active improves the return on that investment.

A recurring theme in the interview was the importance of streaks and daily habits. Temple explicitly ranked streaks above leaderboards and social sharing as the strongest retention mechanic. External reminders, such as newsletters and push notifications, were also important because they pulled users back into a daily routine. He pointed to “clue of the day” teaser messaging as an example of how reminders can feel enticing rather than intrusive or annoying.

Temple also described what he viewed as the most effective audience funnel for publisher games: free play first, registration second, and paywall later. Players should be able to discover whether a game is enjoyable before encountering subscription barriers. Registration creates value on its own because email collection enables future engagement and marketing opportunities.

Another important insight from Temple was that publishers do not necessarily need wholly original game formats to succeed. He argued that news organizations should offer both “table stakes” games, such as crosswords or sudoku, and more distinctive branded experiences. He noted that even large organizations like The New York Times continue to invest in familiar formats because users expect them and will leave the platform to play elsewhere if they are unavailable. At the same time, Temple pointed to examples such as The Guardian’s Wordiply and Morning Brew’s Decipher as evidence that recognizable mechanics, which are the fundamental action a player repeats to progress, can still feel unique when paired with a publication’s editorial identity and audience.

Temple repeatedly stressed that business strategy must come before feature decisions. Whether a publisher prioritizes retention, registrations, or advertising revenue changes what should remain free, what should be gated, and what kinds of games are worth building. His interview strongly shaped our eventual direction toward low-friction, habit-forming games rooted in Philadelphia identity rather than entirely novel mechanics.

Juliette Seive (The New York Times Games)

We also spoke with Juliette Seive, Managing Director of Audience Insights at The New York Times Games, through a separate UX research project focused on competitive analysis within the digital games space. While Seive did not share proprietary internal data, the conversation helped validate several patterns we were independently observing in our own research.

Seive noted that NYT Games is curious about monitoring non-news companies that recently entered the casual puzzle and games space, particularly LinkedIn and Netflix. She also identified highly gamified products outside traditional gaming, including Duolingo, Headspace, and Wordscapes Solitaire, as relevant points of comparison because of their strong habit-building mechanics and user engagement loops.

This conversation reinforced our decision to study LinkedIn and Netflix as part of our own competitive analysis. Hearing that NYT Games was also paying attention to these companies reassured us that we were exploring relevant examples within the broader games landscape.

More broadly, speaking with a leader from NYT Games was useful because it challenged the idea that The New York Times represents the final word on publisher games. While NYT Games is often treated within the news industry as the dominant model to emulate, our conversation with Seive highlighted that even NYT Games actively studies competitors and adjacent products outside traditional journalism. This encouraged us to approach the games space more openly rather than treating NYT Games as the single blueprint for success.

Sam Morris (The Philadelphia Inquirer)

Our interview with Sam Morris, Interactives Editor at The Philadelphia Inquirer, helped us better understand the organization's previous game-related experiments and internal priorities.

Morris walked us through a number of the Inquirer's earlier interactive and game-adjacent projects, including Birdle, an Eagles-themed Wordle variant, along with several seasonal or event-specific interactives tied to Philadelphia news stories. A clear pattern emerged from this discussion: most of the Inquirer's prior game efforts were designed as one-off editorial experiences connected to specific moments in the news cycle rather than evergreen products intended for daily engagement throughout the year (or over many years).

This distinction proved important for our research. Morris explained that the interactives desk primarily focuses on creating engaging ways to tell news stories, often through visual storytelling or interactivity. In that context, games functioned as creative editorial treatments rather than long-term audience products. Our project, by contrast, focused on designing evergreen mini-games that could update continuously throughout the year and potentially support repeat engagement, habit formation, and retention.

The interview also confirmed patterns we had already identified through internal stakeholder conversations and review of the Inquirer's existing games experiments. The organization had demonstrated clear interest in playful, Philadelphia-specific experiences, but had not yet developed a coordinated long-term games strategy comparable to outlets like the New York Times.

Together, these interviews sharpened our understanding of what role games could realistically play at the Inquirer. Temple emphasized retention and habit formation over novelty, Seive encouraged us to think beyond the New York Times as the sole model for publisher games, and Morris clarified the difference between one-off editorial interactives and evergreen audience products. Combined, these conversations reinforced our decision to pursue low-friction, Philly-themed games designed for repeat daily engagement.

Generative Play Sessions

Alongside the structured competitive analysis, we conducted informal play sessions across a range of game formats and modalities to generate design ideas rather than produce structured findings. These sessions were not recorded or coded, and are not presented as data. Their purpose was generative: to build firsthand intuition about what makes games feel engaging, frustrating, satisfying, or forgettable, and to surface ideas that a purely analytical review of existing products would not have reached.

Play ranged across digital puzzle games, mobile casual games, party games, and physical card and board games. Sessions included games found in the competitive analysis sample as well

as games outside it, including titles played at a local gaming cafe with friends and colleagues. Skill levels and familiarity with each format varied across team members, which proved useful: a player encountering a game for the first time notices friction points that an experienced player has already internalized.

These sessions informed the design process in two ways. First, they gave team members a felt sense of what the scoring rubric was measuring: playing a high-friction game clarified what low friction actually means in practice. Second, they surfaced direct design inspiration. Playing Sushi Go, a card game built around food theming and constraint-based scoring, inspired us to create Philly Plates. The physical format of the game was hiding a logic puzzle structure that became visible to us through multimodal play.

Research Synthesis

Our scoring data from the competitive analysis identified a consistent gap: no game in the market covered habit formation, editorial depth, and subscription adjacency together. That finding told us what to build toward, but not how to get there. Notably, the editorial dimension had clear precedent even if the literature had not named it. The NYT Crossword is valued not just as a puzzle but as a cultural institution with its own editorial voice. Vulture's crosswords are built around pop culture, matching their audience precisely. Publishers that have built successful game products have done so by giving those products a distinct identity tied to their brand. When we asked the Inquirer's stakeholders how they wanted to approach this, the answer was direct: make it Philly.

Our interview with Temple gave us the how. He was direct about where the opportunity sat. Games are retention tools before they are acquisition tools. The publishers seeing real results, like the Boston Globe, the Seattle Times, Morning Brew, were not building novel game mechanics from scratch. They were taking formats players already understood and layering their own content and identity on top. Temple pointed to Morning Brew's Decipher as a clean example: a familiar word game format, reskinned for a business news audience, generating daily habit without requiring players to learn anything new. The low onboarding cost was the point. When a player already knows how to play, the publisher's only job is to give them a reason to come back.

The clearest confirmation came from outside the major platforms entirely. While benchmarking LinkedIn's Queens game, we traced it back to Star Battle, a logic puzzle that had existed for years on an independent hobbyist site. Following that thread through the rest of the archive revealed the same pattern repeatedly: games currently generating significant engagement on major platforms were repackaged versions of formats that had existed, largely unnoticed, for decades. LinkedIn had not invented Queens. The NYT had not invented the crossword or Wordle's core mechanic. They had found formats with proven player behavior, added a constraint or thematic identity, and distributed them at scale.

We concluded that the market was not missing a new type of game; it was missing a game that combined a proven format with the right content layer and the right habit mechanics for a local news audience. The Informed Product Concept section below describes how we translated that conclusion into a design direction.

Informed Product Concept

Our analysis pointed to three design levers, each of which addressed an aspect of our initial problem.

First, user growth requires low onboarding friction. Players who already understand a game's format do not need to be taught before they can enjoy it. Classic game mechanics solve this by carrying existing mental models into a new context. A player who has never heard of Philly Fib (one of the game concepts we designed specifically for The Inquirer) may already know how to play Jackbox Games's Fibbage game (which helped inspire Philly Fib), and will definitely have played a word search puzzle similar to Philly Ingredients (another one of the game concepts we designed).

Second, user retention requires daily habit formation. Our competitive analysis and Temple's practitioner insight converged on the same mechanic: streaks. Once a player has built a streak, missing a day feels like a loss. A daily format with a new puzzle each day gives players a reason to return that is independent of any single game session.

Third, brand alignment requires local specificity. Generic puzzle games are available everywhere. What the Inquirer can offer further than no national platform can is Philadelphia — its history, its food culture, its sports, and its particular weirdness. Every game in the suite had to feel like it could only have come from this city and this publication.

Therefore, in order to improve growth, retention, and brand alignment, we decided to build games with a classic format, plus daily habit, plus Philly identity.

One further decision followed from the competitive analysis: we built a suite of games rather than a single product. Our research showed that game preferences vary significantly across players. Even Wordle, despite its remarkable reach, does not have universal appeal. Different players are drawn to different formats, different levels of difficulty, and different kinds of social interaction. A single game, however well designed, would reach only a subset of the Inquirer's potential audience. A suite allowed us to match different game formats to different player motivations, increasing the likelihood that any given reader would find something worth returning to.

With that direction set, we used AI development tools including Claude Code and Lovable to build six playable prototypes. Developing with AI meant we could spend more time on game

design and test high-fidelity prototypes with real participants far ahead of a traditional product schedule.

User Journey and Business Touchpoints

Before describing how we built the games, it is worth explaining how we envisioned players encountering them and where the Inquirer's business interests would be served.

The traffic decline facing publishers like the Inquirer is ultimately a problem of owned audience: too many readers arrive through channels the Inquirer does not control and leave without establishing a direct relationship. A tiered access model turns each game session into an opportunity to deepen that relationship, from anonymous visitor to registered user to paying subscriber.

A Philadelphia Inquirer reader or game enthusiast would encounter Philly Games through the Inquirer's webpage or mobile app. They would play for free, with no barriers to entry. A player who has not yet decided whether a game is worth their time should not be asked to register or pay before finding out.

Returning players who wanted to track their progress with streaks, scores, and archived levels, would encounter a registration prompt. This would be the first meaningful business touchpoint. An email address collected at registration has direct monetary value to the Inquirer: it enables newsletters, push notifications, and re-engagement campaigns that pull players back into a daily habit. Registration converts a casual visitor into a known user without requiring a financial commitment.

Players who wanted access to archived levels, special features, or premium content would encounter a subscription prompt. This is the familiar news 'paywall', which works here because it comes last. By this point the player would already know the game is enjoyable, already has a streak worth protecting, and already thinks of themselves as a Philly Games player. The subscription nudge is likely to be more effective on someone with an established habit than on a stranger encountering the product for the first time.

Throughout this journey, each returning player would be a retained user. Sign-ins collect first-party data, becoming user behavior and preferences owned directly by the Inquirer rather than mediated through a third-party platform. Unlocking archived levels would bring in subscribers. The funnel would move from free play to registration to subscription, with each stage building the conditions that would make the next stage feel worthwhile.

Design Process

Each game in the Philly Games suite followed a shared development process, moving from concept through testing in six stages. The prototyping and testing phases of our roadmap each broke down into more granular stages, described below.

The process began with concept development. We identified game formats with proven player behavior and asked how each might be adapted for a Philadelphia news audience. Some concepts were direct adaptations of existing games. Others were original combinations of familiar mechanics. In both cases, the starting question was the same: does this format have a natural connection to Philadelphia culture, Inquirer editorial content, or both?

The second stage was editorial and content integration (connecting game content to journalism, archives, or topics covered by the Inquirer) alongside theming (grounding the game's visual identity, language, and references in Philadelphia's specific cultural character, like its food, sports, history, and local weirdness). These were related but distinct decisions. A game could be editorially connected without feeling local, and it could feel distinctly Philadelphian without drawing on Inquirer content.

The third stage was sketch prototyping. Before building interactive digital prototypes, we mapped out core gameplay loops, screen flows, and key interactions. This kept design decisions cheap to change and forced us to articulate the rules of each game in plain language before building anything.

The fourth stage was writing a description with constraints. Each game was documented as a structured brief: what the game was, how it worked, what the win and fail conditions were, what the Philadelphia content layer looked like, and what technical constraints applied. This brief served as the primary input for the next stage.

The fifth stage was AI-assisted coding using Claude Code and Lovable. Working from the game briefs, we built high-fidelity prototypes, which were fully playable but limited versions of our games, in a fraction of the time a traditional development schedule would have required. This compressed timeline meant we could test real, playable games with participants rather than asking them to imagine how a game might feel.

The sixth stage was deployment and testing. Completed prototypes were hosted via Github Pages, Vercel, and Lovable, and made accessible through a web browser on both desktop and mobile. User testing was conducted through the Philadelphia Inquirer's existing research pipeline at UserTesting.com, which required participants to sign non-disclosure agreements (NDAs) before play sessions. Testing with real Philadelphia locals gave us direct signals on what was working and what needed iteration before any public release.

Six Games Developed

Using the process described above, we developed six playable prototypes spanning trivia, deduction, logic, opinion, and word-based puzzle formats. While each game drew inspiration from recognizable mechanics, the prototypes varied substantially in tone, pacing, and the type of Philadelphia knowledge they asked players to engage with.

Across the six prototypes, we repeatedly explored the same broader idea: how existing Inquirer content could become repeatable game material rather than remaining confined to a single article or publication cycle. Several games specifically draw from the Inquirer's growing investment in food and sports coverage, two areas the organization has increasingly prioritized as part of its broader audience strategy. Rather than inventing entirely new genres, each project adapts a recognizable game format into a Philadelphia-specific context tied to local reporting, culture, or identity.

1. Philly Fib

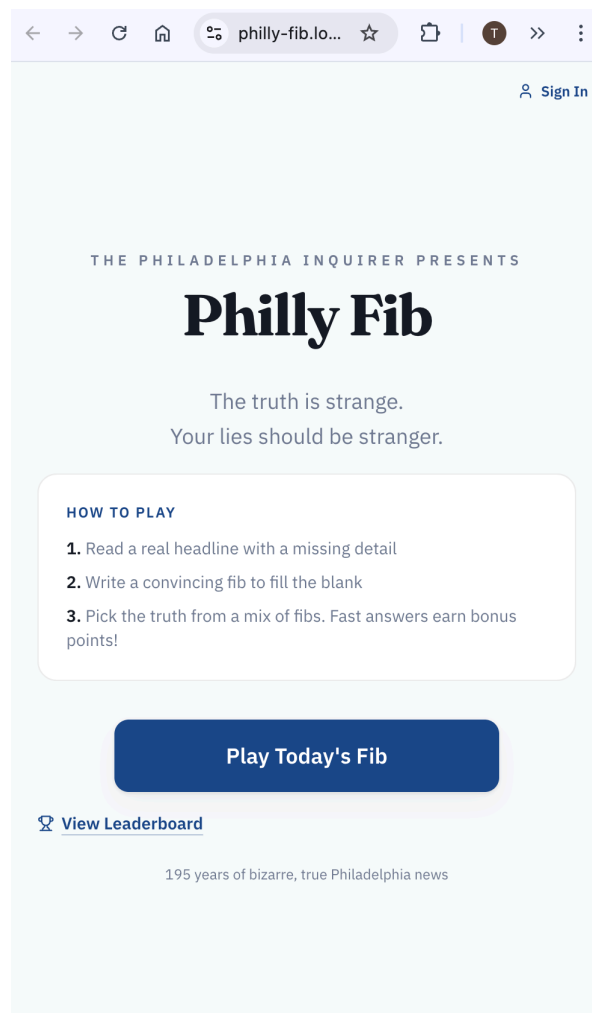


Fig 2: A screenshot from Philly Fib

Philly Fib adapts the bluffing format of Jackbox Games's Fibbage into a news game built around bizarre but true Philadelphia headlines and local stories. Players fill in missing details from real headlines, submit fake answers designed to fool others, and attempt to identify the correct response from a list of options.

The project explores the natural overlap between bluffing games and news consumption: both revolve around plausibility, interpretation, and distinguishing truth from misinformation. A major design challenge was adapting Fibbage from a live party game into a mobile-first format suitable for solo or asynchronous play. The game also resurfaces archival Inquirer stories that would otherwise remain buried in the archive.

2. Philly Plates

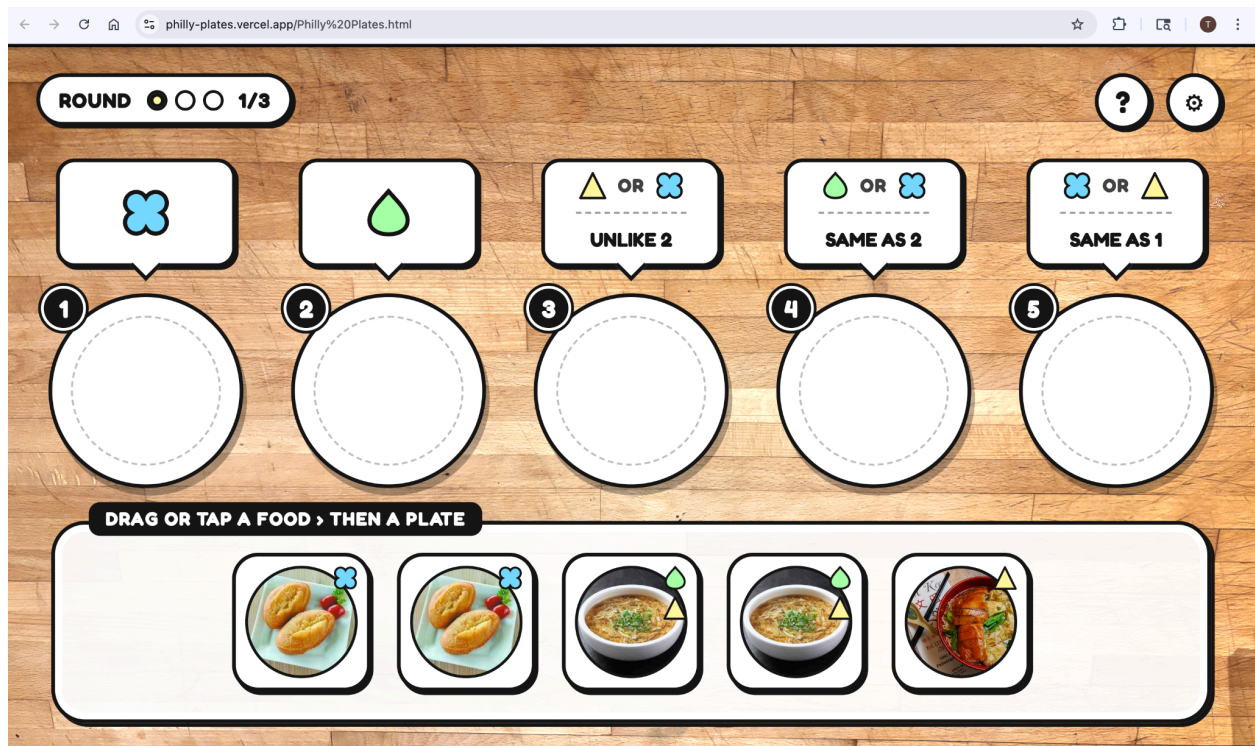


Fig 3: A screenshot from Philly Plates

Philly Plates is a food-themed logic puzzle inspired by Is This Seat Taken?, Puzzle Baron logic puzzles, and the pattern-recognition gameplay of Pips from NYT Games. Players organize dishes according to a set of constraints, gradually solving a puzzle tied to a specific Philadelphia area restaurant.

The game draws directly from “The 76,” the Inquirer’s annual list of the best restaurants in the Philadelphia area. After completing a puzzle, players see the names of the dishes alongside the restaurant they come from, connecting gameplay back to local restaurants and existing food coverage. The project explores how recurring editorial projects like restaurant rankings can become repeatable interactive experiences.

3. Philly Phony

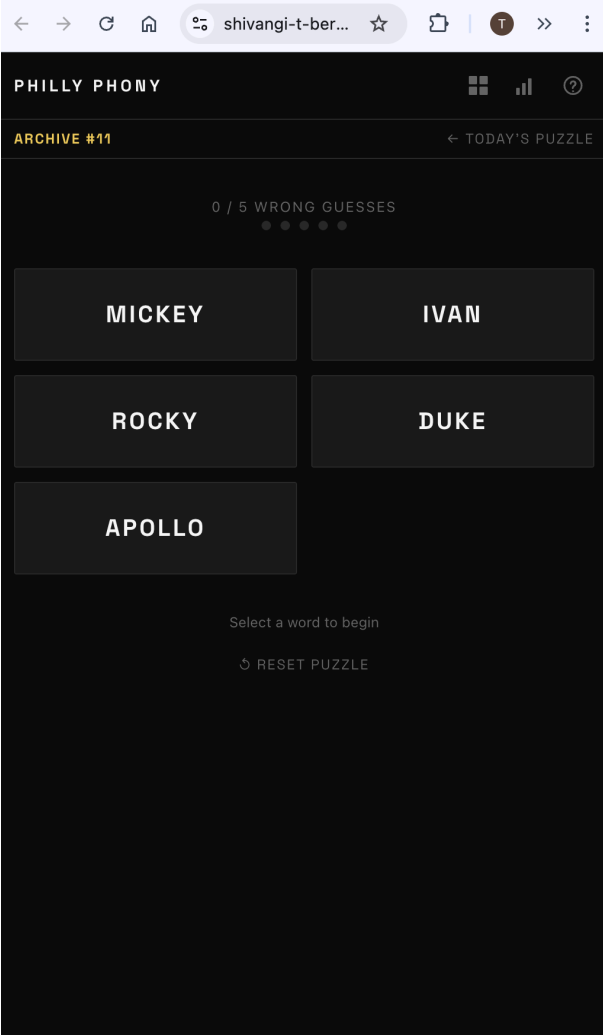


Fig 4: A screenshot from Philly Phony

Philly Phony is a category-based deduction game inspired by Connections from NYT Games and by trivia games (online or played in person in bars and other settings). Players identify which item does not belong within a themed group using pattern recognition and contextual clues rather than direct trivia recall. The game incorporates Philadelphia sports references, neighborhoods, local businesses, and regionally recognizable knowledge.

4. Philly Taste

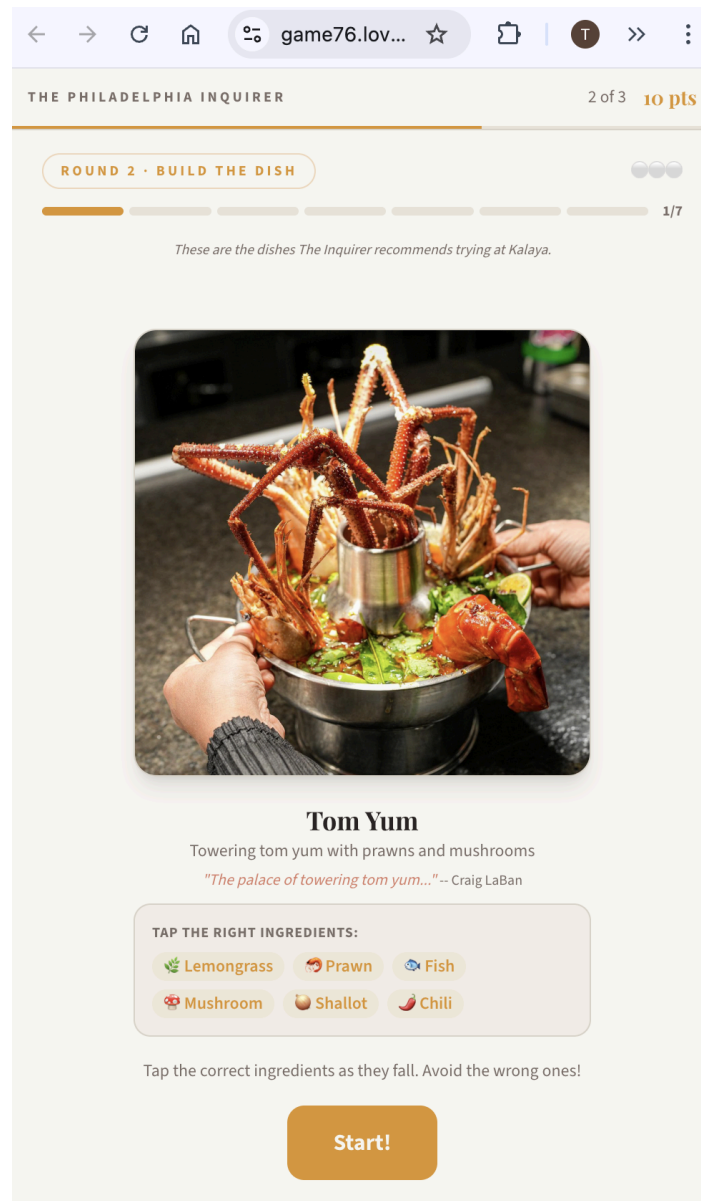


Fig 5: A screenshot from Philly Taste

Philly Taste combines elements from Fruit Ninja, QuizUp, and MapTap.gg into a three-round game built around Philadelphia restaurant coverage. Like Philly Plates, the project draws heavily from the Inquirer's food journalism, "The 76," and broader audience initiatives such as Food Fest.

The first round asks players to identify a restaurant based on a description written by an Inquirer reporter. The second round turns recipe ingredients into a Fruit Ninja-style slicing game. The final round asks players to guess where the restaurant is located on a map of Philadelphia, testing neighborhood familiarity alongside food knowledge. The project explores whether food journalism can support multiple styles of gameplay within a single experience.

5. Philly Ingredients:



Fig 6: A screenshot from Philly Ingredients

Philly Ingredients adapts the classic word-search format around recipe ingredients and Philadelphia food culture. Players search for ingredients using visual hints, with completed puzzles revealing both a dish and the Philadelphia restaurant associated with it.

Among the prototypes, Philly Ingredients represents the most direct adaptation of a familiar puzzle structure into a localized editorial context. The project tests whether lightweight, highly recognizable gameplay can still create meaningful engagement when paired with local restaurant discovery.

6. Philly Takes

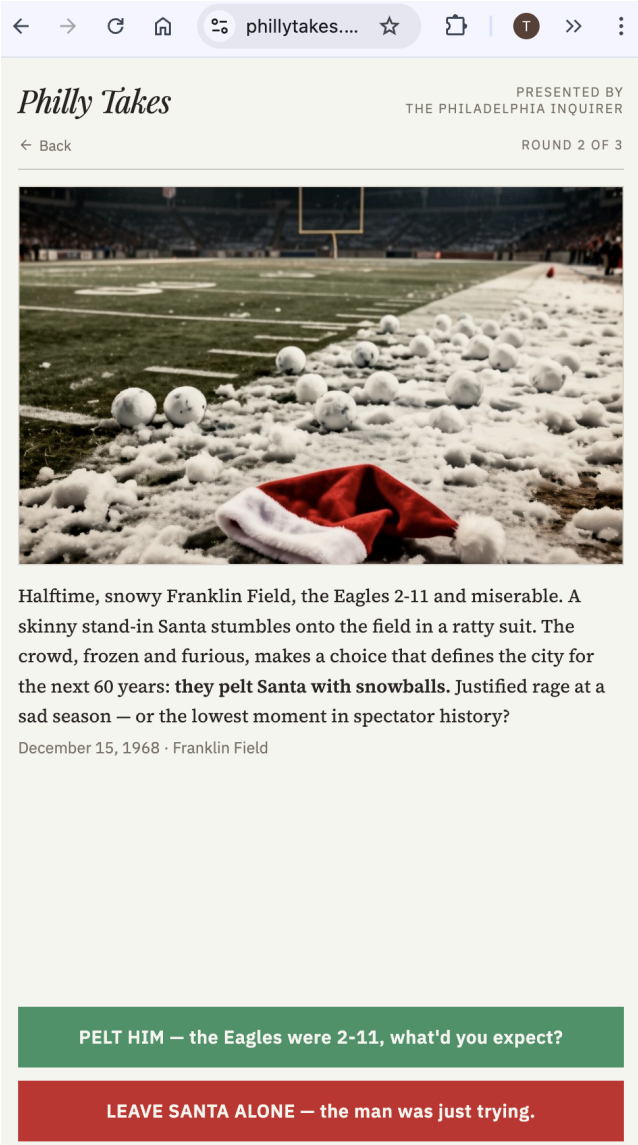


Fig 7: A screenshot from Philly Takes

Philly Takes is a social opinion game centered on recognizable Philadelphia debates, sports discourse, and cultural references. Players respond to prompts, compare answers, and see how their opinions align with broader player sentiment.

The game draws inspiration from social ranking and opinion-sharing formats commonly found on mobile and party-game platforms, but adapts them around Philadelphia identity and local conversation topics. Compared to the other prototypes, Philly Takes focuses least on puzzle solving and most on participation, comparison, and social sharing.

Testing

To test whether our games resonated with Philadelphia locals, we conducted unmoderated think-aloud usability sessions paired with post-play surveys via the [UserTesting.com](https://www.usertesting.com) platform. Participants were not filtered by any criteria except for location; they were Philadelphia residents aged 18-90, any gender, and any income bracket. This participant pool is representative of the Inquirer's readership, and consistent with their usual user testing pool. Participants played each game independently with no researcher present, verbalizing their thoughts throughout both the gameplay and survey portions of the session. These sessions were recorded. The think-aloud protocol captured real-time reactions, pain points, and moments of delight as they occurred during play, while the survey prompted structured reflection on enjoyment, usability, and social sharing intent after the session ended.

Ten participants tested Philly Fib. Six participants tested both Philly Phony and Philly Plates. Survey questions used a mixed-methods design, combining Likert-scale items for quick interpretability and comparability across participants with open-ended follow-up questions asking participants to explain their ratings. This allowed us to identify not just whether players enjoyed a game or would share it, but why, producing actionable insight for iteration rather than scores alone.

Findings: Philly Fib

Philly Fib adapts the bluffing format of Jackbox Games's Fibbage into a daily news game built around real Philadelphia headlines. Ten participants tested Philly Fib through UserTesting.com using an unmoderated think-aloud protocol paired with a post-play mixed-methods survey, as described above. Participant 4's session produced no audio and was excluded from analysis, yielding nine valid respondents.

Think-aloud session findings

Onboarding was smooth across almost all participants. Most players understood the mechanic within the first round without needing to reread instructions. The two-part structure of writing a fib, then spotting the truth confused a small number of players initially (Participant 5 asked "why am I writing a convincing fib but also picking the truth?"), but the confusion resolved itself within

the first question for most. This suggests the instructions could be tightened but are not a significant barrier.

The content was the strongest driver of real-time engagement. Players responded visibly to recognizing Philadelphia references, like the Santa Claus snowball incident, the hot dog rain, Gritty's debut. Participants who identified with Philadelphia sports culture found the content particularly resonant. Participant 7 noted that a Phillies fan would probably get the hot dog answer immediately. Participant 9 got three out of three correct and expressed genuine delight.

One technical bug appeared in Participant 10's session: a duplicate answer choice appeared in one round, and the participant was penalized for selecting it. This is a content quality issue rather than a game design issue, but it needs flagging.

Survey findings

Daily play intent was strong. Five of the nine valid participants said they would play daily or close to it. Several others said they would play regularly but not necessarily every day, often citing the need for a notification or reminder to build the habit. This maps directly onto Temple's finding that external reminders are essential for habit formation, and the game alone is not enough to create a daily routine without a pull mechanism.

Social sharing intent was moderate but conditional. Most participants said they would challenge a friend, but several added conditions: they would only share with friends they knew already liked this type of game, or they would share if they knew their friends were already playing. Participant 2 said explicitly that he does not like "bothering people" with game challenges.

Incentive suggestions came up unprompted from multiple participants. Participant 5 wanted cash rewards. Participant 7 suggested sweepstakes tied to local businesses. Participant 8 wanted competitive leaderboards with friends. These are different in scale but point at the same gap: the game does not yet give players a reason to maintain a streak beyond personal satisfaction.

The game was described as informative by several participants independently and without prompting. Participant 2 said "you actually learn something." Participant 3 said "I like the fact that it gives facts." Participant 7 said "I'm learning something new." This is a consistent and unprompted signal that the educational dimension of the content is a genuine engagement driver, not just a side effect.

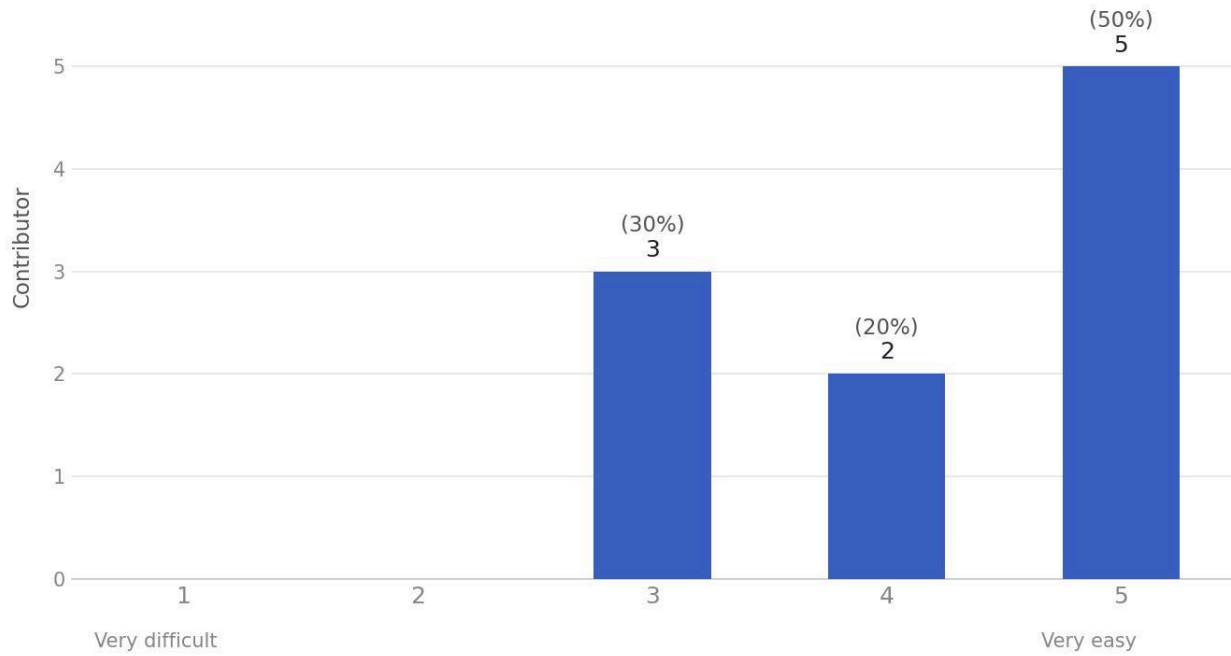


Fig 8: "Overall this task was: " Self-reported game difficulty of Philly Fib (n=10)

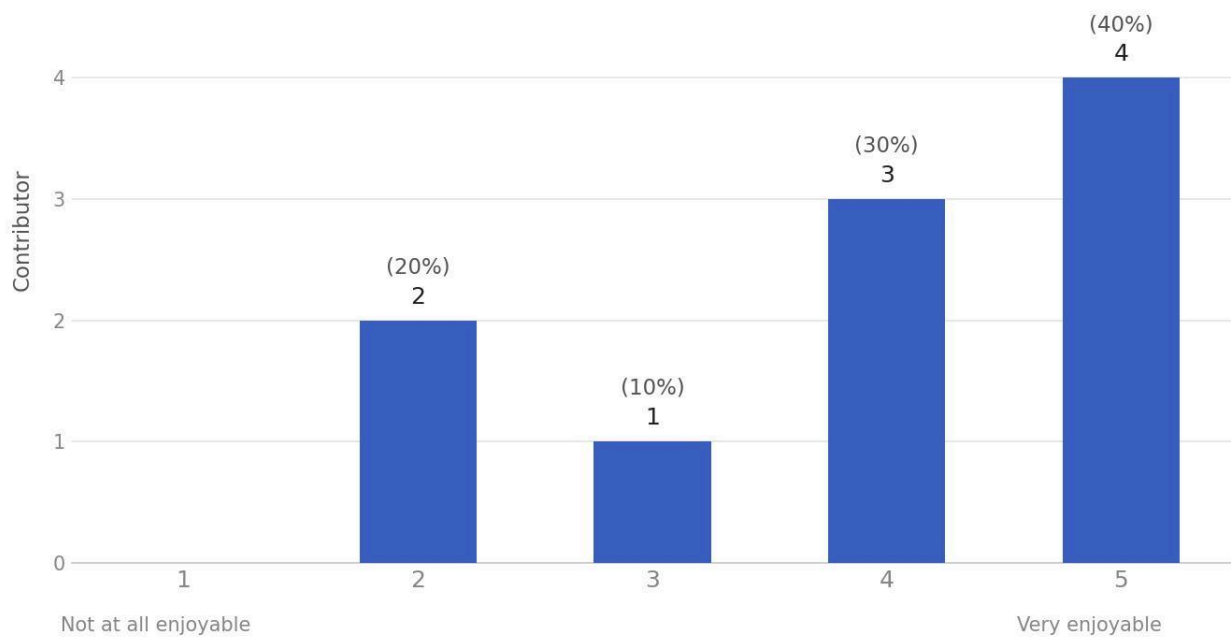


Fig 9: "Did you enjoy this game?" Self-reported enjoyment of Philly Fib (n=10)

Takeaway

Philly Fib was the strongest performer across all three dimensions measured: usability, enjoyment, and social sharing intent. The content was delightful, and players found the Philadelphia references funny, surprising, and informative in the same session, which maps onto the three player motivations — social connection, identity signaling, and learning — that our competitive analysis identified as hardest to satisfy simultaneously. The clearest iteration priorities are resolving the duplicate answer bug, integrating push notification or newsletter reminders to support daily habit formation, and developing the social infrastructure around the challenge feature.

Findings: Philly Phony

Philly Phony presents players with five words, four of which share a hidden connection. The player must identify the one word that does not belong, with progressive hints unlocking on each wrong guess. Six participants tested the game through UserTesting.com, paired with Philly Plates in the same session. Game order was counterbalanced across participants to reduce order effects on comparative ratings. Odd-numbered participants played Philly Plates first, even-numbered participants played Philly Phony first.

Think-aloud session findings

The core mechanic landed consistently across all six participants. Every player who completed the game understood the objective, which was to identify the word that does not belong, even when they struggled with specific puzzles. For the test puzzle (stone, iron, copper, bronze, ice): participants guessed ice first almost universally, received the historical connection hint after an incorrect guess, and then worked through the remaining options logically. None of the six participants found this process frustrating. Several described it as the most satisfying moment in the session. One participant said the result was "kind of cool." Another said "that's fun" after learning that the Iron Age was a recognized historical period. This pattern held across participants regardless of whether they ultimately identified the correct answer on the second or third guess.

The primary friction point was onboarding. Several participants read the instruction screen without fully absorbing it before play began, and had to reread or reorient mid-game. The tutorial was presented as a block of text before gameplay rather than integrated into the first puzzle. This meant players were being asked to retain rules before they had any context for what those rules would feel like in practice. A tutorial that introduces mechanics through a low-stakes practice puzzle would likely reduce early confusion without reducing challenge.

Survey findings

Enjoyment scores were the strongest of the three games tested, with a mean of roughly 4 out of 5 and no participant rating the game a 1. Half of all participants gave it the highest possible enjoyment score. Participants described the game as challenging in a way that felt rewarding rather than frustrating, with several noting that it tested their thinking without making them feel stupid. One participant compared it favorably to NYT Games puzzles, describing it as "reminiscent of that for me" and noting they liked how it kept their brain sharp during a commute.

Frequency of play intent was more divided. The most common single response was "very often," but responses were spread across the full scale, suggesting a committed subset alongside players who were less convinced. Participants who indicated lower frequency tended not to be regular puzzle players generally, rather than having specific objections to the game itself. Social sharing intent was moderate, with most participants saying they would share the game with friends or family members who already enjoy word games.

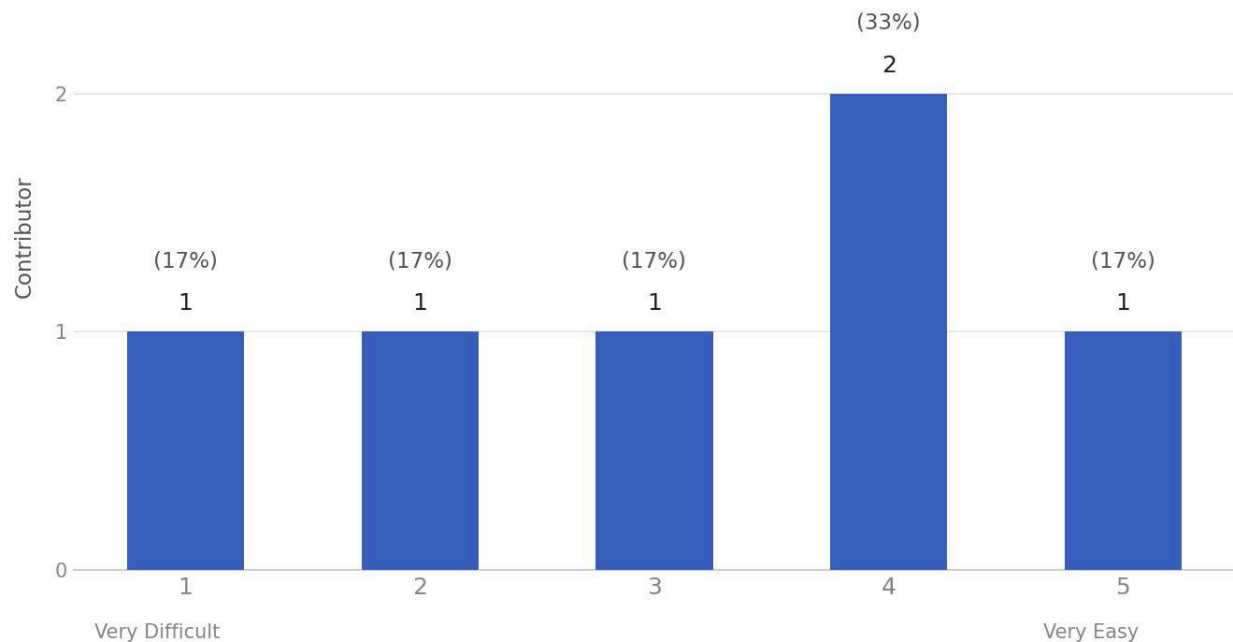


Fig 10: "Overall this task was: " Self-reported game difficulty of Philly Phony (n=6)

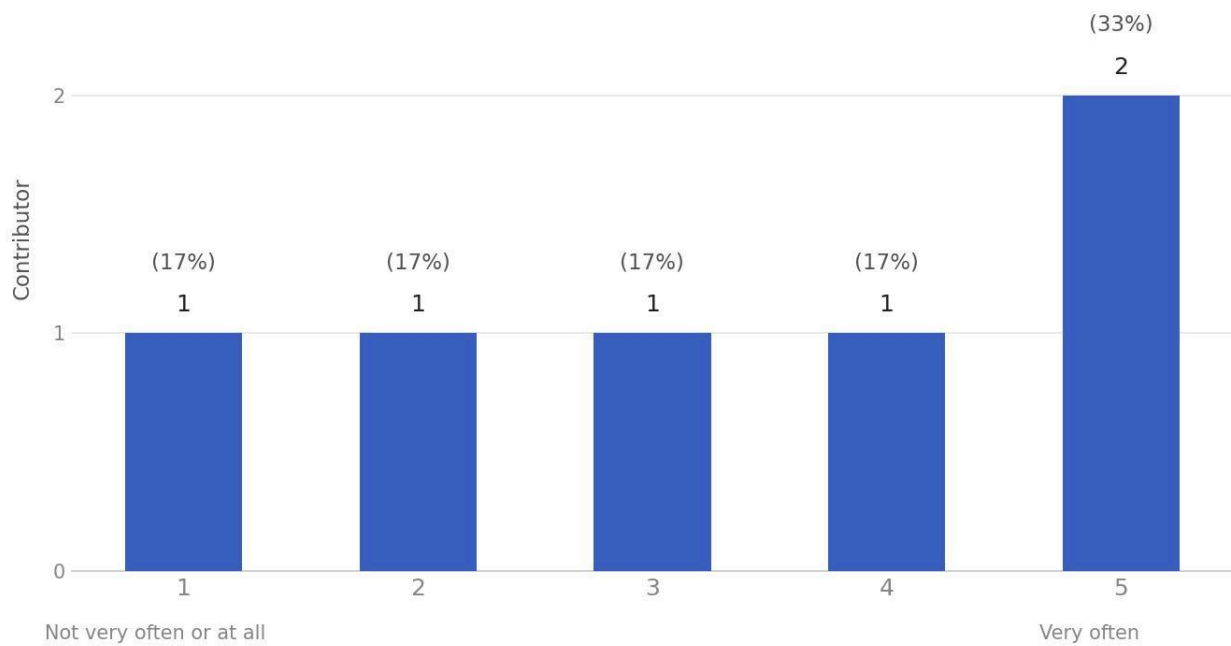


Fig 11: "How often would you play this game if at all?" Self-reported frequency at which participants would play Philly Phony (n=6)

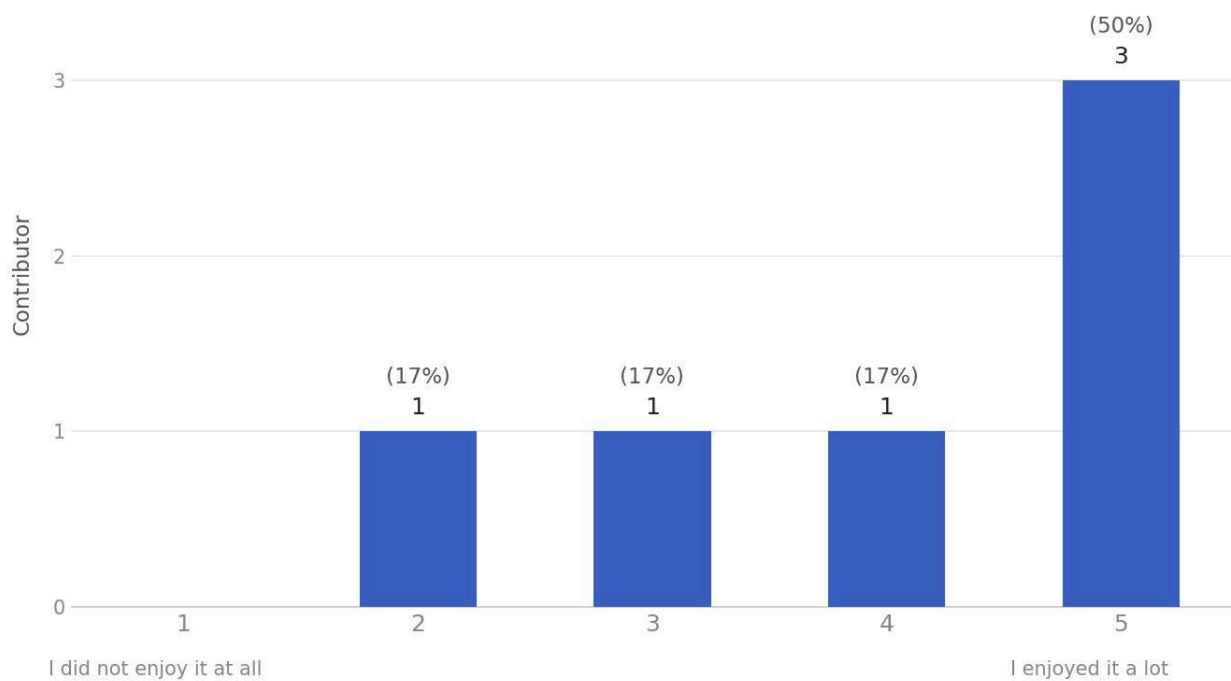


Fig 12: "Did you enjoy this game?" Self-reported enjoyment of Philly Phony (n=6)

Takeaway

The game's core mechanic is working. Players enjoy the experience of being wrong, receiving a hint, and recalibrating, which is exactly the learning-through-failure dynamic the progressive hint system was designed to produce. The gap between enjoyment scores and frequency of play intent is likely explained less by game quality than by participant gaming habits. The clearest iteration priority is onboarding: integrating tutorial mechanics into a practice puzzle rather than presenting them as pre-play instructions would reduce early friction without changing what makes the game enjoyable.

Findings: Philly Plates

Philly Plates is a food-themed logic puzzle in which players organize dishes according to a set of visual constraints, solving a puzzle tied to a specific Philadelphia restaurant featured in the Inquirer's annual restaurant rankings. Six participants tested the game in the same session as Philly Phony, with game order counterbalanced as described above. One participant's session was excluded from survey analysis due to a game crash that prevented them from completing the playthrough, yielding five valid survey respondents.

Think-aloud session findings

Three distinct friction sources appeared consistently across all five participants who successfully played the game.

The horizontal screen orientation created immediate resistance before participants had engaged with the game itself. This was exacerbated by the fact that UserTesting's own interface is meant to be used vertically, and users were forced to switch screen orientation every time they were presented with instructions. Every participant who commented on it described it as a barrier. One participant said it was "a huge barrier" because they keep their phone orientation locked. Another described having to rotate the screen as "a pain." The orientation requirement created a negative frame before players had experienced the puzzle, which likely affected subsequent enjoyment ratings.

The rule system was consistently confusing on first encounter. Terms like "same as two" and "unlike three" required multiple reads and mid-game recalibration from most participants. Several players talked themselves through the logic aloud, essentially teaching themselves the rules while playing rather than arriving at the puzzle already knowing how to engage with it. Participant 4 spent a significant portion of their session reasoning through the constraint language in real time. Participant 2 described the rules as "kind of confusing" immediately upon seeing them. Most players eventually understood the mechanic, but the cognitive load of getting there was high enough to affect how they experienced the rest of the game.

Notably, once participants understood the rules, several reported genuine enjoyment. One participant said "once I got a hang of it, yeah, I feel like I really liked it." Another said they "enjoyed it a lot." This suggests the underlying puzzle mechanic is sound but the entry point is preventing players from reaching the enjoyable part of the game quickly enough. One participant was unable to play at all because the game crashed on loading and would not reload, which is a technical issue separate from the UX findings but worth flagging for the next iteration.

Survey findings

Enjoyment scores were moderate, with a mean of 3.6 out of 5. No participant gave the game the lowest score, but no participant gave it the highest either, which is consistent with the playthrough pattern: players who worked through the initial confusion found the game acceptable rather than delightful. Frequency of play intent was low, with a mean of 2 out of 5. Participants who indicated they would not return tended to cite the orientation requirement and the complexity of the rules rather than disliking the puzzle format itself. Social sharing intent was similarly low, with most participants saying they would not share the game in its current form. Several participants who would not share it still said they could imagine enjoying it if the interface issues were resolved.

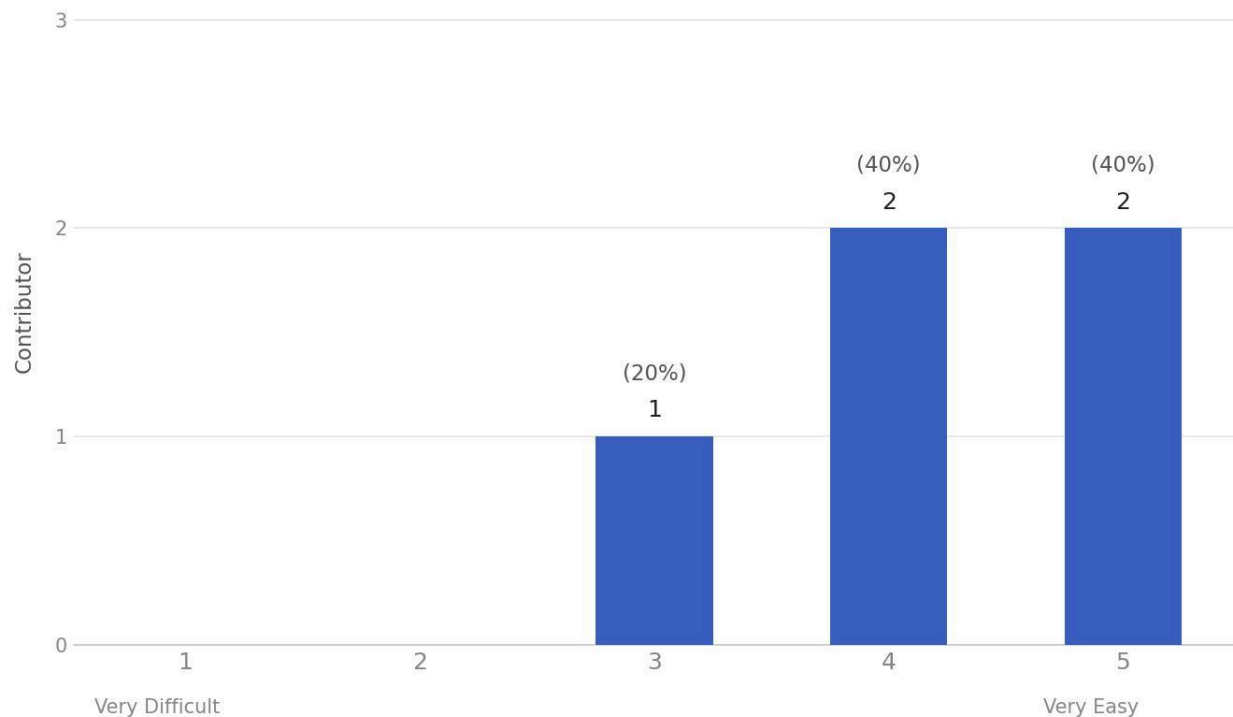


Fig 13: "Overall this task was: " Self-reported game difficulty of Philly Plates (n=5)

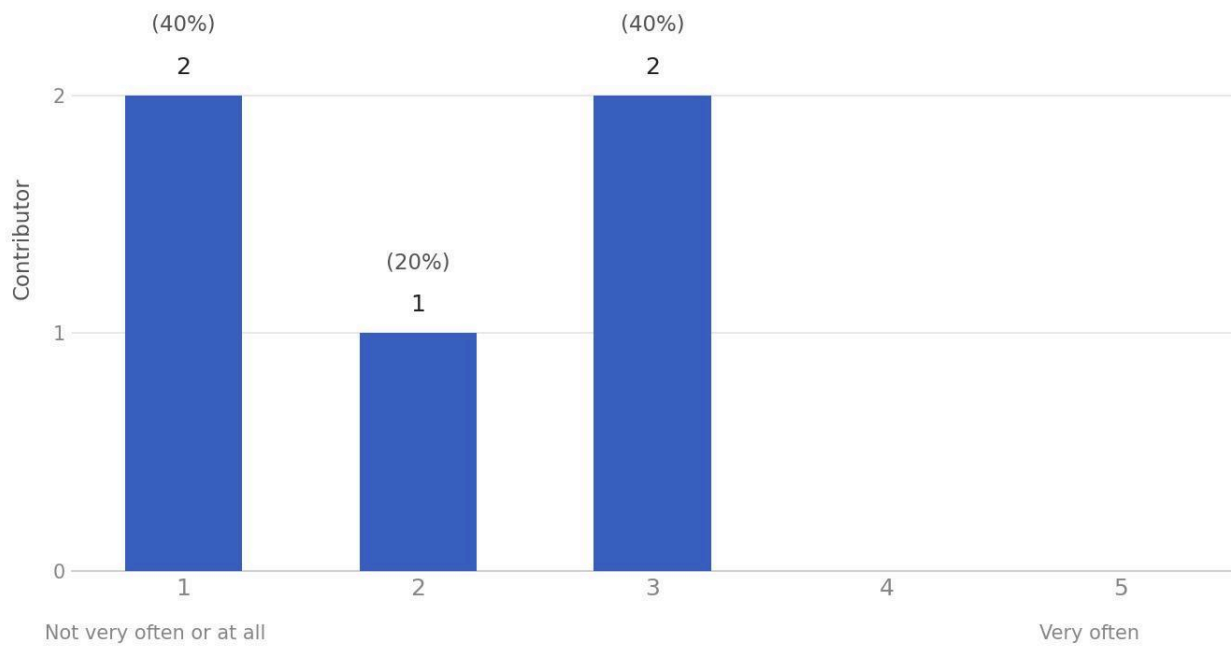


Fig 14: “How often would you play this game if at all?” Self-reported frequency at which participants would play Philly Plates (n=5)

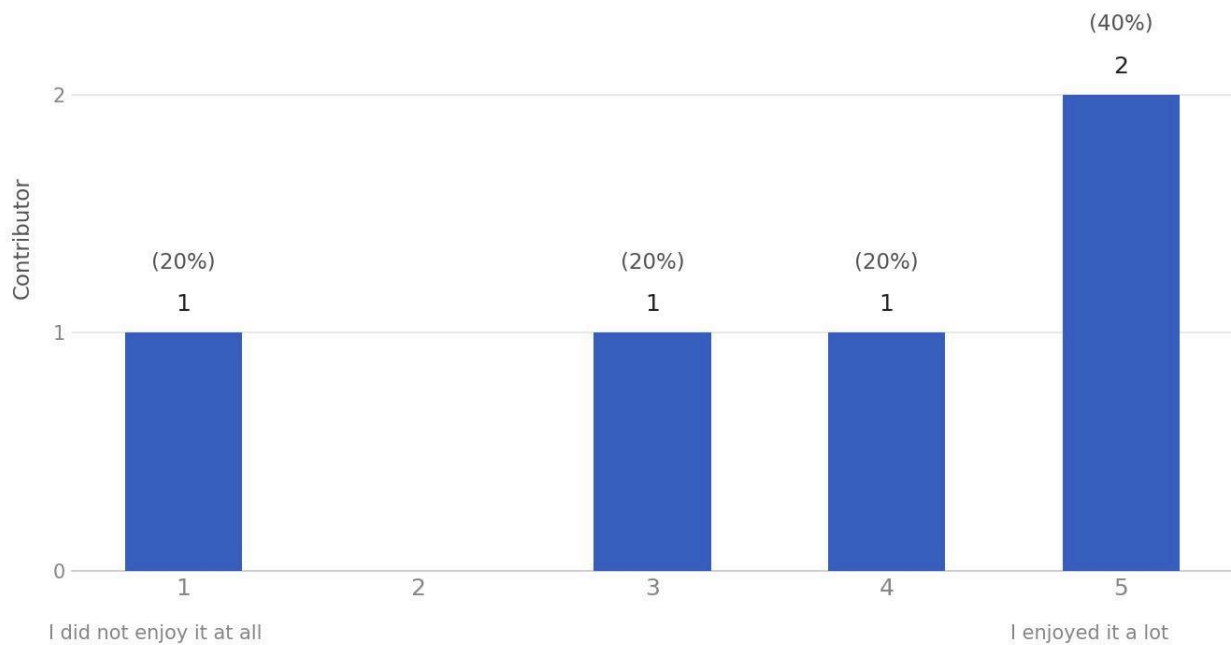


Fig 15: “Did you enjoy this game?” Self-reported enjoyment of Philly Plates (n=5)

Takeaway

The core logic puzzle mechanic has potential, considering that the participants who got through onboarding found the game engaging. Three changes would address the primary friction points: redesigning for vertical orientation, rewriting the constraint language to be more immediately intuitive, and integrating rule introduction into the first round of play rather than presenting it as a separate tutorial. The orientation issue reflects a mental models problem. Players arrived with expectations shaped by other mobile puzzle games, and a design that violated those expectations created friction before the game had a chance to engage them. A fourth consideration is the restaurant connection: several participants said the food imagery did not make them want to visit the featured restaurant, suggesting that the editorial link between gameplay and Inquirer food coverage needs to be made more explicit rather than implied through visual design.

Synthesis

Across all three games, testing confirmed that Philadelphia-specific content was a genuine engagement driver. Players responded to local stories, local food, and local references in ways that generic puzzle content would not have produced. This validated the core premise of our research: that local identity is not just an aesthetic layer but a functional one that gives players a reason to care about the outcome of a puzzle.

The results also revealed that enjoyment and replay intent are not the same thing, and do not always move together. Philly Phony produced the strongest enjoyment scores of the three games but the most inconsistent replay intent, driven by uneven puzzle difficulty. Philly Plates was enjoyed but not felt as something worth sharing or returning to daily. Philly Fib was the only game where enjoyment, daily play intent, and social sharing intent all pointed in the same direction. Five of ten participants said they would play it every day. Seven said they would share it with someone else. Players described laughing, learning, and exercising their brain in the same session, which maps directly onto the three player motivations our competitive analysis identified as hardest to satisfy simultaneously.

For the Inquirer, this suggests a clear priority order. Philly Fib is the most ready for further investment and the strongest candidate for a pilot. Philly Phony has a strong core mechanic that needs puzzle calibration before it can realize its potential. Philly Plates needs more substantial iteration on UX, tutorial clarity, and screen orientation before it is ready for a wider audience. All three games demonstrated that the design direction we chose, classic format, Philly content, plus habit mechanics, was worth pursuing. The next step is perfecting execution quality.

Limitations

This project had several important limitations worth naming clearly.

Our participant sample was small and scope-constrained. Given the timeline of a single academic semester and the parallel demands of designing, building, and testing six games simultaneously, we prioritized depth of testing over breadth. We tested three of our six games with limited participant groups: ten participants for Philly Fib and six each for Philly Phony and Philly Plates. The remaining three games were not tested with external participants. Our findings reflect early-stage signals rather than validated conclusions. They are sufficient to identify which directions are worth pursuing and which need iteration, but not to predict performance at scale or across a broader and more diverse audience. A larger study with more participants, more games, and longitudinal deployment would be needed to move from promise to certainty.

Participants also interacted with prototypes rather than fully polished production systems. Many features associated with recurring engagement, like notifications, streak tracking, and daily reminders, were not implemented within the prototypes themselves. This meant we could not observe how those mechanics would affect actual retention behavior over time.

We also could not measure long-term retention directly. Testing occurred in single sessions, and self-reported intent to return is a weak proxy for actual behavior.

Some of these constraints were partially intentional. Our role was not to build production-ready systems but to identify promising concepts and design directions that the Inquirer could choose to implement, expand, and evaluate further. The prototypes were a means to that end, not the end itself.

Finally, we cannot publicly share details from the internal Inquirer documents we reviewed as part of our research. Those materials informed our understanding of which content categories and interactive formats appeared promising for audience engagement, but their contents remain confidential under the terms of our engagement with the organization.

Reflection

One of the more unexpected discoveries of this project was how freely game inspiration can travel across formats and modalities. Our competitive analysis focused almost entirely on digital games, but we drew several insights from card and board games. During a session at a local gaming cafe, we played Sushi Go, a card game built around food theming and scoring mechanics that function like a logic puzzle with constraints: players must weigh tradeoffs across rounds to maximize points. That combination, food as theme, constraint-based logic as mechanic, became an indirect inspiration for Philly Plates. It was a reminder that the design

space for games is wider than any single medium, and that physical play sessions surfaced ideas that purely digital benchmarking would not have reached.

User testing also produced a finding that complicated our assumptions about what players want from a game. Several Philly Phony players did not identify the correct connection on their first attempt, but still rated the game highly and described the experience positively, not because they felt they had won, but because they felt they had learned something. The game's progressive hint system meant that even an incorrect guess moved players toward understanding rather than simply penalizing them. This suggests that the value of a well-designed puzzle is not just in the moment of solving it, but in the quality of what it teaches along the way. For future iterations, this points toward investing heavily in the craftsmanship of connections and hints, since those are the elements that determine whether a wrong guess feels instructive or merely frustrating.

The clearest methodological limitation we would address, if starting again, concerns retention measurement. We asked participants whether they would return to play each game, but self-reported intent is a weak proxy for actual behavior. Players who enjoyed a session may genuinely believe they would return daily, but without deployment to a real environment with real streaks to protect, friends to compete with, or notifications pulling them back, we cannot know whether that intent would translate. Although as previously mentioned, our goal was not to deploy production-ready systems, in the future, we would consider prioritizing finding ways to simulate recurring engagement conditions, even within a prototype context, rather than relying on participants to accurately predict their own habits.

Working in close collaboration with a real client and on a compressed timeline, we operated more like a product team than a research one, prioritizing speed, stakeholder alignment, and working prototypes over documentation of our reasoning at each step. In retrospect, more intentional documentation of design decisions as they happened would have made both the report and the iteration process stronger. The two are not in conflict, but balancing them requires deliberate effort that we would build in from the start next time.

Conclusion and Next Steps

Our immediate next step is presenting Philly Games to stakeholders and decision makers at the Philadelphia Inquirer. We will share our research findings, design rationale, and user testing results, and make the case for piloting at least one game with a real audience. The goal is not just to hand over prototypes but to give the Inquirer a clear picture of what a low-lift games strategy could look like, grounded in evidence rather than speculation.

If the Inquirer moves forward, our game designs could ship as part of their digital product, with the potential to expand into a broader suite over time.

Independent publication is also a viable and meaningful path. The gap we identified is not unique to Philadelphia. Every local news organization faces a version of the same problem. Publishing Philly Games independently, alongside documentation of our design and research process, would make our work available to the broader news product community and open the games themselves to puzzle players anywhere. The process of building locally-themed games from classic formats is replicable, and making that process visible is its own contribution.

For the Inquirer, and for local news organizations more broadly, the stakes are clear. The traffic channels that sustained digital journalism for two decades are contracting. Games that build daily habits and direct relationships with readers are not a side product. Instead, they are one of the few distribution strategies that do not depend on someone else's algorithm.

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Appendix

Links to Philly Games

[Philly Fib](#)

[Philly Plates](#)

[Philly Phony](#)

[Philly Taste](#)

[Philly Ingredients](#)

[Philly Takes](#)

Research

[Research Artifacts](#)