Pablo's Armchair Treasure Hunt 2022 *by DaphneHQ*

Setters' Notes

Goal

Our overall goal this year was to make the hunt more accessible to first timers.

We thought that an online adventure game could provide a good way of doing that. It could be more interactive, and present a smaller number of more straightforward puzzles in a linear fashion. It could also be instantly accessible simply with a URL.

We also wanted to make a pyramid of puzzles in the main document, to be sure people could make fast progress on at least some of the puzzles. It also seemed like a fun idea to try and reuse puzzle elements as much as possible, so it would appear (on the surface) to be less intimidating.

We wanted to maximise the feeling of fun, even if no puzzle answers were forthcoming.

Setting Principles

When we started to plan the hunt, we came up with these core principles:

- **The most important thing is for people to have fun.** The hunt should be challenging and interesting, but at the end of the day we want people to look back on it and say words to the effect of "I really enjoyed that".

- **Too hard isn't fun. Too easy can be boring.** Ideally we wanted all of the teams to be able to solve most of the hunt given a reasonable amount of time. Things that are too difficult - or too obscure - are frustrating and drive disengagement. If everything is too simple, then people will not feel challenged. That said, if the choice is between something being too hard and something being too easy, the latter is preferable.

- **Solving things is fun (and addictive).** Following on from the above, there should be some things that most people can solve fairly easily. This both gives them a sense of achievement and also hopefully hooks them in (whilst revealing more of the theme/story). The knowledge that you are making some progress is hugely encouraging. Feeling like you are not getting anywhere is disappointing.

- **Other people may not think like you.** This is linked to, but separate from, the point about difficulty. You may create a puzzle where the steps the solver is required to take are bloomin' obvious to you but could totally baffle others who are smarter than you are. Also, once you know the solution to a puzzle, sometimes it can be difficult to imagine what it would be like to not know the solution!

- **Repetitive effort is boring.** Picture clues and questions are great, but the former shouldn't require tedious reverse image searching and the latter endless Googling. Thinking, and following themes, should help give you the answers.

- **Educate en route.** This is linked to the point about "fun". As the solvers make their way through the hunt we should take every opportunity to shower them with fun facts and stories that don't directly help with the solution but that are (hopefully) interesting and entertaining.

- **One destination, multiple routes.** There should be a number of ways of identifying the broad location for the treasure (sufficient at least for some "boots on the ground" searching) and ideally at least two paths to the specific location. We want to avoid a "single point of failure" which could prevent large numbers of people from finding the treasure.

- **Red herrings, not rabbit holes.** Having the occasional red herring is fine (and fun). We must however try to ensure that we don't send people down rabbit holes where they waste hours/days on things that don't contribute to the solution.

Initial plan

After a number of weekly video calls and a meeting in physical reality, we came up with an initial plan.

- Themes: Cats, Witches and Oxford

- Make an online text-based adventure game (that is separate from the main hunt but might have some elements that cross over)

- No reverse image search, no caesar cipher, no books/titles/covers/publishers - these have been done a lot in recent hunts

- Some "physical" puzzles that can done with counters or pens and paper

- Everyone should be able to get somewhere

- Only a few should be able to get to the end

- Avoid repetitive operations where possible

- There should be a bonus treasure that is super difficult

- Amenable to "Boots on the Ground" - and people should be rewarded for visiting the treasure site even if they don't locate the treasure

- The feeling of unpacking a set of Matryoshka dolls

- Good design and user experience

- Fun

Themes, Squirrels, and Interns

We were keen from the outset that the treasure should be located somewhere in or around Oxford. One of us lives there, another grew up there, and the third works there. Godstow seemed like a nice place for the treasure to be hidden - plenty of interesting history and folklore, close to pubs and parking, and not too far from a train station.

We are aware that currently we're an all-male team, so we thought that telling a story primarily about women would be interesting. In the end, the adventure game only contained a single clearly male character, and easily passed the [Bechdel Test](#).

We all like and live with cats, so that was a fun thing to use as a theme as well. Also, team member Paul literally [wrote the book on cats](#), and had also meticulously documented all of the cats in his local area in Oxford. This seemed like too good an opportunity to miss.

When solving hunts, we love the feeling of epiphany: peeling back layers of meaning or opening ever-smaller Matryoshka dolls. So we decided to reveal the themes accordingly, starting with cats, through witches, to Oxford themes, down to a final hidden level, along with a hidden bonus prize. Accordingly, *The Library of Babel* deliberately doesn't have any direct link to the other themes, but we had come up with the idea of hiding something in the online library a long time ago, and the story felt eerily appropriate for the crazed infinite pathways of a typical ATH.

The interns were created simply as a means to blame someone for the errors that we had made in the first set of hunt documents. We had also previously talked about the idea of masquerading as an incompetent video game company. We liked the idea and ran with it, arguably far beyond the point at which it continued to be either entertaining or amusing. The squirrels came about because we were hurriedly trying to come up with fake companion game titles to *CATastrophe. Squirrel Frenzy* seemed like a fun one, and *Flamingo Travesty* was a close second - this is what should have been hidden behind the "Which is greater" post-it note, but we ran out of time to add it as an easter egg.

We then continued to run with the idea, to the extent that after the hunt was closed and we wrote the "true" story of the Godstow Witch, we crudely crowbarred an explanation of the squirrels into it, in a desperate attempt to make it look like we had planned the whole thing all along.

The Godstow Witch

The story of the [Godstow Witch](#) is wholly fake and created by us. This is hinted at by the fact that the story was written by Reg Hargreaves, who was the [husband of Alice Liddell](#).

While it isn't entirely clear how the notion of inventing the myth of the *Godstow Witch* came about, it felt like a nice thing that could subsequently be used to wrap into the narrative of the adventure game. It also ties into the fact that it was there, on the 4th July 1862, that the story of *Alice in Wonderland* was first told.

Roy Gascoigne was a real person who did take part in the [Wolvercote Cycle Speedway](#) in the 1940s. The story about a "witch's broomstick" being found walled up in the White Horse pub on Broad Street is true. Von Uffenbach did indeed write about his travels in Oxford in 1710, however the passage quoted is totally made up (though attempts to ape his style). The nuns of Godstow did charge travellers for using the Godstow Road which passed through the Abbey, as the witch later

did. The quote from the *Pocket Companion for Oxford* was amended to fit the story, as was the one from *The Handy Guide to Oxford.* The quote from *The Stripling Thames* is true and happened to fit nicely with the story. Coles Child was indeed a real person and he was the former owner of the copy of the *Pocket Companion for Oxford*. The villagers of Wolvercote were indeed once referred to as "grollins" due to their geese-keeping, strange as it may seem. All of the book prices mentioned by Reg are also accurate, however there is no reasonable way that anyone could have known that. Reg gets the date of the dissolution of Godstow Abbey wrong (it was 1538) and also says that William Owen built his house there, when actually it was his father, George.

Poster

The poster was mostly decorative; the "pre-hunt" puzzle role is taken up by the adventure game, so we didn't want to cram a lot of data into the poster itself.

We wanted it to look like box art for a genuine video game from the 1980s. Reference images were used for inspiration, such as the art for Capcom's Mega Man, and various Nintendo titles with the 1980s-style "grid and mountains" background.

DALL-E was used for the centre image, with the prompt "*evil mutant super cat in scary misty woods at night with church spire and fire in distance*". A large number of images were generated, with some in-painting, until we settled on the final image. All of the DALL-E prompts we used were tweaked multiple times until we started to get results that we liked the best. The prompts we list here are the final versions.

Below are some candidate images that didn't make the final cut. The first was striking (it would make a great album cover!) but didn't really fit thematically. The second image was a close second to the final image, it just wasn't as colourful in comparison. The others looked too much like the cat was on fire, which was a bit weird.
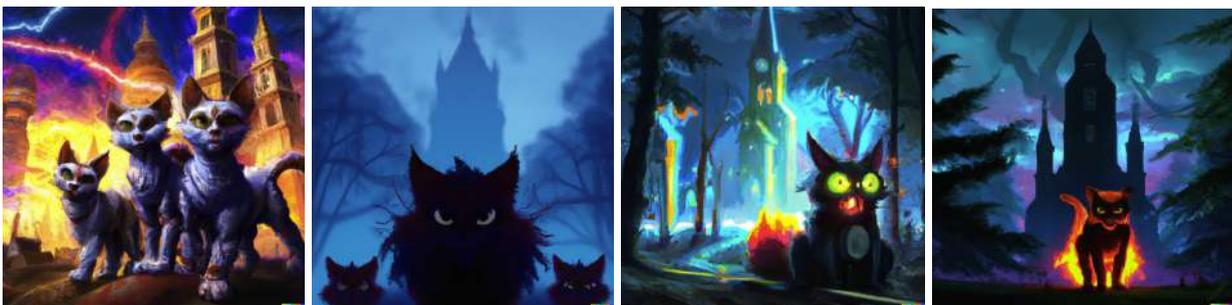
The DaphneHQ logo is a parody of the Nintendo logo of the era. Also, a parody of Nintendo's "Seal of Quality" was included - modified to read "Seal of Quantity" - a poor joke referring to "quantity over quality".

Magazine cover

The aim was to make this look like a genuine magazine cover, albeit a slightly stupid parody.

DALL-E was used for the image, with the prompt *"1980s super nerd cat programming a computer, funny retro, detailed digital art".* A number of images were generated, with in-painting and out-painting, until we settled on the final image.

The out-painting that was done to enlarge the image to fit an A4 portrait page also happened to generate an additional cat in the top right. This was cropped out in the final PDF, but hunters who extracted the image from the PDF were rewarded with an unintentional easter egg.

Some articles advertised on the cover didn't make it to the final magazine - this was simply because we ran out of time. Our logic/excuse was that the PDF only showed the first few pages of the magazine, and those articles happened to be on later pages. Also, we liked the fact that "the future of floppy disks" was non-existent.

Below are some candidate images that didn't make the final cut. We loved pretty much everything that DALL-E came up with for this prompt, with the final image we used being our favourite.

CATastrophe! Adventure game

The idea of a web-based adventure game was touted early on. As the team is made up of (among other things) software engineers and a writer, it seemed like a good use of resources. We also liked it as a more linear delivery mechanism for narrative and puzzles, and hoped it would get more newbies interested in the ATH. We also liked the fact that it was a nod to the final hunt made by Pablo himself.

If a puzzle had multiple similar tasks, we tried to follow the system of having at least one very easy solution and one difficult solution, with the rest of the tasks in the middle somewhere.

Once we had come up with the ending of the game and the reveal that you are in fact Alice Liddell at Godstow Abbey, we realised that we couldn't release the full game before the main hunt was released. This meant splitting the game into two parts, which wasn't ideal.

Tropes

We thought it would be fun to include several retro adventure game tropes, for example:
- Starting in a dark room (see link for something that provided inspiration)
- Catacombs setting
- Having amnesia
- Being pursued
- In the end it was all a dream
- A puzzle involving feeding a cat
- Characters blocking paths until you solve their riddle

Graphics

As none of us are competent artists, it was decided to use stock or AI-generated images. The look of the game was mostly based on whatever stock images we could find! This also meant that if people reverse image searched the game backgrounds, they would hopefully realise they were stock images and not worth investigating further.

DALL-E did a great job of filling the gaps. Most of the images were in-painted and then also photoshopped. Here are some examples of the unprocessed images, with the prompts used.

"dark derelict underground brick cellar with stone walls and arch ceilings, dark passageway in distance, photorealistic"

"very dark derelict underground brick cellar crypt with stone walls and arch ceilings, dark passageway in distance, photorealistic"

"a powerful witch in an old wooden magical cabin, with cauldron and magic items, photorealistic, detailed"

"close-up front of magical overgrown cabin in magic beautiful green bluebell woods, misty, photorealistic"

"victorian father and daughter having a picnic in a large field with trees and hedges, facing away from camera, city in distance, warm summers day, photorealistic"

Music

Luckily, one of the team is a subscriber to the excellent soundstripe.com, and all of the music was sourced from there.

We had intended to include a lot more sound effects in the game, but sadly this was low on the priority list and we didn't end up having enough time.

Catacombs

The image for the first room was found early in the game's development - this provided inspiration for the look of the first "catacombs" level.

It was decided that there should be several exits from the first level, to reduce the likelihood of players getting stuck too early on. We assumed the ghost riddles would be easiest, but from watching people play we noticed these were causing a lot of headaches. The six walls puzzle was intended to be an introduction to "ATH-style" puzzles. The cat/runes puzzle ended up proving the easiest, with a lot of teams completing this first.

Caves

We had decided on a dark maze well before the incorporation of the Borges theme, so this dovetailed nicely.

Cloisters

The musical locks puzzle was inspired by two things - firstly the poster for the 2017 ATH *Another Fine Mess* which we very much enjoyed, and also the classic 1990s video game *7th Guest*, which had the player exploring a spooky haunted mansion while solving puzzles. One of these puzzles involved rearranging tins with letters on to make words - the interesting part being there were no vowels except Y. The tins on the shelf in the kitchen were an obscure reference to this puzzle.

Countryside

Being able to leave the confines of the abbey and explore the surrounding countryside was inspired by the 1980s video game *Citadel* by Superior Software. It made the game feel much bigger than it was, and was pretty atmospheric for a vintage 8-bit game!

Coppice

This level was inspired by the classic 1990s point-and-click adventure game *Monkey Island 2*. As well as being one of the best games ever made, it contained a "dynamic" forest-based maze. You had to take a specific route through, otherwise you always ended up back at the start.

As can be seen on the original "back of a fag packet" notes for this level, the three paths that take you back to the bottom right of the map were originally going to take you to a random room (out of three). This proved monumentally confusing during playtesting so it was abandoned!
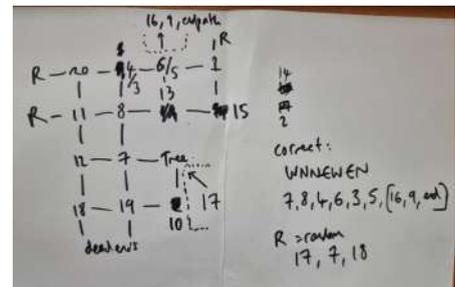
Team member Dave happened to be working in Leeds one day, and while off for a lunchtime walk in Temple Newsam Park, he stumbled upon a beautiful bluebell wood containing a network of paths. A large number of photographs were taken and pixelated, and they formed the imagery for this level. The dead tree can be [seen on Google Maps](#).

Crimson Hexagon

This is of course a room in *The Library of Babel* which you are magically transported to. We wanted an element in the main hunt to tie back to the game, so a second clue to the Borges Bonus treasure was added. We also had a broomstick in the game which you had to assemble to gain a bonus spell at the end, but we felt that people would feel short-changed if it didn't have a practical use too.

This was a hilariously late addition to the game; there are vicious rumours flying around that it was added the night before the game was released.

The REGISTER command is a parody of 1990s copy protection systems. Early games came with various systems to discourage illegal copying, such as "unphotocopyable" booklets with fine print codes. They were sometimes cumbersome and difficult to use, so our parody was deliberately user-unfriendly!

Technical

The game uses the wonderful [Quest](#) text-based adventure game engine. After looking at several different engines, this one was picked because it is C#/.NET based (the team has experience with this stack), it is server-based making it hard(er) to cheat, and is feature-rich and very customisable via its scripting engine.

The engine was modified a bit, with a few bugs fixed, which we will contribute back to the project when time allows. We also modified the engine to run on our own domain, and removed a lot of the UI to make the experience closer to a vintage adventure game.

A deployment pipeline (using Github Actions) was set up so that changes to the Quest game file could simply be pushed to a Git branch, which published the game and deployed it to AWS S3. The engine was also modified to read the game file from S3. We also set up a staging environment for testing. Perhaps we should have spent more time on testing the game itself! But at least when bugs were found they could be patched extremely quickly. Thanks and apologies to the "early adopters" who reported bugs to us.

The stock and AI-generated images were edited in Photoshop, usually to desaturate and match the colour palette with other images on the same level for consistency. A "1990s" macro was created that pixelated and resized the images and also converted them to a 256-colour palette to simulate the VGA system of the time (although we used the larger SVGA resolution of 800x600 instead of the 320x200 of VGA, mostly to make it easier to fit in more detailed puzzle elements). We actually got the best results for this effect from an Android app, which generated non-square pixels too, but it proved beyond our skills to do this in Photoshop, and the faster workflow was chosen instead.

Main Hunt

Riddle

Teams submitted some excellent other possible solutions to the riddle *"Why is a literate child like a smoked fish?",* our favourite being "*One is an heir reading, the other is a red herring".*

NEWS

This is a puzzle we hope would be worked out relatively early, as it can contribute to a brute-force strategy. However, it proved much more difficult than we thought.

It's a great example of mistakenly over-tuning the difficulty: it was solved pretty quickly in our gameplay test so we assumed it was too easy, and made it harder. In retrospect, the gameplay test itself had lots of extra clues that were lost in the real version – for example, in the test it was a literal representation of an actual four-tower game (illustrated here).
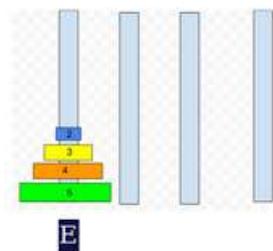
Esoteric Programming

"*We're not even sure… if it's a full program*" was designed to lead people away from attempting to interpret the puzzle as a real programming language, which would of course be futile. Although we were amused to see some teams attempt to compile the "program" in various esolangs such as [Befunge](#).

Originally we planned to encode this as English Braille, which includes glyphs that represent contractions and abbreviations, rather than ASCII Braille, where each glyph is one letter. This would have resulted in rather nice, poetic ciphertext:

*very have every like very child us O knowledge like rather
rather us you still his but but shall not + shall
like - I quite in have not quite as of 6
and not ~ not quite knowledge 1 in every ow
and you 6 people still you people from people ' in
for " were so for for . quite ` O ow
quite   more en gh child in from ow 6
knowledge knowledge knowledge knowledge knowledge knowledge knowledge knowledge knowledge
knowledge knowledge*

However, there's no single consistent way of translating this back into Braille, so we opted for the simple consistency of ASCII.

"Which is greater?"

We thought it would be interesting to include a puzzle with mild peril if you got the answer wrong. Hence a real phone line with a number that you had to determine with a set of questions. The peril was real for us too! We wondered if we'd gone too far and would irritate lots of real-life innocents.

Although we couldn't test every combination, several variations of the phone number were called by the setters (assuming wrong answers to the more tricky questions), and none of these resulted in a human answering the phone. However we do know of at least one team that called a (very wrong) number, and had to apologise to a woman who did not know anything about a treasure hunt.

The most common error was not realising that the fastest land vehicle was a sled (we did hint about this in an update), or knowing who *Popeye* was in this context. Also there were surprisingly numerous examples of teams making order of magnitude errors - confusing millilitres with litres for example. Some people also thought that "flying during an average second" meant "taking off in an average second".

AI Art

We felt that this puzzle (along with the Pitt Rivers catalogue entries) was fairly difficult, so the payoff was a clue that with some research could lead very close to the treasure location.

We were surprised by how many teams identified all the items from the Pitt Rivers catalogue, plus their descriptions, but failed to connect them to the book code around the images.

Cistercian numerals

There are lots of resources online explaining how to encode numbers up to 9,999; larger numbers are less clear. Wikipedia states:

When the system spread outside the order in the fifteenth and sixteenth centuries, numbers into the millions were enabled by compounding with the digit for "thousand". For example, a late-fifteenth century Norman treatise on arithmetic indicated 10,000 as a ligature of ⌐ "1,000" wrapped under and around ⌐ "10" (and similarly for higher numbers)

The (astonishingly erudite) original research on which this was based is available in the Internet Archive.

A number of teams worked out the numbers without working out the mapping to a Data Matrix; this was one area where we got the difficulty about right, as we actually *intended* for this to be relatively hard…

BASIC program

There are several clues in the "data" section of the program, including an explicit mention of **BORGES**, **LIBRARY, LABYRINTH** and **HEXAGON**, as well as **BENCHMARK**. A mention of **MORSE** helps with the Cat Pictures puzzle, also Inspector Morse was filmed in The Trout Inn near Godstow, hence the mention also of **LEWIS**. Also, **TELEGRAPH** hinted at Baudot and ITA-2 as well as Wheatstone's Telegraph. **MUSEUM** may have helped with the Pitt Rivers puzzle. **QUADRANT** may have helped to hint that sections needed to be taken from the four Data Matrix solutions to create a fifth.

Red herrings were also present to help balance things, **TREACLE** referring to the Treacle Well and St Margaret's Church, a false treasure location you may arrive at if you hadn't solved all of the puzzles. **VIGNERE** (sic) was mentioned, but this cipher was not used in the hunt. We'd like to say that we deliberately misspelt it as a clue, but in fact it was yet another typo!

Brian's Computer Systems

The advert slogan and item names are taken from genuine adverts from the era. We hoped that some Googling would reveal this, and people would realise that there was nothing further encoded beyond the prices.

Dr. Boris

Both the art and the review are based on a real type-in game from Atari User (October 1987, almost the same month as the magazine), which they also proclaimed was "Game of the Year"!

In theory, it would be possible to construct a much more complex message using this scheme: the entire SNOMED catalogue is full of extraordinary medical terms, such as *"stung by duckbill platypus"*, and *"atomic power plant malfunction in watercraft, occupant of spacecraft injured"*.

Concertronic

The non-British spelling of METERS was not deliberate! Some players found they were able to crack this message without the key; we should have remembered this might be possible.

Edith's Ethereal Peripherals

We always wanted to include Pitt Rivers in the hunt; what made it a clincher is that at the time of writing, the online Pitt Rivers Museum catalogue was published using ancient technology which meant that very few of its images had been indexed by any search engines, making it harder to reverse image search.

Borges Bonus Treasure

We wanted to include an extra difficult puzzle with a bonus prize for the ATHers who seemingly crack things magically quickly.

We thought that it was probably very hard to recognise the encrypted Data Matrix codes as such, so we included the DATA MATRIX IS THE KEY clue, and the reference to "SEMA TEXT" in the Playfair-encoded ciphertext. It turned out quite a few people *did* recognise them very early on.

Hiding the final part of the jigsaw as a Data Matrix embedded in the other four Data Matrices was one of the Matryoshka doll ideas we came up with. The Data Matrix format allows for much more redundancy in its data than QR codes, which is why we chose it. We created the "deformed" codes with a brute-force approach, cycling through many possible combinations of plaintext and encoding positions to find Data Matrices that worked.

We also wanted to reward people who had travelled to the treasure site, even if they only found the "red herring" fake treasure boxes hidden around Binsey. So we included Google-able quotes from *The Library of Babel* on all of the treasure cards. This (short) story is very ATH-appropriate; we recommend reading it! Borges repeatedly wrote about labyrinths, maths, ciphers, mirrors and the like.

Although we successfully designed a fiendish bonus puzzle that was still solvable by a few of the top teams, we failed to hide it in a sufficiently fiendish location! The result was that several teams found the treasure without solving the puzzle. In the end, we were quite happy about this, because it gave those teams an extra bit of joy and mystery.

Relying on a third-party website for the decode felt like something of a risk. We wrote to the maintainer to get his permission and check it was going to stay online.

Poem

Fun fact! The Wikipedia article about St Frideswide's is probably wrong about the "Alice Door" as it is now believed that the door was in fact carved by her sisters. Our History Intern, Alex, had a chat with one of the church wardens about this.

Lessons Learned (aka Things We Got Wrong)

- **Your puzzles are almost always harder than you think.** The hunt difficulty was about right for "top" teams - the first team got the treasure in 4.5 days, but overall (considering our design goals) the hunt was too hard for many of the teams. For pitching to mid-tier teams, our difficulty estimation was ALWAYS incorrect. We often reviewed puzzles, decided they looked too easy, and tweaked them to be a "little bit" harder. We did, in mitigation, promise ourselves that it was OK to tune it to be easier again by releasing lots of hints (see below). For example, we thought the hurricane puzzle and the Morse code cats were the two easiest puzzles; but they stumped most teams. Next time, we will include a few more "very easy" puzzles. Puzzles we feel we got about right are the cat word search, the college questions, and the Naming of Cats word search(es) (all of which we'd worried were too hard!)

- **Don't forget about brute-force decoding**. In particular, we forgot that substitution ciphers are particularly amenable to brute-forcing - having shorter messages or deliberate misspellings is important in these cases. That said, only a couple of teams used this method.

- **Consider signposting colour explicitly.** We possibly added too much "colour" which created rabbit holes, with people looking for connections that simply didn't exist. We had intended an elaborate signposting scheme to make the difference between colour and clues explicit, but we ran out of time to implement that.

- **Curb your ambition**. We probably tried to do a bit too much, which caused us to rush at the end, hence typos and errors that we had to correct. Or we should have planned better!

- **…but be ambitious.** We were pleased with how layered, colourful and varied the hunt turned out to be.

- **Embrace tuning the difficulty**. We allowed ourselves to tend towards puzzles that were too hard, by promising ourselves we could always release hints, following release. Tuning the difficulty by dropping hints seemed to work pretty well - but it does rely upon teams checking the site or reading the emails. Thank you to the teams that allowed us to follow along; without this info, tuning would have been impossible.

- **Consider your hide spot.** The bonus treasure location was too easy to find by chance (indeed, most of the finds were accidental by teams hunting for the primary treasure) - we did suspect that might happen and tried to use a more concealed location, but that area tends to flood and the tree seemed like the best location for it. On the other hand, it's quite nice that teams that bothered making a visit (but hadn't solved much) at least found *something*!

- **Think of the boots-on-the-ground folk**. We hid quite a few extra "red herring" treasures in the sorts of places we thought people might look, with a "*nice try, keep looking*" kind of message. It was great that some of these were found – by people who found the actual treasure in future attempts. We should also have told more people that the Jacob's Inn pub, just up the road in Wolvercote, does better food than the Trout and has pygmy goats in the garden! It does lack the river view though… Having a treasure location that has parking nearby and that is not too long a walk from a main-line railway station makes it easier for

teams to access and try speculative "boots on the ground" hunting. Picking one with a proximate pub also seemed to be welcomed by teams!

- **When you want to make something clear, be VERY, VERY explicit.** We could have made it clearer that there was an actual physical game treasure to be found. Our sense is that some teams thought the "blue cat" was part of the story. In fact, we had hidden a real ancient Egyptian artefact!

- **Harmless misdirection is very entertaining for the setters**. Lots of people found the *Godstow Witch* page during the demo version of the game, but very few worked out that the whole thing had been faked, which we enjoyed.

- **Hunters: remember to revisit your assumptions.** It is all too easy for teams to double-down on a simple error and not return to question it. We saw this happen with the BASIC program (copy and paste issues), "Which is greater" (making mistakes and not double checking), and mapping the city boundary.

- **Write code to generate puzzles when they're complicated**. This was based on a recommendation by Bruce Hindsight, as the 2017 hunt "*Another Fine Mess*" was entirely generated by code. We wanted fine control over the design of the PDF, so only the key puzzle elements were programmatically generated. But being able to regenerate the complex interlocked puzzles was essential when we needed to tweak the solutions.

- **Be careful about typos** (though all of ours were the fault of interns, obviously).

- **Narratives are fun**. The fact that we had an overarching "story" helped us pull ideas together. The emerging intern/squirrel silliness no doubt irritated some people, but it definitely caught the imagination of some teams who really played along with the story. This gave us a lot of light relief, too – thank you!

Stats

2,084
Devices played the adventure game

465,213
Commands typed into the game
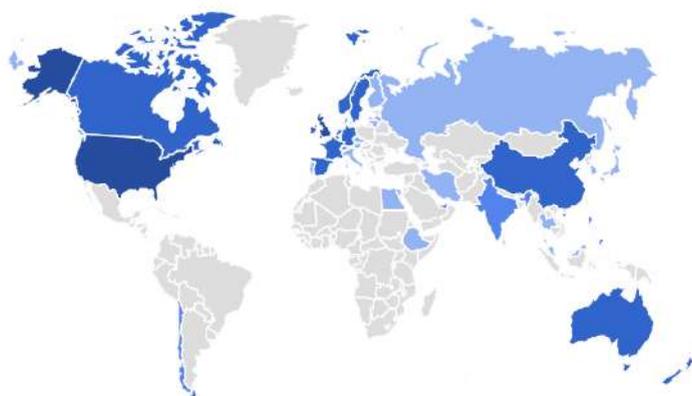
12,112
Spells cast

75 hours
Fastest time to complete main part of the game

113 hours
Fastest time to complete the main hunt

46 hours
Longest single game session

COUNTRY	USERS
United Kingdom	1.3K
United States	441
Germany	77
China	43
Australia	32
Norway	28
Singapore	26

And finally…

We really enjoyed setting this hunt. Indeed, we all agreed it was more fun than solving a hunt! It was a hugely creative team endeavour, and we all brought different elements to the table. The great enthusiasm of ATHers as they played the game brought us many smiles and laughs, and really motivated us.

The months following the end of the hunt have been less fun! With our families and our work lives having been marginalised for so long, all the administrative work around writing things up and arranging marking have really dragged out. Thanks for your patience!

The setters would like to thank Bruce Hindsight for the 2017 hunt *Another Fine Mess* which provided significant inspiration for this hunt, including the block diagram format.

We would also like to thank The Psychologicals for kindly letting us use some of their excellent solution diagrams.

Finally, we'd like to send our love to the family and friends of Anna O'Donovan, who sadly passed away on 26th December 2022. She was part of the team that set the 2009 Dorothy Sayers hunt.