

So what was ATH 2015 all about?

This document is an introduction to the solution for ATH2015. The solution represents what the setters planned. This document was issued shortly after the hunt closed since we felt that teams would not want to wait to discover what they had missed and in many cases did not miss but imagined was there.

This document needs to be read in conjunction with several others:

- Sol2015AnnotatedPoster.pdf
- Sol2015AnnotatedConsultantLetter.pdf
- Sol2015AnnotatedPartialHunt.pdf
- Sol2015QuestionsAndAnswers.pdf (also docx)
- Sol2015BuggedJourney.pdf
- Sol2015EmailResponder.pdf

These can be found in the same location as this file. You may also find it useful to refer to the bugged journey files at <http://www.pablosath.com/current/puzzle.html> and the following web sites:

www.ATHcorp.co.uk

www.ActonHospital.co.uk

Also the telephone number 020 3239 1831 and email addresses of the form
extnnnn@ActonHospital.co.uk

The Poster

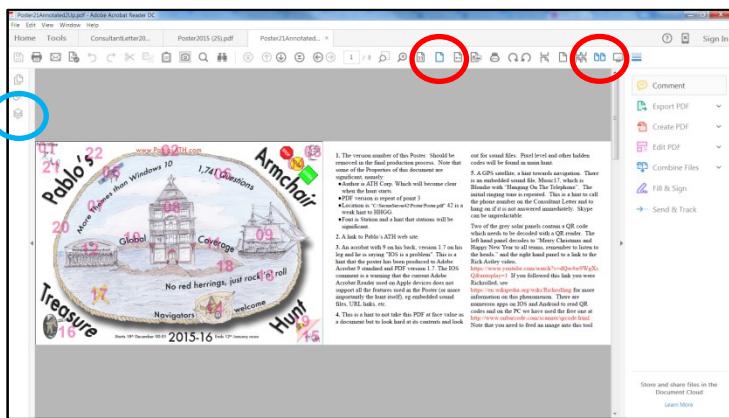
The poster was issued one week before the main event to give hunters time to familiarise themselves with the technology of the hunt but not enough time to exhaustively plough through all its intricacies. It was thought that it would tell hunters nothing about the hunt and only become relevant much later.

Hunters were supposed to realise that:

- This was a pdf based hunt and that many pdf readers are poor or limited in function so they should work out which ones to use.
- There was embedded music.
- QR codes needed to be read.
- There was much hidden data, some of it very small and at the maximum of Acrobat Readers' magnification (6,400%).
- The hand drawn pictures were there to slow down identification and inhibit Google Reverse Image search.
- There were not going to be too many red herrings but lots of Rick Rolls¹.

¹ If you are not familiar with Rick Rolls see <https://en.wikipedia.org/wiki/Rickrolling>

- Stations might be relevant.



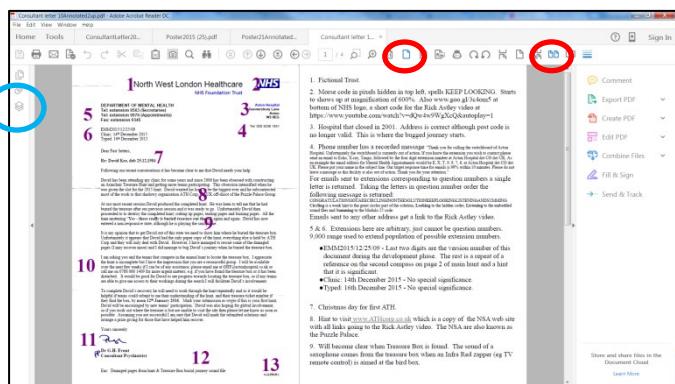
Precise details of what each item on the poster was supposed to mean can be found in the file *Sol2015AnnotatedPoster.pdf*. View this file in Acrobat Reader 2-up (red circle options) and you will see an annotated version of the poster on the left and the explanation of the annotations on the right. Layers (blue circle

option) are enabled in this version and you can toggle the annotation numbers on and off using the Annotations Layer controls. To print with Poster and annotations on same page you need to specify in the Print dialogue (under Page Handling) Multiple, 2 Pages per sheet and Orientation Landscape.

The Consultant Letter

The Consultant's letter was issued when the main hunt was expected and was supposed to be a bit of a shock and awe with some team disruption anticipated. One team had fully assembled at a team member's house for a late dinner and were ready for a night long assault on the hunt. They were keen to tell us, first by email and then by phone, that we should release the rest of it NOW!

On the surface the letter sets the scenario for the main hunt, is a location for all the usual instructions to hunters and not much else. However, there is more here than meets the eye. Zooming in at the pixel level in a couple of locations gives some information and a Rick Roll which was hopefully beginning to become very irritating. We thought the Blondie recording of "Hanging On The Telephone" in the Poster, with the initial ringing tone repeated, would mean that the telephone number on the letter would be "*ringing off the wall*" but initially there was surprisingly little activity. The phone number and its recorded message was the most important thing to discover from the letter.



Precise details of what each item in the Consultant's letter was supposed to mean can be found in the file *Sol2015AnnotatedConsultantLetter.pdf*. View this file in Acrobat Reader 2-up (red circle options) and you will see an annotated version of the poster on the left and the explanation of the annotations on the right. Layers (blue circle

option) are enabled in this version and you can toggle the annotation numbers on and off using the Annotations Layer controls. To print with Consultant Letter and annotations on

same page you need to specify in the Print dialogue (under Page Handling) Multiple, 2 Pages per sheet, tick the box for Print page border and select Orientation Portrait.

Rickmansworth and the Bugged Journey File(s)

It was supposed to be fairly easy to identify Rickmansworth as the key location. There were lots of hints to *Rick* (Roll) and *worth*. This bugged journey was to be confirmation and was supposed to be fairly easy to follow. We thought it was too easy to follow, hence the heavy use of white noise and the explosion to destroy the file after the café. The early part of the recording allows the station announcements to come through but later they are obscured. The route taken is rather odd with apparently unnecessary journey loops and train changes. These could be considered deliberate acts to put hunters off. In fact they were simple mistakes made at the time by the setter who kept getting on the wrong train.



The journey ends at the Brown Sugar Café in Rickmansworth and a postcard is placed in the window of the Newsagent next door. The postcard is on the left and the QR code decodes to “Keep Looking”. So all in all not too useful, but confirmation that Rickmansworth is the right train stop.

The bugged file ends with a HHGG² explosion, i.e. the girl in the café fails to explain her brilliant idea because the Earth is blown up by the Vogons.

The hunt this year had several *amuse-bouche* and there was also a *digestif*. Post the termination of the hunt the missing part of the bugged journey was made available for those hunters who had not had enough and still wanted to visit the treasure site under their own steam (they should not be reading the rest of this document or *Sol2015BuggedJourney.pdf* which details the route).

The Partial Hunt

On the surface 13 damaged pages from a much bigger hunt. Parts of some pages obscured by burn marks and the question numbers not 1-74 but 74 questions with numbers consistent to being part of a 4 digit range. The main threads were:

- Lots of references to the Beagle and Fitzroy (its captain) and their journey with Darwin. Fitzroy was the significant character in this hunt and not Darwin (who was often off the ship for long periods). You needed to know where Fitzroy and the Beagle were, or thought they were.
- The question numbers (first usage). Listening to the recorded message at Acton Hospital you were told to send emails to EXTnnnn@ActonHospital.co.uk If you plugged in the question numbers and sent 74 emails you got a letter with each response which spelt out a message. If you plugged in any other number you got a

² https://en.wikipedia.org/wiki/The_Hitchhiker%27s_Guide_to_the_Galaxy OK not the traditional abbreviation. We would also like to point out that this was not homage to ATH2014, as thought by some teams. The girl in the café was the genesis of this hunt in 2006 and the hunt had to be adjusted as the years went by as other hunts pre-empted our ideas!

Rick Roll. At least one team did a brute force attack (10,000 emails) and got a lot of Rick Rolls. Full details of the automated response process can be found in *Sol2015EmailResponder.pdf*

- Pages 2-13 each had multiple clues to identify a railway station.
- The first letter to the answers to the 74 questions. Some teams tried to make 75 questions but the last one is burnt out and is just another reference to ignoring Y.
- The pin-hole code on pages 12 & 13. In the question text on these pages a single pixel was cut out of some letters. On page 1 on the bottom right were 12 blue white pixels with 13 more underneath and +1. In pin-hole code terminology this means look at pages 12 and 13 and the letter before the pin-hole. This was supposed to be the key message although some managed without it.

SUM 6 CODES MOD N P1 PHONE ANSWERS

Page 1 (P1) had 4 hidden QR codes, each revealing a 74 character message. The message from the emails identified in the Acton Hospital recorded message (PHONE) were 74 characters and the first letter of the answers (ANSWERS) to the questions were 74 characters. The answers to all the questions are recorded, with sources, in the document *Sol2015QuestionsandAnswers.pdf* (this is also available in docx format and may be easier to use when looking at sources).

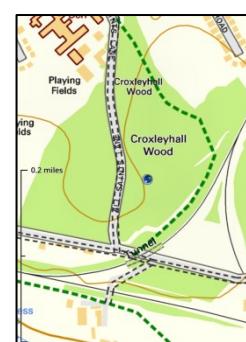
So the 6 codes to sum were fairly straightforward. MOD N is an indication that modulus arithmetic modulo N is required (there are other hints). There are lots of hints that Y is excluded from the alphabet, not least the “... know why” in the ATH Corp logo strap line, so N is 25. This is all confirmed by one of the Sudokus which uses modulus arithmetic modulo 25 to reveal a message. The message revealed from summing the 6 codes is:

EACH PAGE JOIN DOG MOORING TO STATION VIA GREAT CIRCLE WHERE CIRCLES CROSS FIND TREASURE

All the stuff about Fitzroy should have made it clear that DOG was the Beagle and so it is a small jump to the second use of the question numbers (and there were other hints).

- The question numbers (second usage). Taking the first day of the Beagle voyage as day 1 and question n as day n then for pages 2-13 each page represents a mooring of the Beagle on its round the world journey with Darwin and Fitzroy. Some teams seemed to have trouble with this, crossing the international date line added confusion (not least because it did not exist when the voyage took place) as did references to Darwin’s notes. We based everything as closely as we could on Fitzroy’s records.

It is now a simple matter to join each train station to the corresponding Beagle location for that page by a great circle and where the circles cross the treasure is located. The circles do not all cross in a single place but the area highlighted is in Croxleyhall Woods at 51°38'31.8"N 0°27'10.9"W. A little under a mile from Rickmansworth station at a bearing of roughly ENE or follow this link



<https://www.google.co.uk/maps/place/51%C2%B0038'31.8%22N+0%C2%B0027'10.9%22W/@51.6421633,-0.4552187,17z/data=13m14b14m2l3m1!1s0x0:0x0?hl=en>

You will have noticed that there are no detailed instructions as to exactly where to find the treasure. There is no sequence of pictures as in some years or a coded message saying something along the lines of “137 steps north from the tree looking like Jeremy Corbyn”. This year you had to not only get out of your armchair to find the treasure but bring your TV remote with you!

Page 1 shows the treasure being dug up. There are TV remotes scattered around, not too obvious perhaps but confirmed by the drawing on page 6 and various coded messages. The hole where the treasure is located has a saxophone playing music. Page 6 shows a TV remote being pointed at a tree with an eye on it.



So it is pretty clear that what needs to be done is to get down to Croxleyhall Wood and at the approximate location given by the great circles to wander about pointing TV remotes at anything suitable until you hear the saxophone, playing the same sound as on page 1. In that part of the wood are several bird boxes and one of them is suspiciously new (aging attempts failed completely). Close inspection reveals that the entry hole is blocked and forms the pupil part of an eye drawing. Firing a TV remote at it makes everything happen. Just to make it easy the music goes on for 90 seconds and a Logica L illuminates. So when you hear the music you dig down towards the sound and there is the treasure casket

inside a large box. The lid of the box can be lifted out with two large rings. Inside the treasure casket you find instructions and a numbered ticket as shown below.

Pablo's Armchair Treasure Hunt

2015

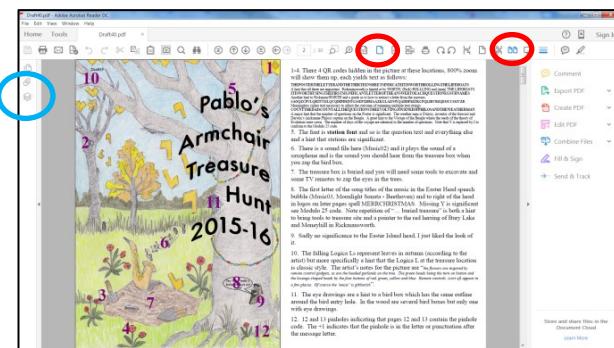
Well done in finding the treasure. If you are nothing to do with the Treasure Hunt please replace everything as you found it. Contact David Kee, 0788 060 1409, for more information.

If you are a treasure hunter please take the next ticket, a coin as your buried treasure and replace everything else as you found it. In particular:

- Take care to put the lid back the right way around, line up the arrows on the top with those on the base of the box in the ground.
- Try and clear any earth that has fallen into the box.
- Make sure the site is reasonably concealed, try and gather leaves from another location and scatter randomly over the area...

If you are the first to the treasure please give me a ring, please, ...





Precise details of what each item in the partial hunt was supposed to mean can be found in the file *Sol2015AnnotatedPartialHunt.pdf*. View this file in Acrobat Reader 2-up (red circle options) and you will see an annotated version of the hunt on the left and the explanation of the annotations on the right. Layers (blue circle option) are enabled in this version and you can toggle the

annotation numbers on and off using the Annotations Layer controls. To print with Partial Hunt pages and annotations on same page you need to specify in the Print dialogue (under Page Handling) Multiple, 2 Pages per sheet and select Orientation Portrait.

Errors during the Hunt

Thankfully there were not too many and they were relatively minor. This was largely down to the exhaustive reviewing done by the setting team. Towards the end of the setting work we were all getting sick and tired of QR codes, latitude/longitude and modular arithmetic but it is just as well we persisted with the reviews. In the final review we noticed that we had screwed up the pin-hole code completely.

Note that the slow emptying of the treasure chest on www.PablosATH.com is a test of team observational skills and not an error.

Christmas Message

There is usually a hidden message in the Notes or News sections each year and this year it was Note 6 on the 27th of December. “*So can I ask you to cast off those Christmas blues and get hunting, David still needs YOU!*”. This was supposed to be a hint that the treasure had not been found (false encouragement since it had been found) and a confirmation clue to the Beagle voyage since the 27th of December was when the voyage started (*i.e. cast off*).

Bug Bounty

Some teams tried to make the request for help with the quality control of the Archive on www.PablosATH.com part of this year’s Hunt, “*surely the conversion was trivial, there must be more to this...*”. Well it was non-trivial, the old hosting environment was relaxed about file names being in upper or lower case and they could be referenced either way, the new hosting environment was not. Also some archived hunts generate their filenames on the fly using complex name hiding algorithms that made their conversion non-trivial. Only when the non-trivial work was done could the site be sanitised to remove all references to its previous owner and be recast as independent. All in all NON-TRIVIAL.

Several teams did find mistakes in the Archive, for which they will get points. These mistakes are now corrected so thank you to all who looked for bugs.

Note that you can still claim the bug bounty, and points for your team, if you identify any bugs before the entries are marked.

Team Monitoring

8 teams allowed the setters to observe their workings during the Hunt. A special thank you to those teams, it was a very interesting experience and made up for Christmas without a Hunt.

Time to set a Hunt?

The pipeline of setters for future hunts runs out next year after 30 years of hunting. So if during this year's hunt you have had that moment of inspiration for the perfect hunt then have a read of page <http://www.pablosath.com/setting/index.html> and apply to PastSetters@PablosATH.com

Registered users et al

This year we asked ATHers to register so that they would get an email whenever anything changed during the Hunt.

As the entries came in for this year's hunt we harvested all associated email addresses (from *to:* and *cc:* fields) and merged them with the registered users list. We used that merged list on Tuesday 12th January at 20:13 GMT to send the email with subject line "*Pablo's Armchair Treasure hunt for 2015 is over...*".

We plan to use the merged email list to make contact for next year's hunt later this year. If you wold like to be added to this list, or you would like your address removed, then please send an email to ATH2015setters@yahoo.co.uk.