

Combining Geo-spatial and Qualitative Data

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A Neighbourhood Research Project

- Investigate perceptions of an area amongst its residents
 - Sense of boundaries
 - Fear of crime
- Walking interviews recorded and logged on GPS
- Sketch maps, photographs
- Environmental audit

Practical and Conceptual Problems

- Place as a point, a line or an area
 - When a respondent talks about a particular street, which of these is it?
- Tracking system does not cope when a respondent talks about one place whilst standing in another
- Chance encounters with third parties during mobile interviews
- Difficulty of anonymising interview data which is linked to accurate place data
- Use traditional maps or Google Earth?

Traditional map versus Google Earth

Map in ARC-GIS

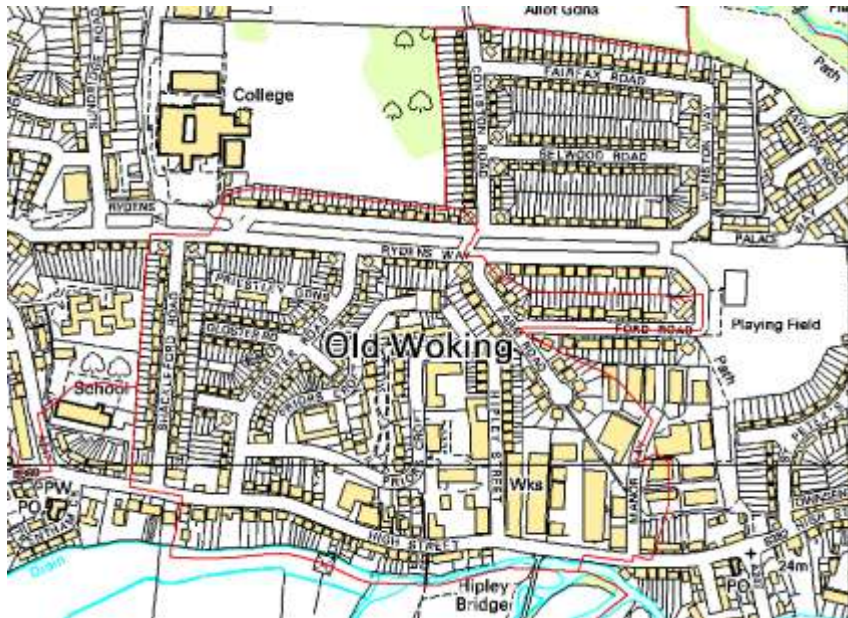


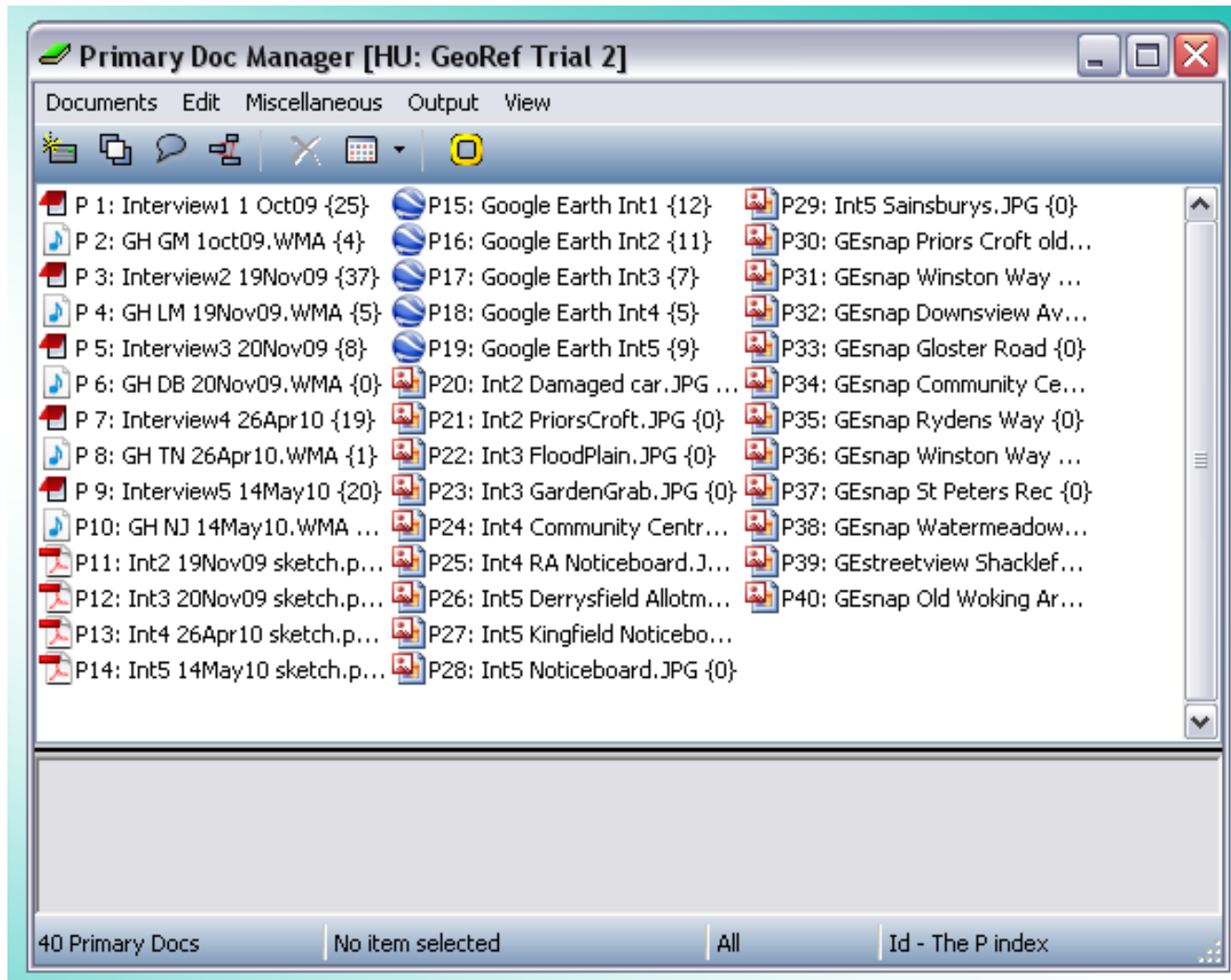
Image in Google Earth



Early analysis in ATLAS.ti (v6)

- Interviews transcribed using F4 (Freeware)
- Transcript and digital audio assigned to Atlas in a single step
- Key locations (“Waypoints”) stored individually in Google Earth
- Set of waypoints for each interview stored as a separate document in Atlas
- Matching transcript section linked to Google Earth location for each waypoint
- Use thematic codes to connect quotations about any one place/feature made by multiple respondents

Primary Documents in ATLAS.ti Project



Connections to Google Earth

The screenshot displays the GeofRef software interface, which is designed for managing and visualizing geospatial data. The interface is divided into several key sections:

- Primary Doc Manager [HU: GeoRef Trial 2]:** A table listing various documents and their media types. The table has columns for Name, Media, and Quota.
- Quotation Manager [HU: GeoRef Trial 2]:** A table listing quotations with columns for Id and Name.
- Main Map Area:** A satellite view of a residential area with several labeled points of interest. The labels include:
 - 18.1 GE Int4 WP76 Playground St Peters Rec
 - 18.2 GE Int4 WP77 Priors C
 - 18.3 GE Int4 WP78 House built without permission
 - 18.4 GE Int4 WP79 Kingsley Care Home
 - 18.5 GE Int4 WP80 Community Centre
- Layers Panel:** A list of layers available for the map, including Primary Database, Borders and Labels, Places of Interest, Panoramic Photos, Roads, 3D Buildings, Ocean, Street View, Weather, Gallery, Global Awareness, and Terrain.
- Search and Places Panels:** A search bar and a list of places, including temporary places and specific locations like '18.1 GE Int4 WP76 Playground'.

Transcript, audio and quotation links

The screenshot displays the ATLAS.ti software interface, which is used for managing qualitative data. It is divided into several panes:

- Primary Doc Manager:** A table listing various documents (Interviews and audio files) with columns for Name, Media, and Quota.
- Quotation Manager:** A list of extracted quotations, each with a unique ID and a brief description.
- Main Transcript View:** A large text area showing a transcript of an interview. The text is color-coded and includes time-stamped audio links (e.g., <3:1 That's point 58 by the way>).
- Audio Player:** A small window at the bottom right showing the current audio file being played, with a progress bar and playback controls.

The transcript content includes the following segments:

005 **R902-** Now the lady that lives in this house is the only remaining resident who's moved in when the house was, when the street was brand new. She's now in her 90's and so she moved in in 1923 aged 3, Mrs Hill, although she didn't actually move into that house, she was originally in another house at the other end and, when she got married she came down here. But she has lived in this street for ever, since it was built, and originally it was cobbled.

006

007 **INT-** That's point 58 by the way

008

009 **R902-** It was originally cobbled, they didn't put tarmac in until sometime in the 50's. And there used to be a Co-op on the corner where the junk shop is nowadays.

010

011 **INT-** So how long have you lived ...?

012

013 **R902-** 14 years, but doing things like Rydens Way, you go around and ask people how long they've used the green. And so I've gone up and down and asked lots and lots of people "How long have you lived here?"

014

015 **INT-** Yes, yes

016

017 **R902-** You see originally, lovely quotes from Mrs Hill saying how wonderful Gloster Road is because she said "We had hot running water!". Erm Balfour Avenue, which doesn't, or which was built at the same time or just the year or so before and was another bunch of corporation houses, "they didn't have hot running water, they only had cold water and we had hot water!" Umm, but they originally had these great big gas fires in the living room which produced a hot, they didn't have bathrooms, but it produced a hot water and you put it into a great big bathtub in the kitchen, and you could have a hot bath!

018

019 **INT-** Yes

020

021 **R902-** And that was considered the height of luxury in 1923! OK

022

023 **INT-** Indeed

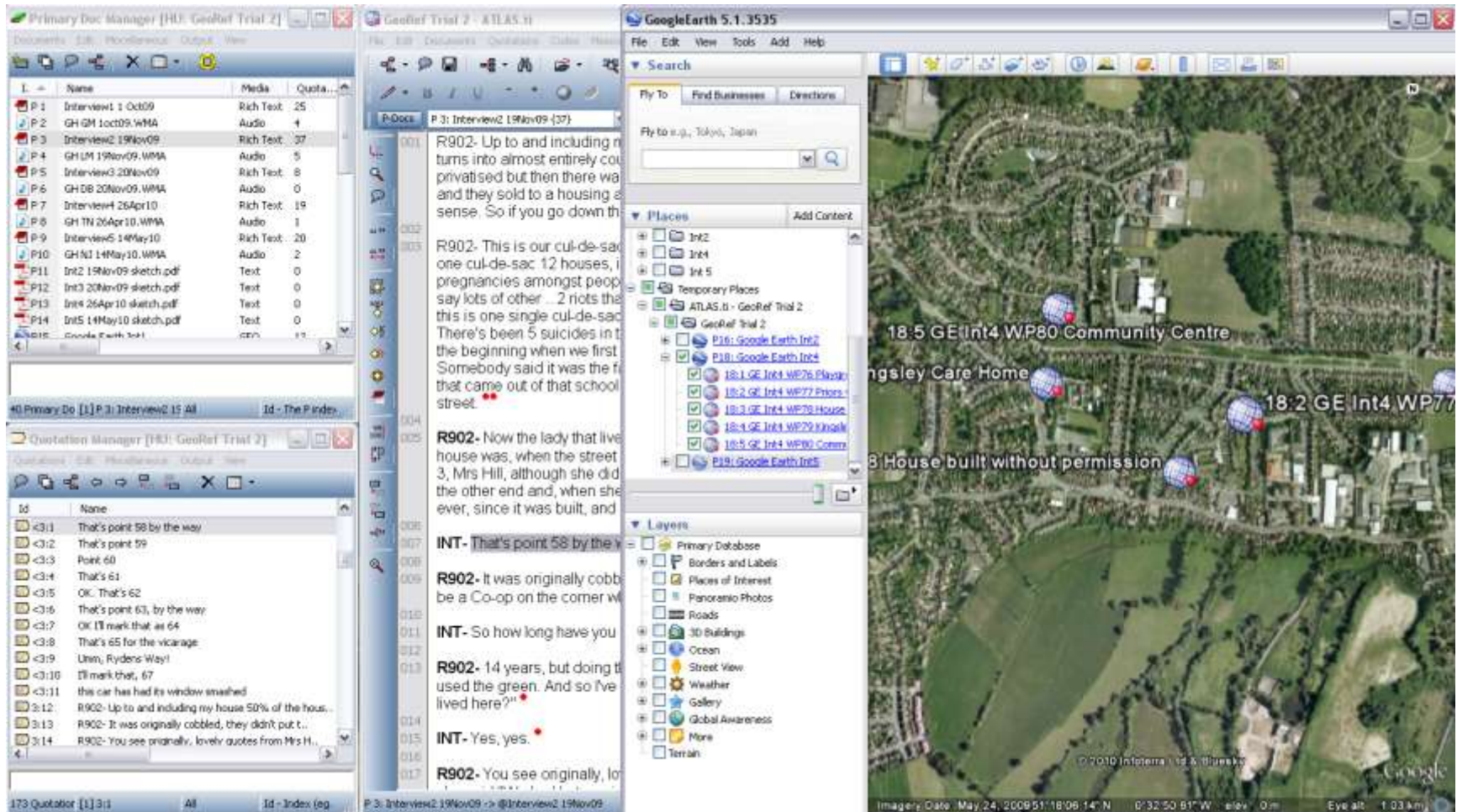
024

025 **R902-** Er, Gloster Road! This is our

026

027 **INT-** Is this also Gloster Road?

Google Earth is now in a new window



Use Snapshots as GE images can change



Thematic coding by place

The screenshot displays the ATLAS.ti interface with a 'Quotation List for Code(s)' window open. The window title is 'Quotation List for Code(s)' and it shows 31 quotations for the code 'P RYDENS WAY'. The quotations are listed with their source (e.g., Interview 2, Google Earth) and a time or location reference. The 'Code Manager' window at the bottom left shows a list of codes, including 'P Rydens Way' which is grounded 31 times by the user 'Super'.

Name	Media	Quota...
P 1 Interview1 1 Oct09	Rich Text	25
P 2 GH GM 1oct09.WMA	Audio	4
P 3 Interview2 19Nov09	Rich Text	37
P 4 GH LM 19Nov09.WMA	Audio	5
P 5 Interview3 20Nov09	Rich Text	8
P 6 GH DE 20Nov09.WMA	Audio	0
P 7 Interview4 26Apr10	Rich Text	19
P 8 GH TN 26Apr10.WMA	Audio	1
P 9 Interview5 14May10	Rich Text	20
P10 GH NJ 14May10.WMA	Audio	2
P11 Int2 19Nov09 sketch.pdf	Text	0
P12 Int3 20Nov09 sketch.pdf	Text	0
P13 Int4 26Apr10 sketch.pdf	Text	0
P14 Int5 14May10 sketch.pdf	Text	0
P15 Google Earth Int1	GEO	12
P16 Google Earth Int2	GEO	11
P17 Google Earth Int3	GEO	7

Name	Grounded	Density	Author
P Allotments	8	0	Super
P Community Centre	8	0	Super
P Ford Road	6	0	Super
P Gloster Road	25	0	Super
P Rydens Way	31	0	Super
P Shackleford Rd shops	6	0	Super
P St Peter's Rec	12	0	Super
P Watermeadows	14	0	Super

Quotation List for Code(s)
 File Edit Format Insert Help
 P-Docs
 31 quotation(s) for code: P RYDENS WAY
 Quotation-filter: All
 HU: GeoRef Trial 2
 File: [C:\Documents and Settings\scs\In\My Documents\Scientific Software\ATLAS.ti\TextBank\GeoRef Trial 2.hpr6]
 Edited by: Super
 Date/Time: 23/06/2010 14:15:27

1:19 Now Rydens Way seems a very unusual feature / with.. (466:469)
 1:20 R901 - But there's a little bit of a divide, I've .. (473:475)
 1:21 R901 - Yeah, you get a lot, I tell you what, by an.. (483:483)
 1:22 INT - Do you ever find cars being abandoned on her.. (490:491)
 1:23 INT - Oh now, is this a Police Station? R901 - Yes.. (516:520)
 2:1 GM Rydens Way1.WMA (0:42:22.60 [0:00:36.70])
 2:2 GM Rydens Way2.WMA (0:42:59.40 [0:00:26.36])
 2:3 GM Rydens Way3.WMA (0:43:40.14 [0:00:20.17])
 2:4 GM Rydens Way4.WMA (0:44:32.93 [0:00:47.09])
 3:19 and the chap that lives here said when he was a bo.. (51:51)
 3:21 Erm, it backs onto the Rydens Way houses, those ar.. (59:59)
 3:27 Rydens Way! Which, as I said, is actually a centra.. (265:265)
 3:29 When the new building comes, if it happens, becaus.. (281:290)
 3:30 R902 - Yes, so it's quite, I think what they are go.. (306:314)
 3:32 This end has always been a sort of cycle-run, kids.. (326:330)
 4:1 LM Rydens Way1.WMA (0:06:26.24 [0:00:32.58])
 4:2 LM Rydens Way2.WMA (0:44:01.20 [0:00:19.10])
 4:3 LM Rydens Way long.WMA (0:49:04.45 [0:04:21.52])
 4:4 LM Rydens Way 4.WMA (0:54:59.34 [0:00:55.60])
 4:5 LM Rydens Way trees.WMA (0:57:35.87 [0:01:21.12])
 7:3 I mean this is The Green, that they've just got pl.. (58:82)
 8:1 TN Rydens Way 1.WMA (0:05:24.94 [0:01:06.57])
 9:2 R905 - One of the, we are now out in Rydens Way, on.. (27:31)
 9:19 R905 - This area, as I said earlier, I'll be so ple.. (412:416)
 10:1 NJ Rydens Way1.WMA (0:09:09.74 [0:02:42.96])
 10:2 NJ Rydens Way 2.WMA (1:04:42.40 [0:00:54.06])
 <15:12 GE Int1 WP57 Police Station [51°18'19.98"N 0°32'41.34"W]
 >16:9 GE Int2 WP66 Rydens Way by College [51°18'20.10"N 0°32'57.24"W]
 >16:10 GE Int2 WP67 Rydens Way by Police House [51°18'19.38"N 0°32'42.12"W]
 19:9 GE Int5 WP09 Top of Shackleford Road [51°18'19.70"N 0°32'56.83"W]
 40:5 GEsnap Old Woking Area (348:422)

Network tool forms ‘virtual crowd’

The screenshot displays a network tool interface with a central map and a network diagram. The network diagram features a central node labeled 'P Rydens Way (31-0)' which is connected to a large number of peripheral nodes. Each peripheral node contains a timestamp and a snippet of text, representing a 'virtual crowd' of participants and their interactions. The map in the background shows a residential area with a road labeled 'Ryden Way' and 'Shadcleford Road'. A text box on the right side of the interface contains a transcript of a conversation, with some text highlighted in blue. The interface also includes a menu bar at the top and a toolbar with various icons.

MAXqda and Google Earth

- MAXqda (2010) has some GE functionality
- Store places in KML files outside project
- Add links from text files in context menu
- Opens GE in separate window
- Audio and transcript synchronise easily
- Cannot code audioclips, have to playback from transcript
- Modelling tool not as powerful as ATLAS.ti

MAXqda with GE and audio

The screenshot displays the MAXqda software interface. The top menu bar includes Project, Edit, Documents, Codes, Memos, Attributes, Analysis, Visual tools, Windows, MAXDicto, Language, and Toolbars. The main window is divided into several panes:

- Document System:** A tree view showing folders like Documents (88), Photographs (3), Sketchmaps (0), Place Memos (1), Interviews (83), and Sets (0). The 'Interviews' folder is expanded, showing several interview files, with 'Interview2 19Nov09' selected.
- Code System:** A tree view showing folders like Specific Places (0), Ford Road (6), Shackleford Road (5), Gloster Road (23), Allotments (6), Community Centre (6), Watermeadows (14), Rydens Way (13), and St Peters Rac (15). The 'Rydens Way' folder is selected.
- Retrieved Segments:** A table showing a list of segments with columns for Begin, End, and Comment. The segment from 00:43:57.800 to 00:44:58.200 is highlighted, with the comment 'WP66 Woking College'.
- Text Editor:** A window showing the transcript of the selected interview. The text includes: "that they are not too bad, and older than that they start being more interested in getting a bit further away from home." and "Umm, Rydens Way! Which, as I said, is actually a central part of Old Woking, really important, that lots of people gather here. Woking College, all the kids hang-out on the green outside it. lunchtimes. Umm, and there's another little block, there's 2 blocks of flats here, one little block of old people's flats, but I don't think they're actually sheltered, I don't think they have a warden come round, they might do, but they are 1 bedroom flats. And then behind it there's 1 bedroom flats which are all single mums again, the same as the ones at the back of Priors Croft. But those ones aren't quite as rough as the ones in Priors Croft, they are all a little tiny bit nicer, not massively, but a tiny bit nicer."
- Google Earth:** A satellite view of the location 'Rydens Way by College'. The map shows a residential area with a large building and a green space. Labels include 'Rydens Way by College', 'Priory Gardens', and 'Rydens Way'.

MAXmaps

The screenshot displays the MAXmaps software interface, which is used for geospatial data analysis and visualization. The main window shows a map of a community centre area, with a central node labeled "Community Centre" connected to several interview locations. The map includes a "photo" of the community centre building and a "GE Link" icon. The interface also features a "Document Browser" window showing a list of interview documents and a "Text" window displaying a transcript of an interview. The map is overlaid on a Google Earth satellite image of the community centre area.

Document Browser: Interviews\Interview2 19Nov09

The Community Centre, everybody has a sneaky feeling, and this is purely supposition, because the Community Centre is built on land that belongs to the council, and the little bit of grass next to it also belongs to the council, and they've got a 100 year lease, but the building belongs to the community. Everyone's got a sneaky feeling that the council is waiting for the Community Centre to get to the point where it becomes too dangerous to keep there, and they can knock it down and build housing on the site. Because whenever they apply for a grant for in Maybury and ng to pieces

MAXmaps - Community Centre

Map Mode Edit Link Zoom ?

Maps

- Community Centre
- Goster Road
- New map
- One-Code-Model

Interviews\Interview4 26Apr10

Interviews\Interview4 26Apr10

Community Centre

Interviews\Interview5 14May10

Interviews\Interview2 19Nov09

photo

OK, Up here on your right hand side is the Old Woking Community Centre on Sundridge Road and that's where we hold our Police Community Panel meetings[INT-Year901- We held them round about every 11 to 12 weeks, and it's the same place, it's between 7:30 and 9:30 of an evening[INT- I'm hoping to come next week, R901- Yeah, yeah, Well all three of us will be there, P*, myself and S*. We have quite a lot of activities going on /in there[INT- /just in that entrance/ there

Community Centre

ed, lately they've started g them for outside the ire in Woking hiring ng the local community, group and the exercise ing for the local of community cohesion, committee, who are all ed to get some women mitee wouldn't tell us hey were so secretive,

© 2010 Inetang Ltd GB 264KY
Imagery Date: May 24, 2009 51°18'22.18" N 0°13'03.92" W Elev: 0m Eye alt: 200m

Comments and conclusions

- These links work well with point data, area data can be used but requires more complex use of layers.
- So far the functions seem to be in the direction of working from the text to the place. I would like to see functionality the other way – choose a place and locate all the texts associated with it.

What is the added value of geolinking?

- Facility to organise viewing of multiple locations at variable scales.
- Makes place a less abstract element in the research.
- Escape from man-made boundaries and artificial separations.
- Get closer to the perspective of participants.
- Make analysis more transparent and replicable.