



Student Reading in Theory and Practice

Arcadia Project Report

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2011 – 2012

Executive summary

When we first sat down to discuss this project we ended up constructing the following summary, using mainly John Naughton's descriptive words:

This Arcadia project in essence is finding out more about how students go about their academic reading at the University of Cambridge, and providing ideas for solving some of the important problems uncovered. We know from previous Arcadia research that while reading lists are at the heart of academic reading at Cambridge, we still don't know much about how these lists are constructed, used in real life, or how closely are being followed. We have learnt that supervision and departmental reading lists are being used differently, but we are still pretty much in dark about student's decision models, motivations, and emotional aspects around

reading. In this regard this project aims to fill some of these gaps, and provide better understanding not only on reading lists, but on the whole reading experience from a student point of view. We are speculating that probably there is an important social dimension in reading and learning, and so we would like to validate and understand more in this regard. In a nutshell, it has been identified that there is a gap between the theory and the practice around reading at Cambridge, and so naturally we would like to explore and perhaps help close the gap.

At the end of the 10 week project, I felt satisfied since we managed to understand a lot about student reading at various levels and contexts, and managed to come up with some ideas on how to solve some of the apparent problems both on short and longer term too.

The project adopted a user centred research and design methodology, and had two stages: research and design. In the research stage I tried to gain insight and understanding of student behaviours, motivations and principles when dealing with academic reading, mostly relying on qualitative methods. Assumptions and understanding was validated with secondary inquiries, trying to mix qualitative methods with basic quantitative practices. Since the area of academic reading is so broad, I tried to fit all my explorations into the following themes:

- Reading and everyday life
- Discovery, search, browse and serendipity
- Organising academic reading
- Social aspects

- Reading and technology

Recruitment of participants were done by myself, publicizing the research on library channels. In the first round around 300

students expressed interest to take part, which gave me a diverse set of people to choose from.

I started with interviewing 8 students from

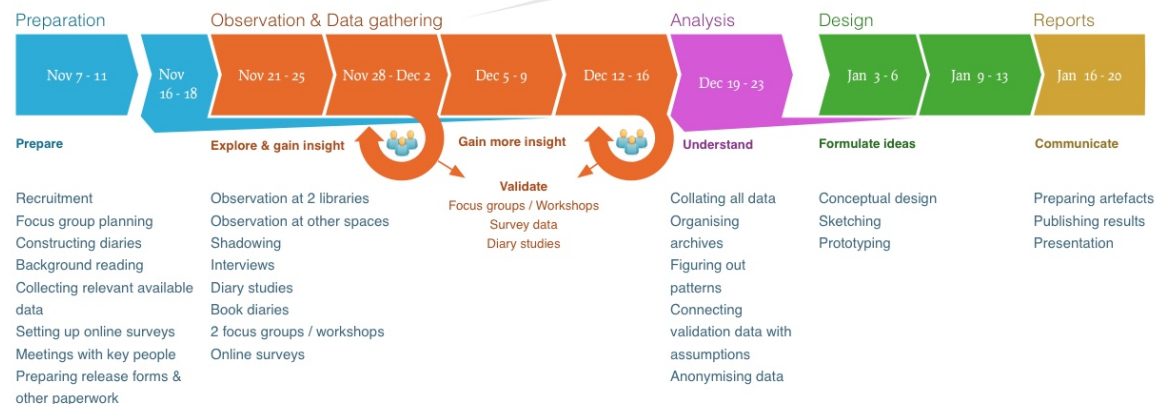
diverse backgrounds, which gave me a good overview of the major issues, and allowed me to focus my attention better to certain problems. This round of research was followed up by a focus group with 5 people, discussing the themes above, and looking at creative solutions to some of their problems via a facilitating design activity of building a library robot or a fairy.

The second round of research was conducted using personal reading diaries, which students had to keep for 7 days, recording all their academic reading related activities. The project had 17 filled in diaries which were processed into a cleaned up visual form, detailing all activity groups with numerical time and percentage values. This gave me finer details of reading activities, and allowed me explore what people do across different

Student reading in theory and practice

Arcadia project planning - Oszkar Nagy

Start with recruitment and try to prepare things which I can anticipate. Create baseline / constant data requirements. Gain insight with observation, start networking and explore the nodes of the ecosystem. Set off parallel data gathering activities like people and book diaries. Follow trails of people, interview, and make sure I reach all the hubs in the system. Try to understand motivations, emotions, contexts and formulate assumptions based on what I experience. Validate those assumptions with focus groups, online surveys and diaries, adding to the baseline data as I go along. Process and analyse the data, making sure I understand it fully, and look for behavioural patterns. Armed with understanding how the system works, try to offer preliminary prototype solutions. Communicate the results with user journeys, day visualisations, decision models, hypothetical futures, anecdotes / stories and publish all data & reports.



contexts.

In parallel with all the research activities above, I was working in a public space of a departmental library (Faculty of English) and continuously observed how students go about their business in the library space. I also visited about 15 other departmental and college libraries to familiarize myself with different environments and gain perspective. Observations were topped with 4 hangout sessions, where I spent about half a day with different students, observing how they study, read and do related activities. Those experiences were the most data rich, in terms of understanding and insight.

As a final step of research I created an online survey, validating all the assumptions and understanding gained so far within the project. The survey attracted about 900

responses and produced a large volume of free text feedback for all themes. At the end of the research phase, all the data was consolidated, processed, analysed and anonymised, so that it can be published for wider consumption.

Once the research stage has finished, I concentrated on coming up with ideas around solving some of the problems which I encountered during my observations. The first step in this process was to articulate the research findings in a clear and succinct form. Once this complete, I was able to extract unique design problems, and principles which have guided me forward. Using the clear design problems, through an ideation process I sketched a large volume of cartoon like user flows, solving particular problems. Features of a proposed technical (and to some degree

organisational) solution were created by identifying common patterns in the ideation output. One of the main principles of the design was to offer a holistic solution, which operates across multiple channels, and allows students to use the solution in multiple contexts, in multiple situations. Since I had rich user research data in a fairly organised form, it was fairly straightforward to map the required functionality directly to observed student needs, and thus making sure that almost every single part of the design is based on user feedback in some form.

With the above methodology I designed a system which aims to provide the following benefits:

For Students:

- Easily add reading data into the system
- Automatically do the boring legwork around reading lists, saving considerable time
- Share and democratically rate information
- Get personal recommendations, and encourage serendipitous content discovery
- Connect with people who can help you progress
- Turn your activity into tangible benefits
- In your pocket everywhere

For Libraries:

- Rich real time usage and intent data to feed acquisitions and product design
- Dynamic borrowing times
- Scheduling for fair usage of scarce resources

The system design is available as a set of wireframes with other supporting documentation, which were presented to main stakeholders as a small exhibition.

Methodology

In the first part of the project I spent 5 weeks trying to understand academic reading.

During this period I used different methodologies to gain insight on student behaviours, most of them building upon previous stages of inquiry.

Interviews

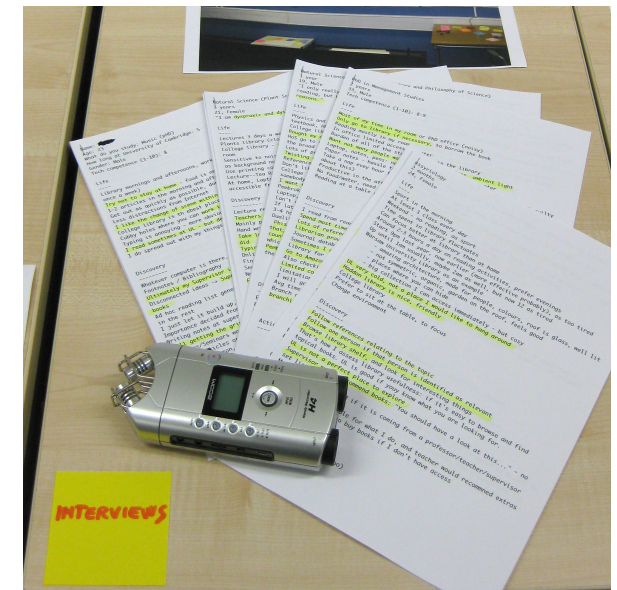
Interviews were conducted as an initial enquiry into the subject. I selected 10 candidates from the a pool of about 300 applicants, covering different subjects of study and maturity level. At the end 8 interviews were conducted at CARET, covering the following subject areas: Assyriology, Classics Natural Sciences (Physics and History and Philosophy of

Science), Social Anthropology, PhD in Management Studies, Engineering, Music, Natural Sciences (Plant Science). The age of participants ranged from 19 to 33, with 50% being male and 50% female. Maturity level was between 1 term and 15 terms, including undergraduates, MPhil and PhD students too. Each session lasted about 60 minutes, recorded, then loosely transcribed so that all student input is available as digital text and audio.

My approach here was to have semi-structured discussions, meaning the conversation touched on a number of base topics such as Discovery, Organisation, Actions, Daily life, Technology, Emotions and Social interactions, but was not pre-scripted allowing to organically explore the topics with the participants. As each

interview was recorded, I was able to spend more time making notes of them during the analysis phase of the project, and allowing me to spend only a little time after each interview gathering my thoughts and impressions.

The first things which had struck me as I went ahead with the interviews was that students were extremely helpful and



accommodating when they saw how a piece of research can impact their daily life. For me this yet again proved that the student community is more than willing to engage with activities like this, we just simply don't tend to take advantage of this incredible resource often enough. Talking to people helped uncover the breadth and outline of the main problems. I didn't understand the problem space fully yet, but it gave me the right focus points to concentrate in subsequent research phases.

Focus group

After I had finished with the interviews I organised a 2 hour long focus group with 5 students, from the following subject areas: Economics (BA), Law, MML French / German, English and History. Ages were

between 19 and 25, spending between 1 and 9 terms at the university. Initially I had 7 students signed up, but 2 had to drop out due to university commitments. Again this proved to be an excellent way of finding out more about experiences, desires and values. Also, sticking to my plan, I used the session to validate the early assumptions based on the interviews. The first part of the focus group was spent on moderated discussion around the base topics mentioned before.

Then we split into 2 groups and embarked on a mission to construct a robot and fairy which would serve in a library. The activity was really fun, and the general feedback was very positive.

We concluded the session with a short discussion on technology and the students sent messages in a bottle for future students

on reading. For this activity I asked my colleague Anne-Sophie to help me out with note taking. She used the wall of the room to take notes on post-it notes and organise them in real-time according to the base topics, and differentiating between who said what. We ended up with an almost full, 5 meter long wall of organised notes, and the standard voice recording of the whole session.



Focus group categorised notes

Diary studies

Initially I envisaged 2 types of diary studies:
one which would follow a particular book,
recording of all the activities students do with

a borrowed book, and one which would focus
on a student's reading activities. Since
participation was very low for the book
diaries, I discarded the results of those.

However the personal reading diaries were
quite successful, receiving 17 filled in,
detailed diaries. Each followed a student for 7
days, detailing different types of reading and
reading related activities. Participants were
from 10 different subject areas, within the age
range of 18-36, 94% female, 6% male.
Maturity level ranged from 1 to 15 terms
spent at the university, including
undergraduates, MPhil and PhD students.
Each diary was analysed and cleaned up into
a more visual form, which showed reading
activities grouped and all other data
quantified with percentages for easier
comparison with other results. Perhaps this
was the most tedious part of the whole
research.

Personal Reading Diary

for Student Reading in Theory and Practice Project (<http://camreading.tumblr.com>)

Introduction

The aim of this diary is to record your reading, and reading related activities with some context. The diary should be kept for 7 days, then sent back before 19th of Dec. 2011. Each line in the diary should be filled with one reading event. A reading event is any activity you do, which involves academic reading, or related activities such as time at the library, searching for books, reading online journals, constructing a reading list with a supervisor regardless of its place or whether it is online or offline. Please start by filling in some details on the right. Try to use short, but descriptive language and fill in as much as possible. Mark the best experiences you had on each day with a star and the worst ones with a cross. On the last page there is space for general comments, ideas and feedback.

All participants with completed diaries will be entered into a draw. First prize is an Amazon Kindle e-reader or the same value of book tokens. 5 £30 Amazon vouchers will also be drawn.

Some examples

Your reading activities will be unique and might not look anything like these, but here are some examples to help you get started

	Time and duration	What are you doing?	Where are you?	Alone or with other people?	Technology	Feelings about the event?	Any comments or extra information?
✗	10am 30 mins	Looking for books for an essay	At college library	With 2 friends	Library computer to search, highlighter, paper notes,	Errrrrr! Took too long!	
★	2pm 1 hour	Reading printed articles for supervision	In the park, on a bench	Alone	Pen & paper for notes	Great	I do this a lot!
	14:35 10 mins	Organising my reading list	Library cafeteria	with Supervisor	Laptop to look up book availability	Confused...	I am not sure what I am supposed to read first

Please return this diary by 19 December, 2011 to:

English Faculty Library Reception

9 West Road, Cambridge, CB3 9DP

CARET reception

1st floor, 16 Mill Lane, Cambridge, CB2 1SB

or

by either dropping it off, or via UMS/Mail to CARET in attention of Student Reading in Theory and Practice Project

Observation and “hangouts”

During the whole research I was mostly working in a public space of a departmental library, essentially using it as my office. Apart from spending considerable time at the Faculty of English Library, I visited a number of other college and departmental libraries too. Spending a longer period of time at a certain space allowed me to pick up behavioural patterns, and regular activities as performed by students in their natural

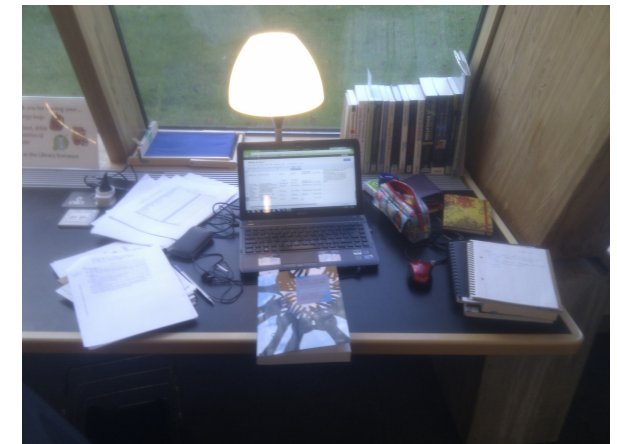


environment and context.

A hangout session is spending time with a student, shadowing his/her activities for about half a day and observing how people read and do related activities such as note taking, searching etc... These sessions proved to be one of the most data rich experiences, and I feel I have learnt a tremendous amount, even though I only had 4 sessions.

Participants studied Philosophy, English Literature, Archaeology and PhD in Education, and their age range from 21 to 36. 3 out of 4 were females, 1 male, with maturity levels from 1 term to 18 terms. The ability to observe in context and have the opportunity to clarify things soon after an action proved to be very valuable and brought up many interesting issues, which would have never occurred to me otherwise. Each session lasted

about half a day, at places where participants needed to go that particular day. They were free to go about their usual business, and I only interrupted them occasionally to get clarification of certain actions.

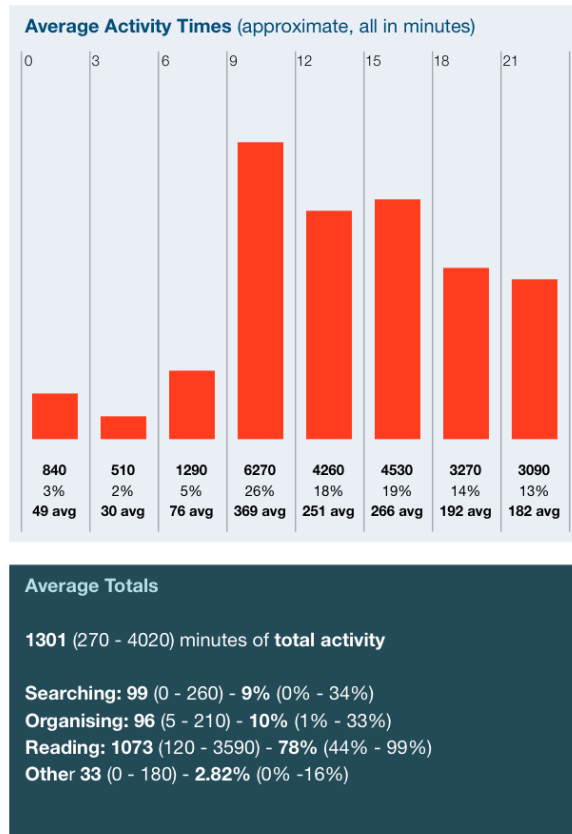


Research findings

Putting all the fine grained understanding gained at observations and interviews into a

coherent textual form is very hard, and loses a lot of context and peripheral information. To somewhat counterbalance this in this chapter I will publish exact of very close

transcripts of direct student feedback in the base topics I set my enquiry around. This subset of feedback is all created by current University of Cambridge students and I pass them on as accurately as possible, only editing for typos if necessary. The conscious curation of feedback was based on my experiences during the research phase, aiming to re-create my general understanding of the current academic student reading situation. Reading the selection here therefore should characterise a wider understanding gained during my research.



Average Details
17 responses in total (94% F, 6% M)
Age: 23 years (18-36)
Study: 6 terms (1-15) - **10 subjects**
IT rating: 6.47 (5-9)

English (ugrad + PhD)
 ASNC (PhD)
 Social Anthropology
 S & D Psychology
 Natural Sciences (Biological)
 History of Science
 Land Economy
 Modern and Medieval Languages
 Classics
 Education (PhD)

Technology

Pen, paper
462 (30-1320) - **37%** (2%-85%)

Laptop
400 (30-1655) - **27%** (2%-92%)

No technology
347 (10-1775) - **27%** (1%-95%)

Pen, paper with laptop
315 (20-1140) - **27%** (1%-70%)

Tablet / Kindle
165 (60-270) - **13%** (7%-19%)

Mobile
150 (150-150) - **4%** (4%-4%)

Social

Alone
1104 (185-4020) - **84%** (25%-100%)

With others
183 (0-690) - **16%** (0%-75%)

Average Places

Home / College room
846 (140-3765) - **58%** (20%-93%)

Friend's house, other home
235 (45-15) - **19%** (6%-34%)

Faculty library
200 (20-430) - **20%** (1%-59%)

College library
191 (15-600) - **18%** (1%-46%)

Faculty / Department building
147 (5-510) - **17%** (1%-68%)

University Library
121 (5-290) - **14%** (1%-31%)

Cafe / public space
100 (50-150) - **6%** (1%-11%)

In transit
78 (30-205) - **6%** (2%-11%)

Reading and everyday life

“On change of spaces:

I like the change of scene within a day – and so I move around between different spaces so that I don't overuse them.”

23 year old Male, 15 terms at Cambridge, studying Music (PhD)

“I find the college library extremely important in my daily routine, it works like an office, with library partners and colleagues, and is more relaxed than the university library, and bigger than the department one.”

26–28 years old Female, Over 20 terms at Cambridge, studying History of Art

“I tend to talk to myself a lot...out loud...even while reading, when there is a train of thought coming up, I talk myself through it and make notes either in my notebook or on my whiteboard”

22–24 years old Female, 3–6 terms at Cambridge, studying History

“I would love to have a space which was primarily for working but where you could bring in drinks, coffee etc - a bit like a cross between a library and a cafe! Also, having more small alcoves/single desks in libraries, as I find it easier to read and work when I'm not sitting next to someone on a table.”

20–22 years old Female, 9–12 terms at Cambridge, studying Modern and Medieval Languages

“I am a natural science student studying History and Philosophy of Science. This is an option that is only taken full time in 3rd year, having done 2 years of science study where few books other than course textbooks were required. I felt there was little introduction for us into use of libraries (physical and online) or of reading technique

and so I struggled to get to grips with the sudden jump in the amount of reading that was expected. “

18–20 years old Female, 6–9 terms at Cambridge, studying History

“Successful concentration often depends on correct ergonomic environment, one that provides physical support (a chair, for example, with back reclining tension) but not one that is necessarily overly-comfortable (such as a bed, or couch). Task Chairs that are often provided in libraries are suitable for work at a desk or table, but are not always ideal for reading material for long periods of time. A mix of both would be recommended, or perhaps it is worth investing in high quality office chairs with adjustable and lockable settings. “

22–24 years old Male, 3–6 terms at Cambridge, studying Modern and Medieval Languages

“The library is the most productive place to work, provided that I have an mp3 player to give a constant, ignorable background noise rather than hearing other people's conversations. Going to and from the library at routine times (with witnesses to aid motivation for turning up at a reasonable time!) also helps to mark the start and end of the working day (with an hour's walk at lunchtime) and aid concentration. Email, Facebook etc. belong outside of the library so they aren't a distraction.

As for problems... it's sometimes tricky to work out how much cross-referencing/following up to do and at what point. Visiting other libraries to find books takes up a surprising amount of time, particularly when the books concerned turn

out to be missing. Sometimes books are only available as ebooks, which I find hard to use because of the difficulty of having multiple texts visible at once, eye problems with using computers for too long, only being able to access limited numbers of pages etc.”

20–22 years old Female, 9–12 terms at Cambridge, studying Archaeological and Anthropological

“The Cambridge libraries system is frustrating. There's usually just one copy of the book, which isn't necessarily on reserve, you're not allowed to copy the chapters you need (because that would infringe copyright law), and yet all 15 people in my program are supposed to complete the same reading? It's not feasible. I think the University should look into the possibility of letting professors put together course readers so that students can access the material.

The Cambridge libraries system is also rather enchanting with the sheer number of locations--I never run out of delightful places to settle down and study.”

24–26 years old Female, 1–3 terms at Cambridge, studying Archaeological and Anthropological

“One of the frustrations is the limited opening hours (especially outside term) of our faculty library.”

35–40 years old Male, 1–3 terms at Cambridge, studying Theological and Religious Studies

“Main problem is that there is no study space where you can bring/ make tea or coffee- I can understand that libraries need to protect their books, but I think we really need similar study spaces which do allow food and drink and maybe even provide a kettle... my college room is very small and its difficult to spend hours a day there but I really feel that

drinking my own tea and coffee is really important for my study. the problem with working in cafes is that they become expensive and are often noisy because they are essentially social spaces.

By the way- many thanks for doing this!"

20-22 years old Female, 6-9 terms at Cambridge, studying Education

"Often chairs are not suitable for sitting for long periods. They are often too hard, in a poor state of repair, have arms that mean you can't get close enough to the table or don't support your back. Considering how long students spend at desks reading and working somebody might like to think about this. Also the tables are sometimes the wrong height or badly lit.

Access to e-journals is also sometimes patchy,

I do try and access some obscure articles for my degree (archaeology) but it does often take ages to get access and then is generally not worth the effort. "

20-22 years old Female, 6-9 terms at Cambridge, studying Archaeological and Anthropological Studies

"I find the reading a necessary chore because I would love to be able to read the whole book but never have the time - I can't enjoy the text and study it at the same time."

18-20 years old Female, 3-6 terms at Cambridge, studying Theological and Religious Studies

"There needs to be more casual but quiet reading rooms on campus. Cafes where you can bring tea but cozy up in a comfy chair to read without the noise of high street. "

30-35 years old Female, 9-12 terms at Cambridge, studying Theological and Religious Studies

"The problem with academic reading is the time limit. I'm not the fastest of readers, and

particularly as an English student I find myself having to rush through really good primary texts and (some) interesting secondary ones in order to have enough time to write. This means it isn't always easy to understand everything and there is little time to properly sit back and appreciate good literature or challenging but interesting ideas. I love to be able to take time out to read something non-academic and remind myself of the pleasure of reading, but even in the holidays I feel guilty spending too much time off-topic."

18-20 years old Male, 3-6 terms at Cambridge, studying English

"My college library provides book stands at every desk. It would be nice to see this in the UL too. Otherwise, I have to prop the book on my lap and use the edge of the desk to

hold it open - bad for posture and for the book!"

22-24 years old Female, 1-3 terms at Cambridge, studying English

"I like no background noise, but working at a table with other people. I have two places I do this:

1 - My college library has large tables that comfortably seat 4 people spreading their work out. As it's in the library the room is very quiet so it's easy to focus, but with friends around it feels less isolated and by silent signal we can all get up for a coffee break together.

2 - In the MCR there is a large table in a quiet room for working. It's nice to sit there with friends as there is no background noise, but if you want to say a few words every so often it's fine to speak (unlike in a library)."

26-28 years old Female, 9-12 terms at Cambridge, studying Natural Sciences (biological)

"There are very few places in my experience where one can work communally and talk at the same time. This includes computer room and just rooms with tables."

18-20 years old Male, 6-9 terms at Cambridge, studying Natural Sciences (physics)

"I really enjoy working in cafes as I find silence distracting in libraries and I enjoy being around people who aren't working."

20-22 years old Female, 6-9 terms at Cambridge, studying History

"I often want variety during a whole day reading, but it seems to waste time when this means visiting many different places. It would be nice if one place offered a variety of reading options, all under one roof"

22-24 years old Female, 9-12 terms at Cambridge,

studying Classics

"Sometimes the University environment is not conducive to reading i.e uncomfortable chairs, cold/hot room temperatures."

28-30 years old Female, 1-3 terms at Cambridge, studying Engineering

"I find difficulty in summarising key parts of books and reading efficiently in order to get through a reading list in a week. "

18-20 years old Female, 6-9 terms at Cambridge, studying History

"Work best, and far less distractable, if I start and finish each day with intense exercise - morning run and evening gym session. I focus more when I don't consume caffeine, or sugars. The most distracting thing are chairs - there are very few places in Cambridge where the seating is of a suitable height to study comfortably for a long time without severe

back shoulder neck strain, which can be exhausting. More seating should be adjustable or reasonably heighted initially. “

18-20 years old Female, 3-6 terms at Cambridge, studying Law

“Email, phone, social network isn't necessarily bad. Helps to break up a long day of reading. Noise and other people is never good. You can't choose to turn them off.”

22-24 years old Male, 9-12 terms at Cambridge, studying History

“I can only check out 10 books at a time from the UL. Walking to/from different libraries is a chore; I would like to see the development of services regarding document delivery (scanned and delivered via email) for articles that are not online, and book delivery/return to the closest library (usually a college or department library) for the patron which are

then routed via collection and drop-off services to the appropriate libraries.”

35-40 years old Female, 1-3 terms at Cambridge, studying Other

“I think that it is underestimated by academic staff how the speed of each individual's reading varies. I read slowly and think this disadvantages me on a daily basis.”

20-22 years old Female, 6-9 terms at Cambridge, studying Theological and Religious Studies

“Since being in Cambridge I have struggled to find a library I like to work in, before Cambridge I used libraries religiously to study. Maybe the problem is too many libraries with different systems and no areas specific to different kinds of study. See University of Birmingham's library - perfect working environment for different types of study, be it cramming, group discussion and

revision, causal working with light interruptions by friends and social networks. Each room had its own etiquette, some with computer some without, rooms with divided study desks, or large open plan study desks. All in separate rooms to where books and journals are kept then study areas in each room where the books are.”

24-26 years old Female, 3-6 terms at Cambridge, studying Medical and Veterinary Sciences

“As a graduate student in the social sciences I am slightly disappointed that the study process is more solitary than in the case of most graduate students in the natural sciences I know.”

20-22 years old Male, 1-3 terms at Cambridge, studying Economics

“It's a pain that when an essay is set all my classmates and I start competing for the same

books.”

20–22 years old Male, 3–6 terms at Cambridge, studying Modern and Medieval Languages

“I find it personally much more effective to concentrate hard for a shorter period (say 3–4 hours) without any sort of break from study, than to read for a longer period (say 7–8 hours) but constantly intersperse this period with phone calls/facebook/chats with friends. “

20–22 years old Male, 6–9 terms at Cambridge, studying Law

“I don't like sticking to one place and I like change working environments so that I can read and write more effectively. And even I go to the same library during the week, I attend to choose different seats. “

22–24 years old Female, 1–3 terms at Cambridge, studying Education

“Frustration of having so many electronic papers on your computer, remembering a snippet from a paper, and then not knowing the right keywords to find it!”

24–26 years old Female, 15–20 terms at Cambridge, studying Engineering

“Overly complicated and poorly explained scientific terminology in some papers really demotivates the reader, especially at the beginning of a PhD

I think reading is overrated (at least in physics). I'm more the "try it out in the lab" type of person, I read when I'm stuck on a problem or if there is something of imminent importance to my project. Writing my literature review was the most painful experience so far in my PhD because I had absolutely no guidance on what to read about and how to pick out relevant and important

papers from the rest.”

24–26 years old Male, 1–3 terms at Cambridge, studying Natural Sciences (physics)

“Problems: Books not being available although often able to recall them; Divinity Faculty library closing too early so that one has to interrupt in full flow; heating being inadequate so the cold prevents comfortable concentration.

Positives: Sufficient sockets and lighting; lapwing when it works!”

50–60 years old Female, 3–6 terms at Cambridge, studying Theological and Religious Studies

“Those of us who are studying part-whilst also working full time have to fit reading around other activities and pressures. This being recognised by university libraries is very important as is access to a wide variety of e-books & e-journals - essential when trying to

track down readings when you are working and not physically able to get to a library.”

26–28 years old Female, 3–6 terms at Cambridge, studying Education

“There just isn't enough time to reading everything that would be useful/interesting in my field of study. I often have to skim-read and miss out sections to meet deadlines.”

20–22 years old Female, 3–6 terms at Cambridge, studying Modern and Medieval Languages

“Never enough bloody time!”

35–40 years old Male, 1–3 terms at Cambridge, studying Theological and Religious Studies

“Book availability is the ultimate challenge. Books are largely unknown and unavailable. This is the main reason why journal articles are often cited: databases are easy to search and articles are easily available.

Improving books accessibility is a primary

challenge.”

30–35 years old Male, 1–3 terms at Cambridge, studying Natural Sciences (biological)

Discovery, searching, browsing and serendipity

“One thing I just thought of as I walked into my Faculty library was that I've probably never browsed in an academic library because you can rarely see the book cover and artwork. The only time I've ever thought 'ah, that looks interesting, even if it's not relevant' is when the actual book covers have been put up as a 'new books' display, and the picture, font or whatever is eye-catching. (Both the UL and Pendlebury do these displays.)”

23 year old Male, 15 terms at Cambridge, studying Music (PhD)

“As far as I can tell, the supervisor's advice is the most important. But then again I've been lucky enough to have very helpful supervisors who give clear instructions.”

18–20 years old Male, 1–3 terms at Cambridge, studying

History

“I use PubMed a lot to find articles, and then other sites to download the articles. I wish Cambridge had access to more obscure journals because I need a lot of specialized articles for my research and don't always have access to these, especially articles published earlier than 1990.”

22-24 years old Female, 1-3 terms at Cambridge, studying Medical and Veterinary Sciences

“It is incredibly frustrating when there are no copies of a book available and when Cambridge does not have access to so many online journals in my field.”

24-26 years old Female, 9-12 terms at Cambridge, studying History

“Annotated reading lists are incredibly helpful. A lot of the English Faculty ones are pages and pages long, but with no real way to

sift through them, other than simply reading through the entire thing and picking what takes your fancy. The Philosophy department, on the other hand, heavily annotate their reading lists - 'good introduction', 'comprehensive but brief' etc, or use a key to distinguish introductory/supplementary material. This would be incredibly useful - as close to replicating the advice of an academic/supervisor as possible, when pursuing independent research.”

18-20 years old Female, 3-6 terms at Cambridge, studying English

“When doing secondary reading for a weekly essay (Eng. Lit), students in my college tend to place all the books from the faculty library in a shared pile back in the college library. It helps us to share resources between us and provides a meeting / discussion point for us

to work together and talk about which texts we've found useful for the essay.”

18-20 years old Male, 1-3 terms at Cambridge, studying English

“The UL catalogue system isn't always accurate. Lots of books shown on catalogue in college library but not on shelves.”

20-22 years old Female, 6-9 terms at Cambridge, studying English

“I doubt there is much to be done about it, but I prefer having the books arranged by topic/period in the library.”

28-30 years old Female, 1-3 terms at Cambridge, studying English

“So much of my time just gets taken up running from library to library trying to track things down - if lecturers want students to read things (particularly extra reading, for lectures or seminars), they need to make it

MUCH easier and less time consuming for us to locate. More use and more productive use of CamTools should be encouraged.

Also, it would be useful if in Newton or LibrarySearch, there was a function which allowed you to search just the libraries you are a member of. Currently I believe you can only search universally or by single libraries at a time, which can be a little annoying if you end up combing through all 6-7 libraries which you might belong to.”

20-22 years old Female, 6-9 terms at Cambridge, studying Archaeological and Anthropological

“I often find I discover a book that is useful to my study which has been referenced in the text I am reading at the time.”

20-22 years old Female, 3-6 terms at Cambridge, studying Archaeological and Anthropological Studies

“Cambridge seems to have worked out a

system that is complicated as possible to find and reserve books. As a new student it took me weeks to figure it out. Please link up all checked out books to one system and printers to one money deposit. It's digital! Why not?”

24-26 years old Female, 1-3 terms at Cambridge, studying Archaeological and Anthropological Studies

“I really like the way the Classics Faculty library is organised, so that every subject that makes up the department (literature, philosophy, history etc.) is separated out, and then topics (eg. Homer, Virgil, Catullus etc.) are all grouped together in a ways that you want to be able to access them. The only problem is that I tend to trust that I have read most of the important monographs on the topic once I have got through the section on the shelf, which isn't always the case.”

22-24 years old Female, 12-15 terms at Cambridge, studying Classics

“I like the way that things are filed in the English Faculty Library; generally I'll look for one book on my list and pick up a couple more on the same subject because they're put together on the shelf.”

18-20 years old Female, 3-6 terms at Cambridge, studying English

“Why is the UI so complicated? I can never find anything in there and I don't think I would go browsing for books because I would probably not find anything, get lost and then be eaten by a shelf or something. (its a scary place!)”

20-22 years old Female, 6-9 terms at Cambridge, studying Archaeological and Anthropological

“The organisation of the English library is excellent! If I find one book which is useful, the likelihood is that there will be four or five other useful books in the same area. This is

basically impossible in the UL...”

18–20 years old Female, 3–6 terms at Cambridge, studying English

“To find any book on the required reading list for the supervision essay is a miracle in my departmental library. For some reason, Michaelmas 2011 was my worst term for finding books which I was told were essential to write coherently on the question set.

With only one copy of many very important books, and many copies of books you'll never need, it can be very frustrating searching for books.

The University Library is a quest in itself. It does suffer, though less frequently, the same problem as my departmental library regarding book availability. It also has inadequate lighting in the stacks, which

makes finding the book the job of an intrepid explorer armed only with mobile phone light and a scrap of paper with the reference number.”

18–20 years old Female, 3–6 terms at Cambridge, studying Theological and Religious Studies

“Books that are listed as on the shelf are often missing and have not been replaced. This is obviously frustrating. Every week in order to get access to all the books I need I often have to sit down for at least an hour searching library catalogues and hunting down the books I need. It can often feel like a big battle.”

20–22 years old Female, 3–6 terms at Cambridge, studying Theological and Religious Studies

“At times there is such a spread of literature available / suggested that it is difficult to identify the most useful texts and those that

will give alternative viewpoints. Where teaching staff assist with this the work is much more productive.”

50–60 years old Female, 3–6 terms at Cambridge, studying Other

“Google scholar is excellent if you know how to use it properly (e.g. how to search particular terms), and also if you know its limitations (e.g. it doesn't always bring up full monographs, so other search engines are also required). I have found many many useful articles and new research directions using it.

However, I have found even more relevant material in the past through databases like Web of Knowledge but have found these very difficult to access – direct links to the search pages of these would be useful.”

24–26 years old Male, 6–9 terms at Cambridge, studying Archaeological and Anthropological

“Some lecturers use camtools very effectively – e.g. uploading of rare language texts/any texts that are out of copyright, or book chapters which will be hard to get hold of (whole class trying to take one book out of the faculty library). Others don't use it at all – maybe more training available for staff would help?”

20–22 years old Female, 9–12 terms at Cambridge, studying Asian and Middle Eastern Studies

“Journal bibliographies are best, most interesting, and most relevant.”

18–20 years old Female, 3–6 terms at Cambridge, studying Law

“Love digitised text-searchable books. Google Books for 19th century is amazing. If Cambridge UL could do that but with more copyrighted items (through password etc.) would be an extremely worthwhile

contribution to academia. I found many references to people/objects/places in history in texts I would never have consulted without Google Books search (not just due to laziness!)”

22–24 years old Male, 9–12 terms at Cambridge, studying History

“It is very important to have access to open shelves in libraries so that it is possible to discover new books by browsing or when looking for others! Also it is generally a good thing if many books are kept on the shelves (for the same reason) and not loaned out almost indefinitely to graduate students.”

22–24 years old Female, 12–15 terms at Cambridge, studying Theological and Religious Studies

“Cambridge has an appalling number of online subscriptions to journals. Every time I've needed to find a paper I've had to log

into my old university and access it through their library. This really needs to be fixed.

Also, the catalogue search is useless. All the libraries should be linked. I should not have to do a separate search for the UL and Rayleigh libraries.”

26–28 years old Female, 3–6 terms at Cambridge, studying Natural Sciences (physics)

“The electronic journal function that the University offers is patchy. Browsers do not connect, I have to use alternating passwords to access and it is very time-consuming.

The ebooks function is almost a disgrace as it is impossible to search for availability of ebooks from one source.”

35–40 years old Female, 12–15 terms at Cambridge, studying Medical and Veterinary Sciences

“We are given enormous reading lists for

most modules, with only one copy of each book, and no printed journals. Every single person in the class wastes a couple of hours finding these materials each session. We are all postgraduates and know how to find materials, but this is so inefficient. As the same/very similar reading lists are used each year, it would be so much more helpful if we could have print outs or electronic links to resources.”

20-22 years old Female, 1-3 terms at Cambridge, studying Law

“Newton, LibSearch, and CrossSearch are extremely awkward to use. Finding the materials I need takes far too much effort, and it is nearly impossible to find journal articles. If by some miracle I do find links to the material I need, Cambridge often does not have the necessary subscriptions, or fails

to redirect me through a subscribed proxy. More often than not, I end up using the University of Toronto's search interface instead, since it cuts the time it takes to find materials significantly. I do most of my research through journal articles/book chapters, and finding the relevant materials is a constant source of frustration!

On the other hand, finding books, especially physical copies, has never been a problem. I've been very pleased with the ease of access to physical copies of books over all. “

18-20 years old Female, 1-3 terms at Cambridge, studying Anglo-Saxon, Norse and Celtic

“Should have discovered/been informed about webofknowledge.com and jstor earlier! Noone gives you these essential tips for online search.”

24-26 years old Male, 1-3 terms at Cambridge, studying

Natural Sciences (physics)

“The preview features of Google books is very valuable when I'm away on a trip and don't have access to university library. So more books available for preview is better.”

40-50 years old Male, 1-3 terms at Cambridge, studying Architecture

Organising academic reading

“Once someone takes the recommended reading books on our set texts it is almost impossible for the rest of us! It is important to get in early.”

18–20 years old Female, 1–3 terms at Cambridge, studying Modern and Medieval Languages

“Personally I feel the need to think and plan which books I need quite far in advance to make sure that I can get the books out of the libraries before other people. This is not because I want to disadvantage other people, it's just that I feel anxious that I'll go to the library someday and not find anything that I need. “

20–22 years old Male, 3–6 terms at Cambridge, studying Modern and Medieval Languages

“It would be very helpful if supervisors could check the availability of the books they set as

key texts beforehand – sometimes I've struggled to get hold of a text because there are only one or two copies, all of which have already been taken out, and I have had to sub-borrow from other people on my course.”

20–22 years old Female, 3–6 terms at Cambridge, studying English

“I would really appreciate more help from supervisors and from the departmental reading lists: too often a long list of titles are thrown at me with little guidance as to which are the most valuable, efficient, important and accessible. I'm not a machine and don't have the time to read six books before I discover anything of relevance to my essay question!”

20–22 years old Male, 6–9 terms at Cambridge, studying History

“I find it enormously useful to be able to annotate a text as I read it, so one problem I

have with reading is not being able to annotate the books I need for my course – sometimes I even photocopy whole chapters on my own printer so that I can do this. I'm not sure if there is any way this could be resolved, but if it could I think it would really help with day to day reading and studying.”

18–20 years old Female, 1–3 terms at Cambridge, studying Modern and Medieval Languages

“It would be useful to have access to a list of standard bibliographies for several areas of study related to my field on hand, especially when searching for readings in an area I'm not familiar with (e.g. a list of 'medieval' bibliographies); also, apart from the lecture lists compiled by the department, it would be useful to have more bibliographic resources available through the university (i.e. a bibliographic search system built into

Newton/Library Search, somewhat like the SOLO system in Oxford)."

24-26 years old Male, 9-12 terms at Cambridge, studying Anglo-Saxon, Norse and Celtic

"My system of organization is completely chaotic, but from what I heard from others, it is quite as disorganized with them. Programs such as zotero and mendeley and endnote are no use since it requires too much time to create all relevant metadata, and its output is not always in the desired format."

22-24 years old Female, 3-6 terms at Cambridge, studying History

"I don't really organise my reading at all except at the most basic and elementary level. Beyond that, I'm a big (read: overconfident) believer in serendipity. I've stumbled across things that I've used here and there, been turned in one direction or another by

supervisors. In general, being so happy-go-lucky about it all is an act of rebellion against the very notion that there's ever "enough" reading to satisfy some absent body of auditors, checking up on what a "good student" would be doing. All of the academics I know and respect and have been taught by seem to have skipped a little bit here or there and it doesn't seem to have hurt them in any grievous way... So, it's a petty, sort-of risky, and reasonably well-considered rebellion, and a reasonably practical one because in truth, there's no point in totting up pages read and books ticked off, because I know everyone forgets everything they don't really need, and what you need is not just measured by the demands of exams etc, but by the demands of who you are as a person, and what sort of reading would resonate with you. Beat poetry or Wordsworth?

Interminable Icelandic prose epics or post-modern angst? English, at least, still has room for this sort of hippy-dippy, and deeply individual, connection to a sort of patchwork reading, providing the very basics are covered (i.e you vaguely know which century you're in, any major wars, you know, the big stuff)."

20-22 years old Female, 6-9 terms at Cambridge, studying English

"I'm not sure whether I've ever organised my reading that efficiently, and don't think I ever got any guidance on it."

20-22 years old Female, 9-12 terms at Cambridge, studying Modern and Medieval Languages

"My research topic is not very popular in Cambridge libraries, so I often have problems finding the last books on the matter, many are simply not available, though they should be considering this library is meant to have

"each book" published in the UK. But worst of all, it's the lack of access to online magazines. I really waste a lot of time trying to find THE key article just to discover I can access the journal or that I have to go to the main library. But once there, you can just get ONE article per magazine, so again, problem. And in these times, we really need to have access to online material, not only to photocopies, which turn out to be easier to read and anotate, but difficult to keep track of. One funny thing? I just discover I can access most of the journals I need using the online library of my former university! I wonder if Cambridge gives access to online resources to its former students too. Hope it does!"

35-40 years old Female, 3-6 terms at Cambridge, studying Education

"For me personally it is important to have flexibility about when I do my essay within the time I have to do it- recalls and book availability limits that- I understand there are limited resources but it makes it difficult for me to get essays done when I have to plan them around when I can get certain books out."

20-22 years old Female, 6-9 terms at Cambridge, studying Education

"I feel some basic instruction in study skills- particularly note taking- could be useful for first year students. I feel occasionally to be using my time very inefficiently by taking excessive amounts of time reading/note-taking from academic texts. I doubt many students will have been required to read as much and as vigorously in any of their studies prior to university and thus some support

would be helpful at first."

20-22 years old Female, 3-6 terms at Cambridge, studying English

"I don't know how to remember stuff properly when you've read five 300 page books in a week."

18-20 years old Female, 1-3 terms at Cambridge, studying English

"I've only had to start doing a lot of reading from journals this year and I'm having a lot of trouble trying to gauge whether the reading I'm doing is "right", in that I don't know whether I'm making notes and paying attention to the right things that will help me in the essays for the exam. I also don't know how many of the references we have to read and in how much detail. There can be up to twenty references for a lecture, each taking at least two hours to read properly and take in,

which doesn't seem practical.

More guidance on what to read, what to get out of our reading and clear indications of what is necessary reading would be really helpful. “

20-22 years old Female, 6-9 terms at Cambridge, studying Medical and Veterinary Sciences

“These two items are related to the checkout limit. "Accessing the right book for my studies is a long process--I have to read the books I have first (usually ones I picked out) and return them to then access other books for my studies (usually ones my supervisors recommend along the way), so I find I have to wait a long time before I can access the recommended books. In the US where I went for my undergraduate and graduate studies there was no checkout limit. In terms of "Book availability (or lack of) has an effect

on my essay topic/content"--I find that, while I try to take very careful notes, in order to double check my quotes in my paper before publication, I will probably have to go back to the library and look at the same books a second time to double check my quotes (because I can't keep the books the entire time I am writing the paper due to the checkout and borrowing time limits).

Accessing archival and special collections materials requires scheduling a personal meeting with a librarian and special permissions which are sometimes denied; if materials are requested instead of denying access, digital surrogates should be offered (or at least the option to pay for making a digital copy), rather than denying access altogether. Trying to organize all of these meetings is time consuming; isn't there a way to create a

secure central reader's profile at the UL (available internally to all libraries) so that when you go to a departmental library or college library, your request can point to your profile of what you are researching and perhaps a faculty letter of introduction so that you don't have to repeat this at many different libraries? I use a spreadsheet document called "Cambridge Bibliography and Log" with different sheets, containing

- 1) a bibliography of the books I should consult with all the bibliographic citation information possible, plus the number of pages, ISBN number, and the URL if appropriate, and a column for whether I have read it which says YES or NO.
- 2) A log of all of my activities with the date, time, place, title/speaker, completed (YES OR NO), category of activity type (Training: Computers, Training: Library, Training:

Research, Training: Publishing, Training: Presenting, Training: Latin, Seminars and Talks, Non-Cambridge Lectures, Supervisor Meetings, Conferences, Social Events (like Department photo, social events, etc), and Research/Interviews (usually scheduled with librarians). “

35–40 years old Female, 1–3 terms at Cambridge, studying Other

“My preference is to take notes on the text itself but this is a problem when it comes to library books or online texts (I don't like annotating texts digitally, and really do not like reading on screens for long periods), and so I am forced to use different styles of taking notes (sometimes as annotations, sometimes with bookmarks, sometimes separate paper notes, sometimes typed notes) which I then find it hard to put together into one system. I

also end up with many photocopies of bits of text lying around that it is difficult to know exactly how to file.”

22–24 years old Female, 12–15 terms at Cambridge, studying Theological and Religious Studies

“I find that organising a plan for reading before beginning makes me feel as though I'm working more efficiently once I begin, even if it takes some time to decide how to go about this organisation.”

18–20 years old Male, 3–6 terms at Cambridge, studying Modern and Medieval Languages

“Have never been shown effective ways of note-taking. Sometimes hard to get the balance right between just reading for the general impression, and stopping to look lots of words up (for foreign texts) and writing notes at the same time.”

22–24 years old Female, 6–9 terms at Cambridge, studying Modern and Medieval Languages

“My lab's copy of EndNote is super outdated. It would be helpful to have access to an online/cloud citation manager.”

22–24 years old Female, 3–6 terms at Cambridge, studying Engineering

“Among doctoral students in history there is a huge concern about best practices in tracking and cross-linking information from archival research, reading, and writing – a body of work which includes large image and audio file sets, internet research, pdf documents, reading notes, and multiple drafts of word documents.”

30–35 years old Female, 3–6 terms at Cambridge, studying Other

“This can be difficult when you are exploring a number of different fields.”

40–50 years old Female, 3–6 terms at Cambridge, studying Other

“I've had tremendous success using Mendeley to organize my reading over the past year, and now recommend it strongly.”

26-28 years old Male, 9-12 terms at Cambridge, studying Natural Sciences (physics)

“Organising my reading isn't the main problem. The main problem for me is synthesizing the breadth of reading with the key aspects of particular importance to an essay.”

50-60 years old Female, 3-6 terms at Cambridge, studying Theological and Religious Studies

“Prioritising which texts to read can be a challenge - usually go on a mixture of recommendation, profile in other references and instinct”

50-60 years old Female, 1-3 terms at Cambridge, studying Education

“I am very proud of my time consuming

research annotation system, which involved reading a book or article, highlighting it in yellow. Then re-reading the highlighted sections (And the odd annotation) and taking concise notes on the reading, and then typing up the annotation into a digital file. It is long but at the end of the process I feel as though I really know the material. - I use a lot of yellow highlighters.”

24-26 years old Male, 6-9 terms at Cambridge, studying Politics, Psychology and Sociology

“My academic reading is mainly of academic papers and eBooks. I save these in my dropbox account, and read them on my iPad using an app (iAnnotate) which lets me annotate them and syncs them with my dropbox, so the annotated versions are available to me anywhere, from any machine with internet access.

I find carrying around an iPad much easier than carrying around books, and it is a lot easier than having to guess what I will need each day.”

24-26 years old Male, 15-20 terms at Cambridge, studying Natural Sciences (physics)

“Actually I feel I have terrible reading skills and note taking, although what I do seems to work for me. I talk to my peers and they do really extensive note taking or cataloging and I don't. I don't have any real way to check my progress or level of reading success.”

35-40 years old Female, 6-9 terms at Cambridge, studying Engineering

“Keeping track of all the materials I have read is a nuisance.”

26-28 years old Male, 3-6 terms at Cambridge, studying Mathematics

Social aspects

“It's always helpful to have someone there ready to help, so that you don't feel put off from finding a text in a building or an area of that you've never ventured before. My college library also has a separate room for those studying my subject, which is invaluable because it places everything in one area and allows those of us studying the same subject to ask each other questions.”

18–20 years old Female, 6–9 terms at Cambridge, studying Law

“I find it most helpful to be able to ask another person what a book is about. If I know them well, I'll also ask them if it's written in an accessible style, but I'd feel self-conscious asking a supervisor or lecturer this!”

20–22 years old Female, 9–12 terms at Cambridge,

studying English

“I had the good fortune of living with a friend who was studying one or two of the same papers as me. Sub-borrowing is a great way to learn, as it means there is a time limit on how long you have the text. If you go over that time limit, it is your friend that gets a library fine. This helps as a motivational tool, and it also provokes discussion of the book between peers.”

22–24 years old Male, 3–6 terms at Cambridge, studying Modern and Medieval Languages

“To concentrate, I really need not to communicate, but just get a bit bored sometimes. I do like sharing books and my thoughts on them with people whose opinions I trust, though.”

28–30 years old Female, 1–3 terms at Cambridge, studying English

“I would like more social interaction about what I'm reading, but I don't know many other people with interests in the same area. On the other hand, it's good to get different disciplines' perspectives on things that I have read and talk about. I also enjoy sharing the bits of academic reading that are unintentionally funny!”

20–22 years old Female, 9–12 terms at Cambridge, studying Archaeological and Anthropological

“I think peer reviews would actually be a good idea because it would save so much time and frustration in discovering that (again) this and that was useless to me, which the index treacherously has made more interesting, or (which is more often the case) has been veiled by an empty index that doesn't really tell me what this chapter is about. Short paragraphs would be helpful, not necessarily

anything fancy pants.”

*24–26 years old Female, 9–12 terms at Cambridge,
studying English*

“Online system to actively claim books you are borrowing from another student that would mean they were renewed from that date without having to take the book back would be great”

*18–20 years old Male, 1–3 terms at Cambridge, studying
Archaeological and Anthropological*

“It would be very useful if there was an option to find out who else had borrowed books (if they agree to the information being shared). As a PhD student, I sometimes find that other people have borrowed an obscure text that I need. It would be great to know who they were so we can discuss our area of research (no-one else in my department is researching in my area). The benefits of this

possibility have been discussed many times in my office.”

*22–24 years old Female, 3–6 terms at Cambridge,
studying Natural Sciences (physics)*

“I don't want reading to become like Facebook! I'm happy to physically share my notes with my friends, but not with randomers on the internet.”

*20–22 years old Female, 6–9 terms at Cambridge,
studying Archaeological and Anthropological*

“I'm friendly with all the other English students in my college and we have a lot of friendly competition for books we've all been recommended by our supervisor. We share books and recommend things to each other.”

*18–20 years old Female, 3–6 terms at Cambridge,
studying English*

“With regards to academic papers, I have found that sitting down and discussing the

merits of a paper with someone else, opens up avenues that may not initially have been seen.

With respect to text books, people in older years, doctors and supervisors have provided useful recommendations, and I have tried to do the same for people who have asked me. “

*18–20 years old Male, 1–3 terms at Cambridge, studying
Medical and Veterinary Sciences*

“It would be useful if there was a way of contacting the person that has borrowed a book that you are searching for – sometimes you only need to check something quickly in a book that another person has checked out, and simply emailing them and letting them know would be a lot less effort and much quicker than requesting it through the library catalogue. It is also interesting in that you can get someone else's opinion on that book, which can be useful or even find someone

else working in your field that you were unaware of. It takes so long for a book to be returned if requested that it is almost not worth it and I usually end up going to London or Oxford to check it if I really need that book.”

24–26 years old Female, 3–6 terms at Cambridge, studying Anglo-Saxon, Norse and Celtic

“Others doing the course are crucial in finding the really good stuff from a reading list. If there's anything I especially want or need and they have it, I'll borrow it (or vice versa), but only with people that I trust. Finding the important stuff quickly makes a huge difference, and it's nice to share opinions on what's been read.”

18–20 years old Male, 3–6 terms at Cambridge, studying English

“I am very happy to share reading

information with friends but not with people I don't know. It's too much effort and I'm busy, and in any case I wouldn't know whether anything they told me could be trusted as some people are very competitive and ruthless. I wouldn't want any of my efforts to help people who have this poor attitude towards study, and they may plagiarise my ideas.”

20–22 years old Male, 6–9 terms at Cambridge, studying Medical and Veterinary Sciences

“I like to be able to discuss my reading with other students studying my topic, or relevant topics. My best work often comes out of a discussion about my work with students in other subject areas – I study History, but also expect to read anthropology and philosophy books regularly, as well as literature.”

18–20 years old Female, 6–9 terms at Cambridge, studying History

“I think most people are better and reading than me and so I don't find it a social experience. The fact that I am struggling with the reading makes me feel quite isolated.”

22–24 years old Female, 1–3 terms at Cambridge, studying Politics, Psychology and Sociology

Reading and technology

"I generally find it more difficult to read online articles and books, although often am forced to due to lack of availability of the hard copy."

18-20 years old Female, 1-3 terms at Cambridge, studying Modern and Medieval Languages

"I find reading large amounts off a computer screen really difficult, I prefer physical books, but more and more reading materials are being provided online and I can't afford to print them all out."

18-20 years old Female, 6-9 terms at Cambridge, studying Music

"Whilst the rise of electronic resources has made accessibility of resources easier, I personally find the reading of a hard copy much more enjoyable, and less arduous. Reading off laptop screens, I feel, is harder on

the eyes, and it is more difficult to take notes, although there have been an increase in good annotations programs - such as PDF-XChange viewer. In terms of general reading on laptops, I do not feel that reader programs such as Adobe's standard PDF reader, are best suited to the task - although the .chm and .lit files, are significantly better."

18-20 years old Male, 1-3 terms at Cambridge, studying Medical and Veterinary Sciences

"I find that reading a lot, particularly on laptop screens gives me sore and painful eyes, and can even make me feel sick.

I am not sure why and I am trying to find a good way to balance the ways I read (paper/screen) and have recently tried a kindle and found this much better than a laptop screen for alleviating my problems."

18-20 years old Male, 6-9 terms at Cambridge, studying

Natural Sciences (biological)

"One of the highlights is when the screen is big enough so that I can type notes in a document on the left and read the paper on the right."

20-22 years old Female, 6-9 terms at Cambridge, studying Anglo-Saxon, Norse and Celtic

"I tend to read more when I have an assignment to work on, rather than regularly. No longer live in college so have to use a VPDN connection from home computer to access journals online. Elsevier and Wiley can be very difficult to view this way and often send on annoying login-access denied-login loops."

20-22 years old Female, 9-12 terms at Cambridge, studying Medical and Veterinary Sciences

"A few things:

I think eBooks are a great idea but only when

properly searchable, and sometimes the obscure login portals you have to go through to access them are so obscure as to make the whole process useless. Unless this gets better I will be mostly sticking to paper books which is a shame. Proprietary online readers are also a pain, just a pdf file would be perfect.

Also as an engineer I tend to be looking things up for reference and not looking for the whole book, which makes finding information fast a real advantage. If rarer books are only stocked in the university library it is not worth the time to go there for just one paragraph, so effective online access would be a real benefit.”

20–22 years old Male, 9–12 terms at Cambridge, studying Engineering

“My favourite method is to read from paper

books whilst bookmarking a digital copy for later reference.”

18–20 years old Male, 1–3 terms at Cambridge, studying Mathematics

“I read a lot on my iPad but most of my academic reading is not available digitally. Even some of the set texts which are short chapters or articles are not online. If they were available digitally there would be much less competition to get books out. I often find I can get only 1 or 2 books on my reading list and have had to chose different essays or have got behind because of no access to books. “

20–22 years old Male, 6–9 terms at Cambridge, studying Theological and Religious Studies

“I prefer having printed versions of papers so I can annotate and highlight easier. I like organizing categorically on my computer, though, using folders on my Desktop and

services like Mendeley. However, Mendeley doesn't recognize all of the papers, so I use my own organization system and stick to that for easy access of papers I've downloaded. I've had some frustrating experiences with accessing papers, though, particularly older papers or from more obscure journals.”

22–24 years old Female, 1–3 terms at Cambridge, studying Medical and Veterinary Sciences

“Whenever i read books/journals etc. on a computer screen, i do not tend to annotate and make notes as much as i do when i am using a physical copy of a book. I think this is because there is a certain spontaneity when one makes quick little notes in the margins of books, that i don't believe is equalled when one is typing notes or annotations. As this kind of spontaneity is really essential to my essay writing process in particular, i generally

prefer to work with hard copies of primary texts that i have bought myself, specifically so i can write all over them!"

18-20 years old Female, 1-3 terms at Cambridge, studying English

"I personally think technology is really helpful nowadays, but I find it easier to deal with physical books and to write down my notes on paper. When I'm writing an essay, I first use pen and paper and then I type the essay in the computer. I can't directly write on the computer because I can't think properly staring at the blank page on the screen."

20-22 years old Female, 1-3 terms at Cambridge, studying Modern and Medieval Languages

"It was hard to answer the question about reading on a screen. It does hurt my eyes, but on the other hand it has the advantage that I

can make the text bigger and position the screen on my laptop so that my neck doesn't get as sore as when I'm reading a book lying on the desk. Until recently I printed anything that I wanted to read closely or make notes on, but I've started to read more on screen. Open source pdf readers that allowed easy annotation helped make the transition, but I now use adobe and don't make any annotations on screen. I'm starting to be able to read as closely on screen as on paper, but I still find it hard with complex texts where I want to flick back and forward to check understanding. And if I'm going to be discussing a paper in a supervision or lecture it is essential to have a paper copy to make notes easily and to avoid having a laptop in front of me (which would feel rude and would also interrupt conversation).

Finding journal papers online is something that I've got much better at while studying. I'm now pretty much always able to find what I want whereas in my first year I often had difficulty finding papers. "

20-22 years old Female, 9-12 terms at Cambridge, studying Archaeological and Anthropological

"Despite the fact I prefer to read a physical book I end up mostly reading off my computer screen as I can't afford to print everything out!"

26-28 years old Female, 15-20 terms at Cambridge, studying Archaeological and Anthropological

"I find accessing journals very time consuming and often I cannot gain access"

20-22 years old Female, 9-12 terms at Cambridge, studying Modern and Medieval Languages

"I hate reading on my laptop, because it's tiring and there are too many distractions like

Facebook. Reading on the Kindle is much better, much more like a real book.”

20–22 years old Female, 6–9 terms at Cambridge, studying Archaeological and Anthropological

“Although I like having a physical book to read from (as it is more portable and I like the colour and texture of the pages) it is outrageously useful to have an online version of the text so that you can search particular words/phrases that you know you read SOMEwhere but can't for the life of you remember where that somewhere was.”

20–22 years old Female, 6–9 terms at Cambridge, studying English

“I couldn't manage my library of journal articles without Papers. I hate printing PDFs just to read once so I almost always read them on my iPad. I'm looking forward to an iPad with a higher resolution screen.

Individual publisher/journal websites are almost always awful and make it hard to find and access their material. Websites that insist on adding java 'download helpers' and the like have a special place reserved in hell. Just give me the pdf and go away!”

28–30 years old Male, 6–9 terms at Cambridge, studying Natural Sciences (biological)

“The more of our vast catalogue we put online, the better. Is there a chance of sorting this out with Google Books? They seem to have uploaded all the books, but we don't have access yet.”

22–24 years old Male, 1–3 terms at Cambridge, studying Engineering

“The current problems with screens and distribution (in some cases copyright too) should be soluble, hopefully within the next ten years. Acceptance and investment in well-

designed open resources should be a very high priority.

I have a mild preference for books in the current constrained e-resource situation, but with parity of access digital resources would present massive practical benefits.”

18–20 years old Male, 3–6 terms at Cambridge, studying Music

“I strongly prefer reading on paper, but then I have to transfer my notes to the computer, and Endnote doesn't make it easy to link notes to readings. This is my main tech-reading problem.”

22–24 years old Female, 3–6 terms at Cambridge, studying Engineering

“I feel that it's difficult to overstate how disconnected I feel from the physical libraries here at Cambridge. The cultural difference between a 'house of books' and the digital

methods by which I obtain information is vast. As a specific anecdote, I recently requested that the university library obtain digital access to a journal that I feel is reasonably common. I was told that this was unlikely to be possible given nebulous 'budgetary constraints', but that the university did have hard copies up to 2002. I felt that this comment belied a deep misunderstanding of the nature of research in the physical sciences on the part of the librarian. Namely, the pace of research is so rapid that, other than a few seminal papers, the vast majority of articles more than ten years old are no longer relevant. This is to say nothing as to the comparative difficulty in searching and accessing non-digitized material. If any money is being spent to maintain a collection of these papers for anything other than the maintenance of a true

archival record not duplicated elsewhere, I'd argue that it's being wasted."

26-28 years old Male, 9-12 terms at Cambridge, studying Natural Sciences (physics)

"A cheap tablet that let's you write on the screen would be ideal for academic purposes. something like the Eee transformer but with a good stylus interface would solve pretty much all the problems I generally have"

30-35 years old Female, 1-3 terms at Cambridge, studying Other

"I hate reading digital material, and need to print everything. I also get a sense of accomplishment from seeing a pile of read materials all annotated to hell next to my desk, a feeling which I don't get with digital material. I also get distracted reading on a computer and end up in social network sites or on the web."

24-26 years old Male, 6-9 terms at Cambridge, studying Politics, Psychology and Sociology

"Personally I'm looking forward to / hoping for a stylus-operated touch-screen device that would combine the flexibility and immediacy of hand-written notes to the storage space and internet access of a tablet. I'm not sure whether there are such devices or applications available yet, but if such a thing was reasonably priced, I would be the first one to buy it. Paper notes are too bothersome to organise and taking notes on a computer is too inflexible, so there really is an open niche between those for a device to fill. A Kindle with the above features would be a dream come true."

22-24 years old Male, 1-3 terms at Cambridge, studying Archaeological and Anthropological Studies

Design

After coming back from the Christmas break, I started the design phase of the project. Actually most of the times I think, there is a bit of a mystery and magic around transforming user research data into usable designs. My hand wanted to grab a pen and draw boxes on paper, thinking of zillions of ideas and features which would help people do things better. But again, my brain disagreed and luckily managed to hold this back, as I felt that I am jumping ahead too quickly, cutting corners.

The first thing I needed to do was to get all the things which I have learnt out of my head. The great people at Head London (headlondon.com) design agency helped me a lot in this, and together we found an easy and

understandable process to start shaping the gathered data into useful solutions.

As a first step we wrote up all of the key findings on post-its and prioritised them on a huge wall. An example of such a post-it would be: “The large group of students have problems accessing required readings”. This was an extremely useful activity, which forced me to spell out findings and making sure that I can communicate those to people outside of the project. The next step was to formulate design goals, based on the prioritised findings. The process here is to identify similarities, patterns, and groups within the findings, as creating a design problem for every insight is a futile endeavour.

Constructing design goals is actually a hard task to do, since a lot of the times, people would naturally formulate “pseudo” design

goals which are actually not design goals at all, but rather an attribute or a general principle of the system we are trying to create. Very useful to understand the difference, and being able to formulate unique and relevant design problems is crucial. We ended up with 5-6 very good design goals, which paved the way for the next stages of design:

- How do we alleviate book shortages?
- How can we help the discovery of relevant and related reading materials? – serendipity
- How do we transfer knowledge between student generations?
- How do we help working through one's reading list?

- How do we embrace external systems and practices which are already used?
- How do we make connection between physical and digital activities?
- How do we support making connections between reading and reading related activities?
- How do we support and change?
- How do we aid the discovery of people and content which help students progress?
- What kind of social features support sharing and time saving?
- How can we show progress and accomplishment for ourselves and others for motivation?



The reason behind clear design problems is not only being able to articulate and communicate. They serve as starting points and triggers for ideas, which try to solve a given design problem. The way we approached was to have a large number of ideas solving each of the design problems, in the form of user journeys, which had to contain an actor, an object and a goal – sketching things with simple stick figures.

Expressing ideas this way, almost like simple cartoon strips, encourages designers to think

of user flows rather than individual features or functionality. Features are assembled by disseminating, combining and evaluating all these flows. Once features are there, through a prioritisation activity we can start drawing a bird's eye view of the system, and mapping out how different features connect, to best support the design goals and the user journeys. This is when my brain is comfortable with drawing, and this is where finally sketching of individual screens can begin.

Another interesting thing which I managed to get a better understanding in with the help of Head, is the ability to communicate design findings. They showed me a number of different ways to visualise complex relations and complex data, which is essential when dealing with the volume and depth of data the user research produced.

The design then turned into a more producing type of activity where all the major functionality areas of the screens were blocked out. Each are then was detailed and given more visual detail, so that it can be presented as initial mockups. The mockups should be able to demonstrate the main screens of the application, how users would navigate within the system, and the main features. This way the system is defined in terms of a collection of browser wireframes

illustrating the main screens of the application, a set of outline backend services which need to support the system, and a set of mobile device wireframes.

One of the most important principles of the design was to offer features across multiple contexts, in which students operate in real life. All the features were designed so that the the proposed solution is not only a single application, an island of functionality, but rather a holistic system, aiming to add value at multiple channels, locations, contexts and situations.

The designed system in general terms is essentially a tool which help students go through their reading lists faster, and discover relevant reading materials. It is intended to help students save time by doing the boring legwork around reading, and automatise a lot

of the processes around academic reading, allowing students to spend more time reading and creating things. The system would be able to identify a semi structured reading list from many sources, and automatically enrich it with useful metadata such as library availability, or rating information by fellow students, supervisors or academics. Ratings would work democratically, users being able to up-vote or down-vote lists, items in lists or sources. The atomic object of the network would be a list of reading items, which could be ordered by different attributes, and grouped. Students would be able to manage these lists on a basic level, however management is not a main focus of the application. Reading item metadata would be collected from third party services and internal library services too, allowing direct access to resources, and integrated library

search capabilities.

Since the application would hold rich usage

library circulation systems, it could

potentially support and initiate different

calculated fair borrowing times based on real time student needs, or managing sub-borrowing, allowing a student to transfer a borrowed book to another person remotely.

Another important aspect of the system is the ability to recommend books, based on peer ratings, and historical usage, surfacing relevant reading materials, sources, or popular reading lists, which other students found useful too.

All the above mentioned functionality would be accessible through a simple mobile interface too, allowing students to access reading related information in context on the go. Typical use cases would include help to assess relevance of a large number of books within a shelf, or looking up a list of reading items which needs to be borrowed.



data from users with tight integration to

library practices such as dynamically

Technical stack

This project was completed by using the following technical solutions:

OmniGraffle

For wireframes, visuals and diagrams

Google Spreadsheet (Docs)

For spreadsheets and calculations

Google Forms (Docs)

For online survey and research signup form

Zoom H4 audio recorder

For audio recording interviews and the focus group

Google Refine

For data cleanup and extraction

Tumblr

For project blogging

HTC Desire smartphone

For observation pictures

Notational Velocity

For digital note taking (syncing to SimpleNote on iPad)

Pen, sharpies and post-its and paper

For note taking, sketching, and organisation

TextWrangler

For all plain text editing

LibreOffice Writer

For writing formatted text

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