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Gwasanaeth Llyfrgell y Brifysgol

Finding and using information in your academic work

Cathy Parker

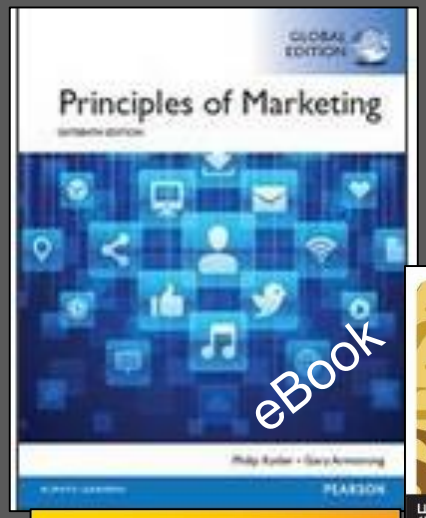
03-02-17

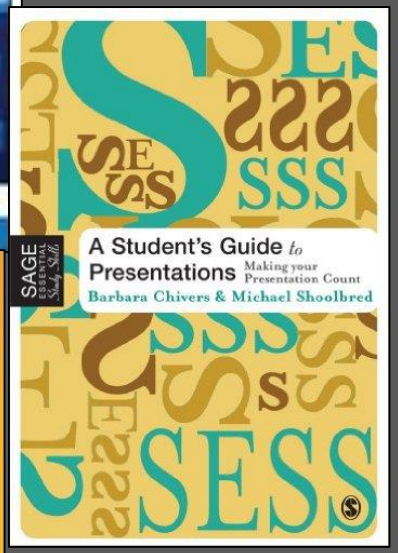
By the end of the session you will be able to …

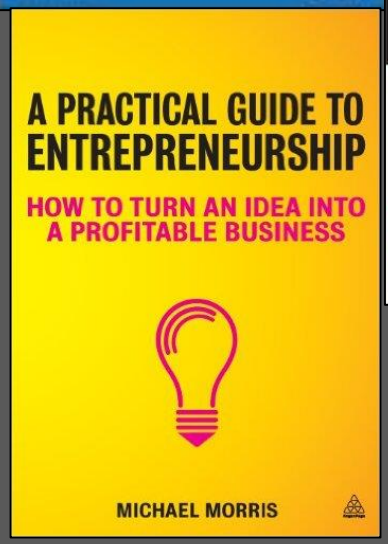
- Search for books on report writing, presenting and business strategy.
- Identify and access good quality information resources to support your research.
- Formulate an effective search strategy.
- Avoid plagiarising in your academic work.
- Recognise why and when to cite and reference.
- Create and manage BibTeX files.

Part 1: Finding information for your project

Researching your project







- You can borrow books from any of the libraries on campus
- Look out for eBooks, they are available online 24/7

https://librarysearch.cf.ac.uk

Researching your product

"What has already been done and what do we need to know to build our product"?

Researching your product

Good quality information

- Articles from peer-reviewed journals
- Textbooks
- Webpages from reliable sources (check for bias)

Wikipedia should be used for background research only.

Researching your product

Journal articles are where academics, such as your lecturers, publish their research.

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Senior Lecturer

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Overview | Biography | Publications | Teaching | Research

Type | Author | Date | Selected

Articles

- Knight, V. A., Komenda, I. and Griffiths, J. D. 2016. Measuring the price of anarchy in critical care unit interactions. *Journal of the Operational Research Society* (10.1057/s41274-016-0100-8) PDF
- Vile, J.et al. 2016. A queueing theoretic approach to set staffing levels in time-dependent dual-class service systems. *Decision Sciences* (10.1111/deci.12236) PDF
- Vile, J.et al. 2016. Time-dependent stochastic methods for managing and scheduling Emergency Medical Services. *Operations Research for Health Care* 8, pp. 42-52. (10.1016/j.orhc.2015.07.002) PDF
- Gillard, J.et al. 2016. Rostering staff at a mathematics support service using a finite-source queueing model. *IMA Journal of Management Mathematics* 27(2), pp. 201-209. (10.1093/imaman/dpu017) PDF
- Shone, R.et al. 2015. Containment of socially optimal policies in multiple-facility Markovian queueing systems. *Journal of the Operational Research Society* 67, pp. 629-643. (10.1057/jors.2015.98) PDF
- Putman, K.et al. 2015. Modelling of psoriasis patient flows for the reconfiguration of secondary care services and treatments. *Health Systems* (10.1057/hs.2015.4) PDF
- Williams, J.et al. 2015. Mathematical modelling of patient flows to predict critical care capacity required following the merger of two district general hospitals into one. *Anaesthesia* 70(1), pp. 32-40. (10.1111/anae.12839)
- Burnap, P.et al. 2014. Tweeting the terror: modelling the social media reaction to the Woolwich terrorist attack. *Social Network Analysis and Mining* 4, pp. 206. (10.1007/s13278-014-0206-4) PDF

European Journal of Operational Research 230 (2013) 122–132

Contents lists available at SciVerse ScienceDirect

European Journal of Operational Research

journal homepage: www.elsevier.com/locate/ejor

Decision Support

Selfish routing in public services

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Article history:
Received 8 March 2012
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Keywords:
Game theory
Queueing theory
Health care
OR in health services

ABSTRACT

It is well observed that individual behaviour can have an effect on the efficiency of queueing systems. The impact of this behaviour on the economic efficiency of public services is considered in this paper where we present results concerning the congestion related implications of decisions made by individuals when choosing between facilities. The work presented has important managerial implications at a public policy level when considering the effect of allowing individuals to choose between providers. We show that in general the introduction of choice in an already inefficient system will not have a negative effect. Introducing choice in a system that copes with demand will have a negative effect.

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1. Introduction

What damage do the selfish choices of some afflict onto the welfare of all? The work presented in this paper answers this question in the context of public service systems.

There is a substantial quantity of literature on the subject of equilibrium behaviour of a queueing system where congestion is a factor influencing behaviour [1,5,12,23,31,35,51]. This can be traced back to a series of short communications between Leeman [28,29] and Saaty [44]. This paper builds on this literature by considering the problem of public service systems. For most public services, congestion is a negative aspect of service quality. Examples of this are healthcare systems (waiting lists), transports systems (traffic jams) and/or schools (overcrowding of class rooms).

The degree of central control that should be exercised is a very

petition). In this system if we were to start routing individuals so as to optimise *overall* quality of service, we would (by definition) notice an improvement over a situation where individuals had choice. This impact of choice is the one considered here. The approach proposed is based on a measure called *the price of anarchy* [2,7,8,10,14,18–20,34,41–43,47,52]. First introduced in [25] (a conference paper that has been reprinted in [26]), the price of anarchy is the ratio of the costs of the worst possible Nash equilibrium and the social optimum, and can therefore be interpreted as a measure of the efficiency of a system.

The main contributions of this paper are as follows:

- A novel connection is made: placing choice between public services within the formulation of routing games.
- Theoretical results are obtained as to the effect of demand and worth of service.

Researching your product

Other resources:

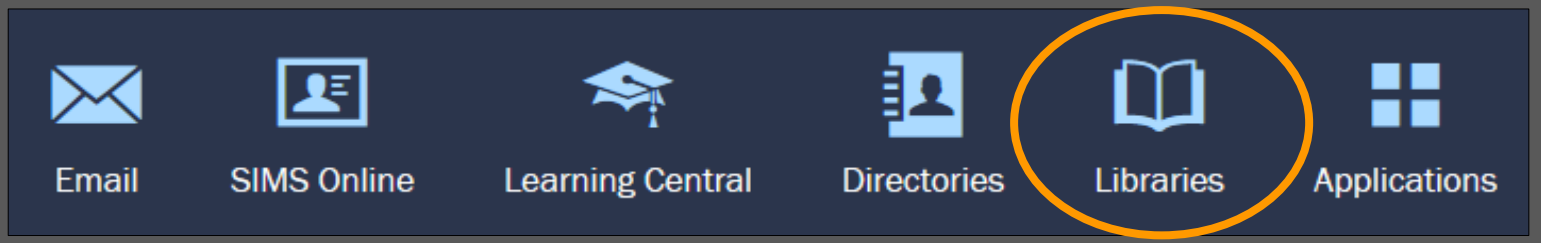
- Trade journals
- Newspapers
- Magazines

These are useful sources of industry news, marketing campaigns and company strategies

Where can you find these resources?

Use databases. A research database is a collection of electronic information which you can search for journal articles or subject specific information.

Access resources via the intranet



Information resources by subject

Browse online resources and databases by subject.

Browse resources

Information resources for your subject

Information resources for your subject

- Multidisciplinary
- Architecture
- Biosciences
- Business, economics and transport
- Chemistry
- Computer science and informatics
- Critical and cultural theory
- Dentistry
- Earth and ocean sciences
- Engineering
- English literature
- Geography and planning
- Healthcare sciences
- History and archaeology
- Journalism, media and cultural studies
- Language and communication
- Law
- Mathematics
  - Further resources for mathematics

Mathematics

All | Journal articles and conference papers | Newspaper articles | Preprint papers | Subject gateways | Theses & dissertations

Journal articles and conference papers

Articles & more

A useful starting point for research. This does not cover all resources but everything you find is available to read straightaway, and you can limit your results to peer-reviewed articles. Sign in to get full access.

Visit database

Google Scholar

Finds academic content. If you use Google Scholar on a networked computer on-campus it will automatically connect you to Cardiff University subscribed full-text but if you use it off-campus you will need to set this up. Do this through Settings then Library links. Once you have made this link the Full Text @ Cardiff links will appear with your results so you can access material the University has paid for as well as open access papers.

Visit database

Mathematics Web Sites

A search facility for mathematical web sites around the world, hosted by Penn State University.

Visit database

MathSciNet

Produced by the American Mathematical Society, the database covers Mathematical Reviews from 1940 to the present.

Applications

LibrarySearch

Search, reserve and renew library resources, and find historical archives and manuscripts.

Find out more Help

ORCA

Browse the University's research outputs and add details of your publications.

Find out more

Facilities

Senghennydd Library

The Senghennydd Library provides information services for the School of Mathematics and the Centre for Lifelong Learning.

Related links

Study skills

Contacts

Senghennydd Library enquiries

sengliby@cardiff.ac.uk

+44 (0)29 2087 4158

21-23 Senghennydd Road

View team page

Subject Librarian (College of Physical Sciences and Engineering) - Dr Louise Harrington

harringtonle1@cardiff.ac.uk

+44 (0)29 2087 8573/+44 (0)29 2087

Planning your search

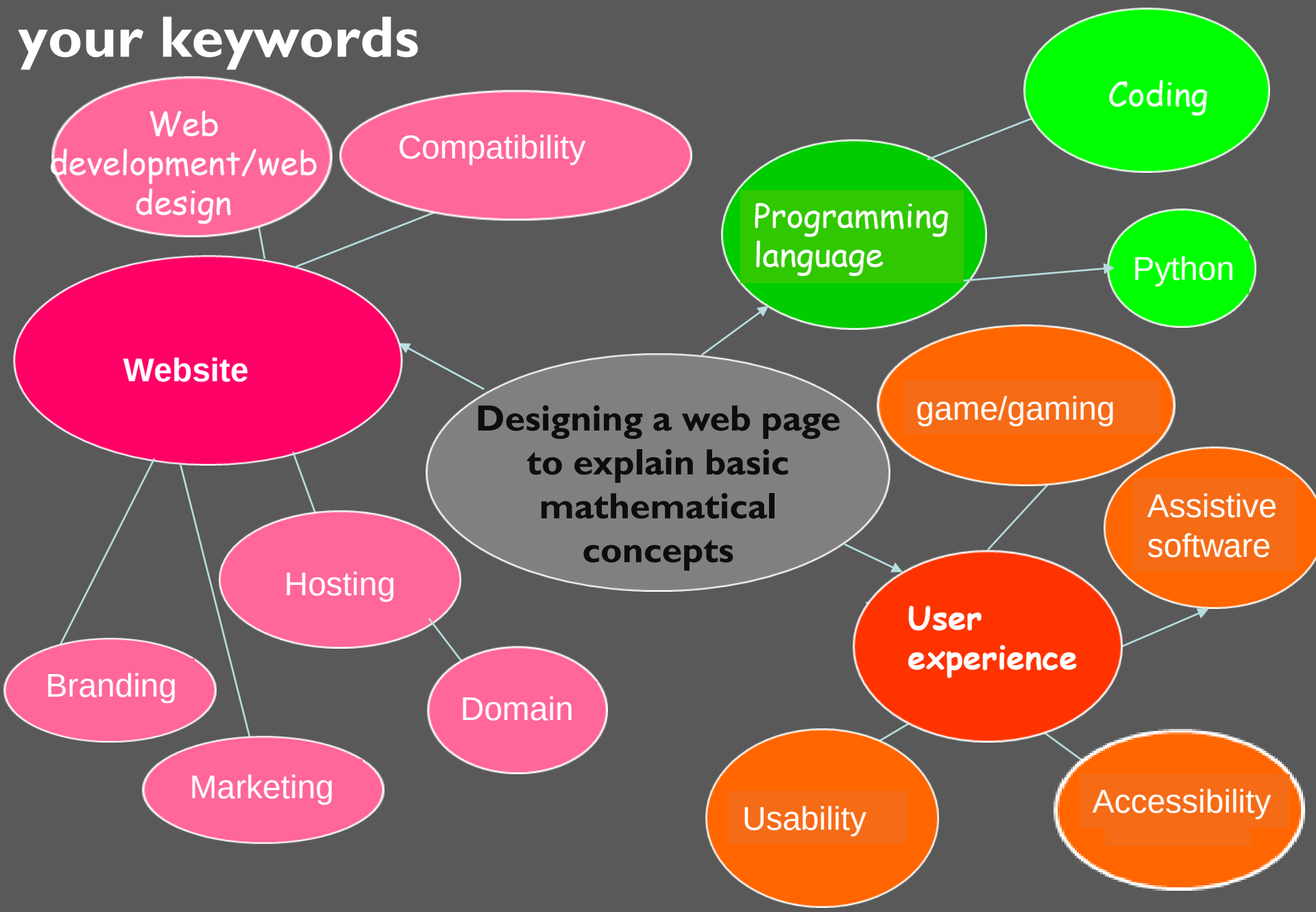
Don't search using whole sentences.

Use keywords and think of alternative terms

Product idea: "Using programming language to design a website to explain basic mathematical concepts to students age 11-14".

Programming language	Website	User experience
Programming code / coding	web development web design	accessibility usability
Python Javascript	maths math mathematics	learning game/gaming
	hosting / domain branding marketing compatibility	assistive technologies

You can also use a mindmap to organise your keywords

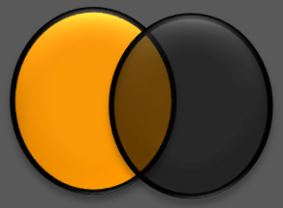


Search techniques

- You can use quotation marks to search for a phrase e.g. "web design"
- Using an asterisk after the stem of a word allows you to search for several words at once if relevant. e.g. * comput* = compute, computer, computation

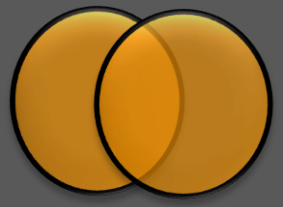
Combine your keywords using AND, OR, and NOT (Boolean logic). For example:

AND



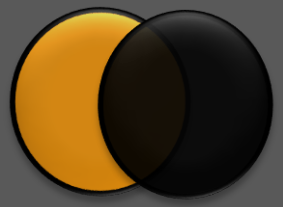
- coding AND "web design"

OR



- "web design" OR "web development"

NOT



- "south Wales" NOT "new South Wales"

Over to you…

Exercise 1

Planning keywords.

Page 1 of your handout.

Marketing and company data

Databases:

- EBSCO Business Source Premier
- Mintel
- Keynote
- Passport

Access via the intranet: Libraries > Information resources by subject > Business, economics & transport

Part 2: Using information and avoiding plagiarism

How ppl flex on instagram and what its really like in real life

O'Neil, L. 2015. People who steal jokes on Twitter – they're coming for you. Available at: http://www.dazeddigital.com/artsandculture/article/25645/1/people-who-steal-jokes-on-twitter-they-re-coming-for-you [Accessed 14 November 2016].

Plagiarism

Over to you…

Exercise 2

What is plagiarism?

Page 2 of your handout.

Is it plagiarism if you…?

- Copy and paste a paragraph of text from a web site without enclosing it in quotation marks and referencing the source? **YES**
- Use the ideas of another author without providing a reference even if you write them in your own words? **YES**
- Claim work produced by another student as your own? **YES**
- Copy a diagram or data table from a web site, providing a reference for the source underneath? **NO**
- Submit all or part of one essay for two separate assignments? **YES**
- Copy words from a book into your own work, but place quotation marks around them and provide a citation & reference? **NO**
- Include a fact or saying in your assignment which is generally known without referencing the original source? **NO**
- Change a few words from the original source and provide a citation & reference? **YES**

Citing and referencing

- **Citing** means referring within your text to sources which you have used in the course of your research.

- A **reference** is a description of a book, paper, article, etc., which is quoted directly or is mentioned in support of a your argument

Citing and referencing: Example

ARTICLE INFO

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OR in health services

ABSTRACT

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References

[1] I. Adler, P. Naor, Social optimization versus selfish optimization in waiting lines, 1969.
[2] E. Altman, T. Boulogne, R. El-Azouzi, T. Jiménez, L. Wynter, A survey on networking games in telecommunications, Computers & Operations Research 33 (2006) 286–311.
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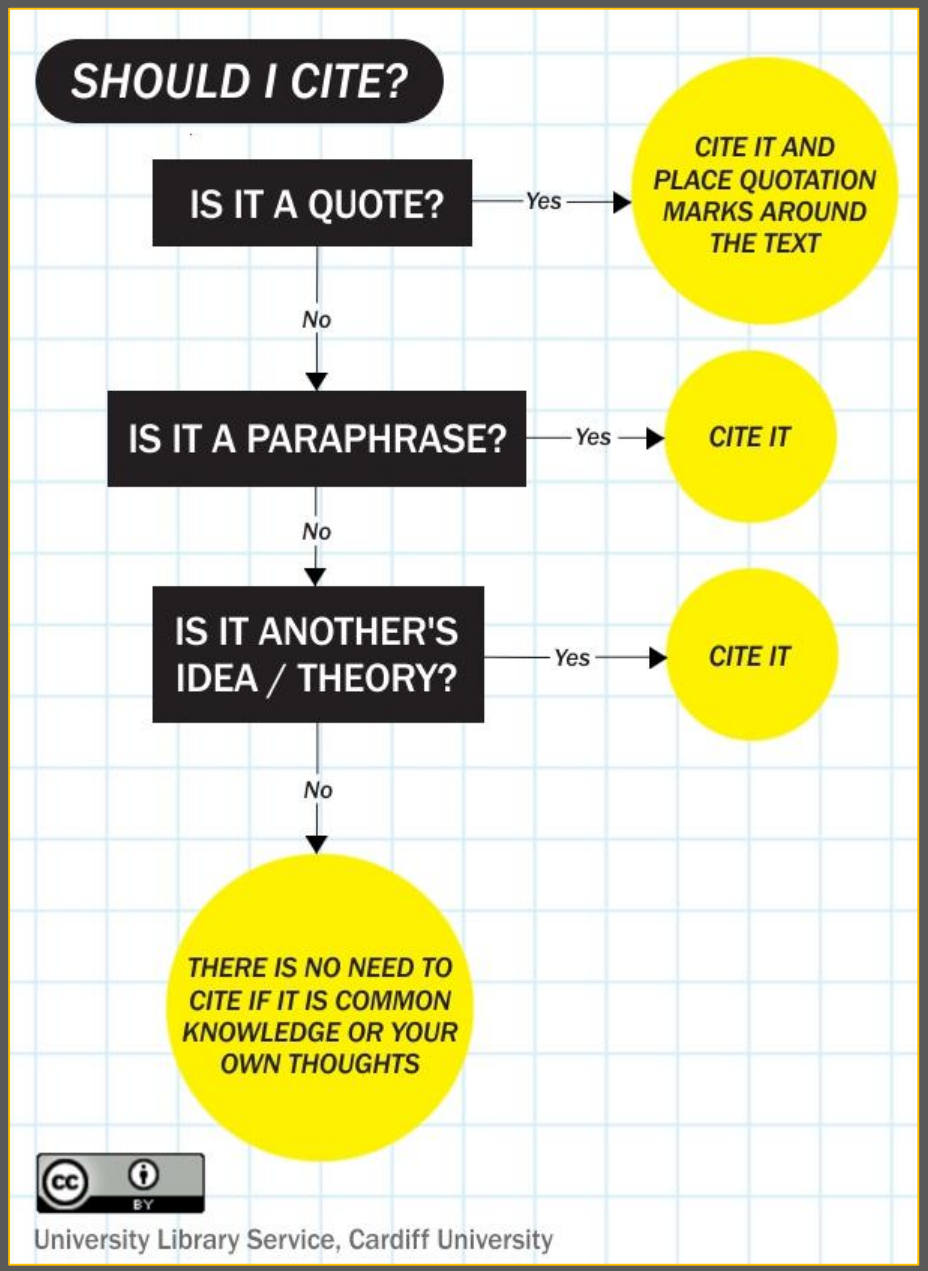
[4] J. Beckmann, C. McGuire, C. Winstein, Studies in the Economics of Transportation, Technical Report, Yale University Press, New Haven, Conn., 1956
[5] C. Bell, S. Stidham, Individual versus social optimization in the allocation of customers to alternative servers, Management Science 29 (1983) 831–839.
[6] O. Boudali, A. Economou, Optimal and equilibrium balking strategies in the single server Markovian queue with catastrophes, European Journal of Operational Research 218.3 (2012) 708–715.
[7] C. Chau, The price of anarchy for non-atomic congestion games with symmetric cost maps and elastic demands, Operations Research Letters 31 (2003) 327–334.
[8] R. Cole, Y. Dodis, T. Roughgarden, How much can taxes help selfish routing?, Journal of Computer and System Sciences 72 (2006) 444–467

Why should you cite and reference?

- To acknowledge another author's words and ideas - **avoid plagiarism!**
- To support your argument / claims
- To enable anybody reading your work to locate your sources easily
- To demonstrate the range of sources you have consulted in your research

When should you cite and reference?



Citing and referencing in LaTeX: Using BibTeX

BibTeX is a tool that you can use to help you create your bibliography in LaTeX.

Advantages:

- Once stored in a BibTeX file, a reference can be re-used in future documents
- Automatic export from databases

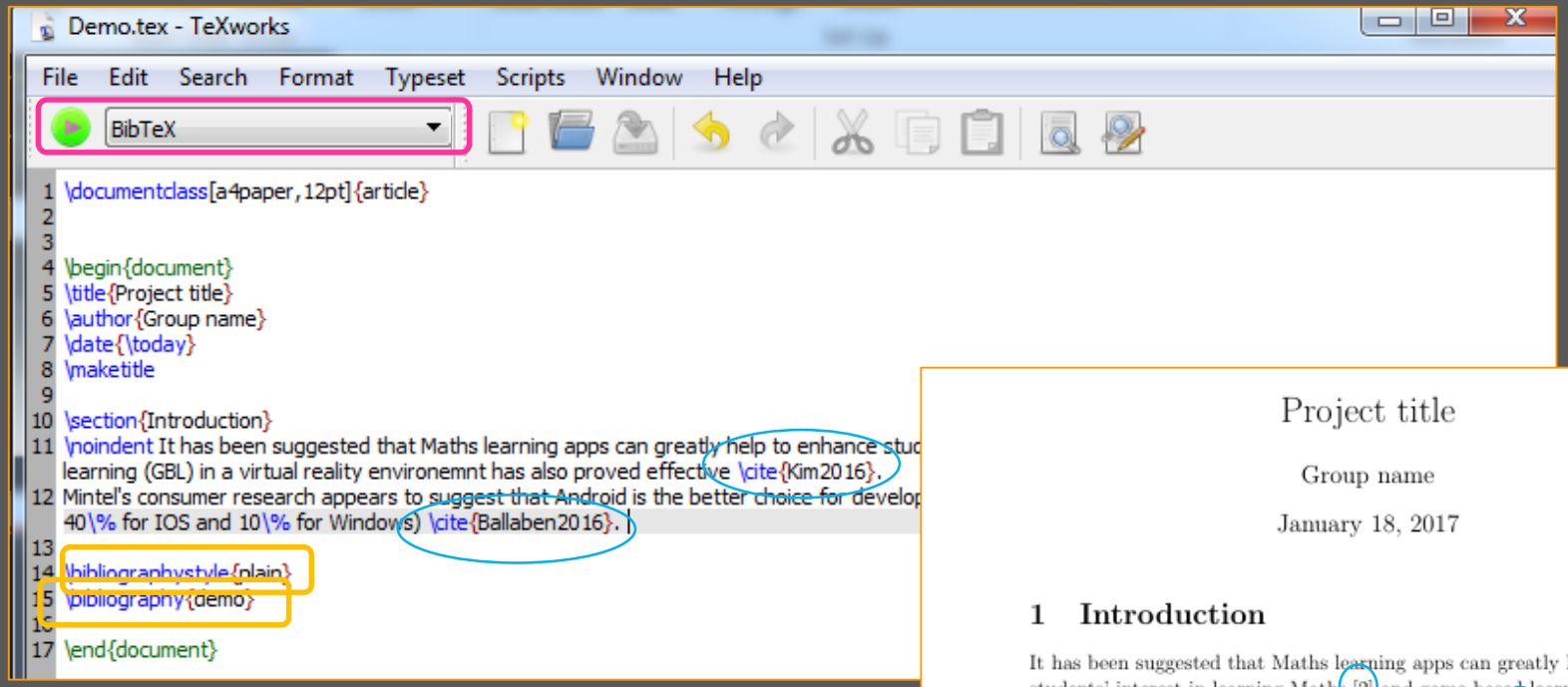
Creating your BibTeX files

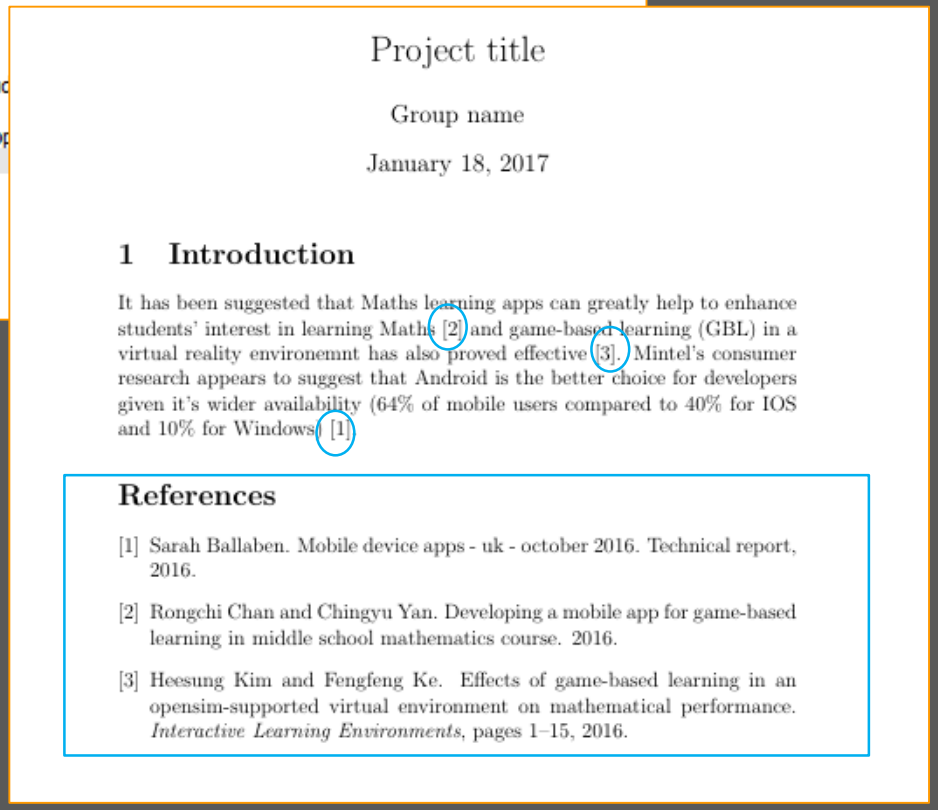
You can export your references from databases and automatically create your BibTeX files.

This automatic process may cause some issues and require you to tidy up the BibTeX file so that your references generate correctly in LaTeX.

Online handout provides support: http://bit.ly/2k2FvS8

Citing and referencing in LaTeX: Using BibTeX





Other numbered styles in LaTeX:

- {unsrt} – same as **plain** except the references in the bibliography appear in the order that the citations appear in the document
- {abbrv}
- {alpha}

Managing your BibTeX files: Using JabRef

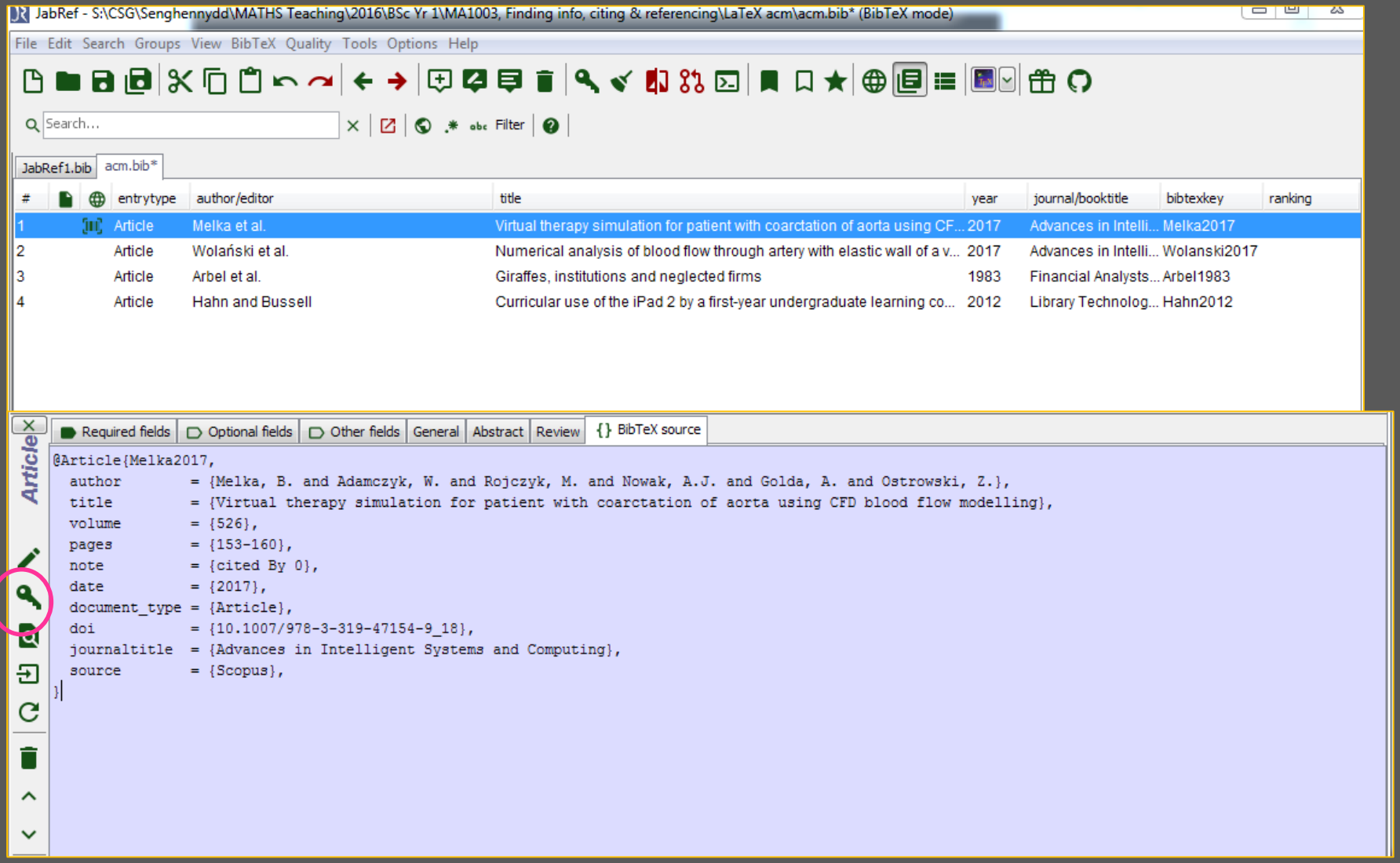
JabRef is an open source bibliography reference manager that organises your BibTeX files so they can be easily created and manipulated.

Features:

- Advanced BibTeX editor
- Search functions
- Various import and export functions

https://www.fosshub.com/JabRef.html

Managing your BibTeX files: Using JabRef



Online handout provides support: http://bit.ly/2k2FvS8

Online help sheet

- http://bit.ly/2k2FvS8
- Will also be on Learning Central

BibTeX and JabRef support.

1. Automatically creating BibTeX files

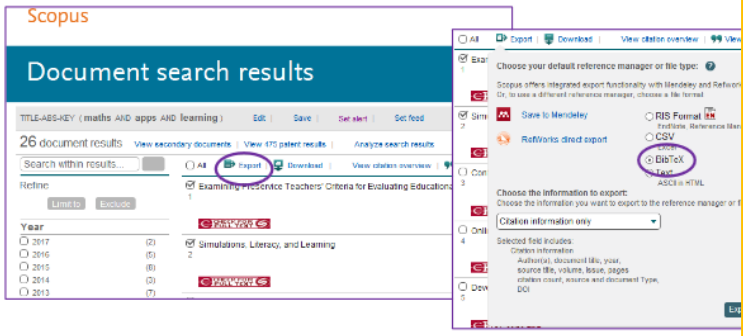
As well as creating BibTeX records manually, it is also possible to automatically generate records by exporting references from databases and search tools such as Scopus and GoogleScholar. Major databases often allow bulk export of selected records in one operation.

The process is similar for most databases:

- Select your item(s) for export e.g. via a tick box
- Select the export/download option and choose BibTeX as the output format
- Save the download file (include .bib after the filename if the save option doesn't give this option).

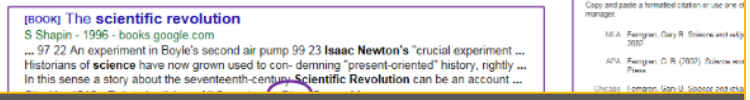
1.1. Exporting from Scopus

Click to select the result(s) you want to create .bib files for. Click **Export**, selec



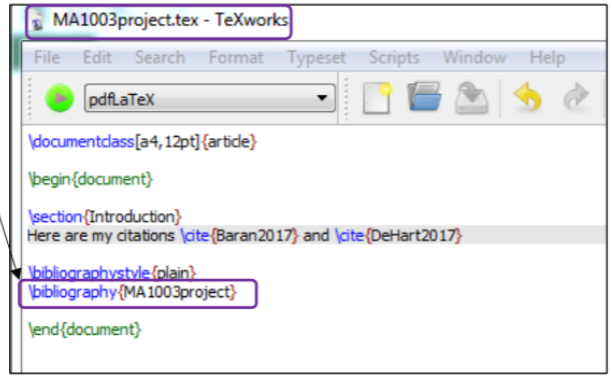
1.2. Exporting from GoogleScholar

To export a .bib file in Google Scholar, click **Cite** under the relevant result. The information will be displayed in the browser; copy and paste it into your .bib file or ir JabRef on page X) and save.

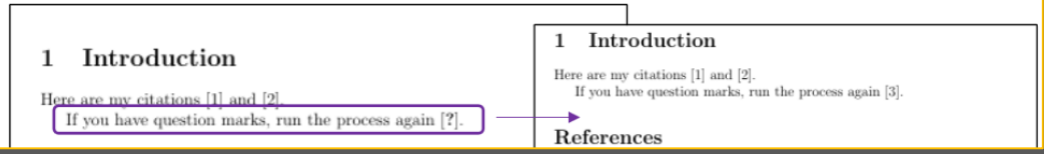


2.4 Using JabRef with LaTeX

In your .tex document indicate where you would like your reference list to appear by using the\bibliography command followed by the file name of your JabRef database, e.g. **\bibliography{MA1003project}**



Run LaTeX to make sure the bibliography is laid out correctly and the citations are correct (run **pdfLaTeX > BibTeX, pdfLaTeX > pdfLaTeX**).



Getting help

Go to the Study Skills pages on the intranet for help with citing & referencing, writing and presenting.

Intranet > Your study > Study Skills

Cardiff University Library

http://www.youtube.com/cardiffunilib

Online induction

Intranet > Learning Central

Look for the Welcome to the Library portlet and click the link to self-enrol onto the module

Email:

ParkerCJ@cardiff.ac.uk

Marked bibliography

- Demonstrate that you can find good quality information and use it effectively.
- Use a wide variety resources
- Marketing/company data
- Include citations and a reference list of the sources you have consulted.
- Consistency and quality.