

Library and Information Science education in Europe: Building an interactive map

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Abstract

The project described in this paper aims at presenting an interactive map of library and information science (LIS) education in Europe. In the individual countries, institutions of LIS education all have different origins and specializations. The map shall help in getting an overview on the different possibilities students and researchers have regarding LIS education in Europe. Further, it summarizes the several types of departments, programs and learning modalities in European countries, as well as teaching languages, thus addressing the curricular internationalization of LIS education. The project demonstrates gaps in current internationalization of LIS education and shall strengthen collaborations among the institutions and departments, whereby new Erasmus+ partnerships could arise. Only a few of the investigated institutions offer programs taught in English, which should be improved in the future.

Keywords: Education, Europe, Internationalization, Library and Information Science, Map

Introduction

Information science, especially in Europe, has not yet established as a clearly defined discipline in the academic landscape with specific methods and paradigms (Warner et al. 2016). There are major differences in the understanding of the term information science and its educational programs e.g. regarding Scandinavia, France and former Yugoslavian countries (Ibekwe-SanJuan et al. 2010). Nonetheless, the field of Library and Information Science (LIS) education is growing in some regions such as Scandinavia or Eastern Europe (Spink & Heinström 2012). Due to the differences in academic programs and foci of the specific countries, several obstacles arise for scholars. Sheila Webber (1999) emphasizes that it can be difficult for information professionals to get a job in any country in Europe due to differences in educational backgrounds and programs. The differences in educational programs further complicate exchange possibilities for students in the field of LIS. An internationalization of LIS education is often discussed in this context (Abdullahi & Kajberg 2004, Tammaro 2014). This includes curricular internationalization, for example, by offering programs taught in English (Tammaro 2014) or joint programs delivered by institutions from more than one country (Dixon & Tammaro 2003).

As the educational systems regarding information science in Europe are not uniform, students need an overview on the different programs. There exist some study guides listing the possibilities for students in Europe (e.g. Schniederjürgen 2007, Schröder 1994). Further, Borrego (2015) conducted an analysis on existing LIS education in Europe. He identified 220 institutions offering LIS programs in 26 countries. From these, 88% offer undergraduate degrees and only 65% a master's degree.

A visual representation of all possibilities would enhance the overview on all of the offered programs. Filtering options e.g. for degree or language could further improve the idea of giving an orientation in the academic landscape of information science in Europe, especially regarding aspects of internationalization. Accordingly, the goal of this project is to present such a visualization in form of an interactive map.

Methodology

The creation of an interactive map can be divided into two stages – data gathering and building the map. In the data gathering process, listings of educational programs were consulted (Schniederjürgen 2007) and reviewed with information that is given on the web for the specific institutions. Thereby, undergraduate and master programs, as well as PhD programs were considered. In total, 51 European countries (including Israel) were analysed. Further, contact persons in some of the countries were consulted who helped with gathering the data, especially members of the ASIS&T European Chapter. In addition to information like country, city, university, department, title and duration of the program, details like the amount of ECTS required, learning modalities and available places were retrieved if possible. Addressing the aspect of curricular internationalization, the teaching language and partner universities were listed. Not in all cases, especially regarding PhD programs, all the data could be found.

All the gathered data was stored in a SQLite database. The actual map and website were developed with the help of several software packages. Considering the front-end development, *Bootstrap*⁵⁹ was used as a framework. For the web map itself, the open-source JavaScript library *Leaflet*⁶⁰ was chosen as it is a well-known tool for mobile-friendly interactive maps. Search functionalities were realized with the help of the library *typeahead.js*⁶¹. Further, the back-end web application framework *Django*⁶² was used because of its customizable admin interface.

Results

The prototype of the map can be accessed online⁶³. Figure 1 shows the initial map listing all retrieved programs of LIS education in a clustered format. A user has the possibility to filter for degrees (Undergraduate, Master, Diploma, PhD), to change the map type and to change the listing from clustered to non-clustered (Figure 2).

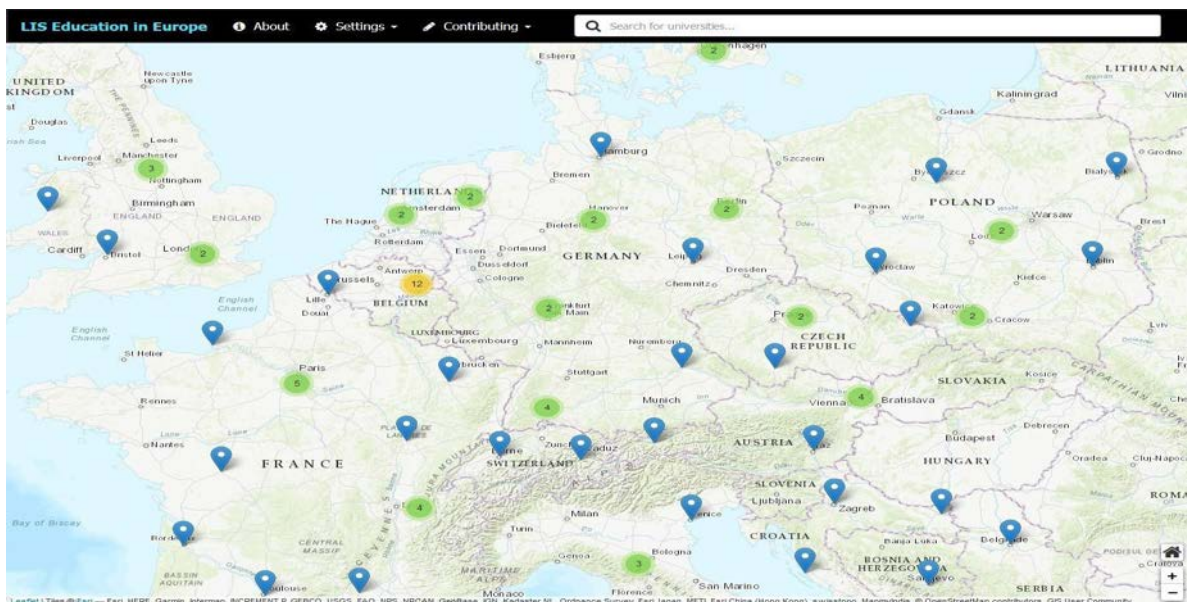


Figure 1. Excerpt of the map of LIS education in Europe

⁵⁹ <https://getbootstrap.com/>

⁶⁰ <http://leafletjs.com/>

⁶¹ <https://twitter.github.io/typeahead.js/>

⁶² <https://www.djangoproject.com/>

⁶³ <http://lismap.inf-d.de/>

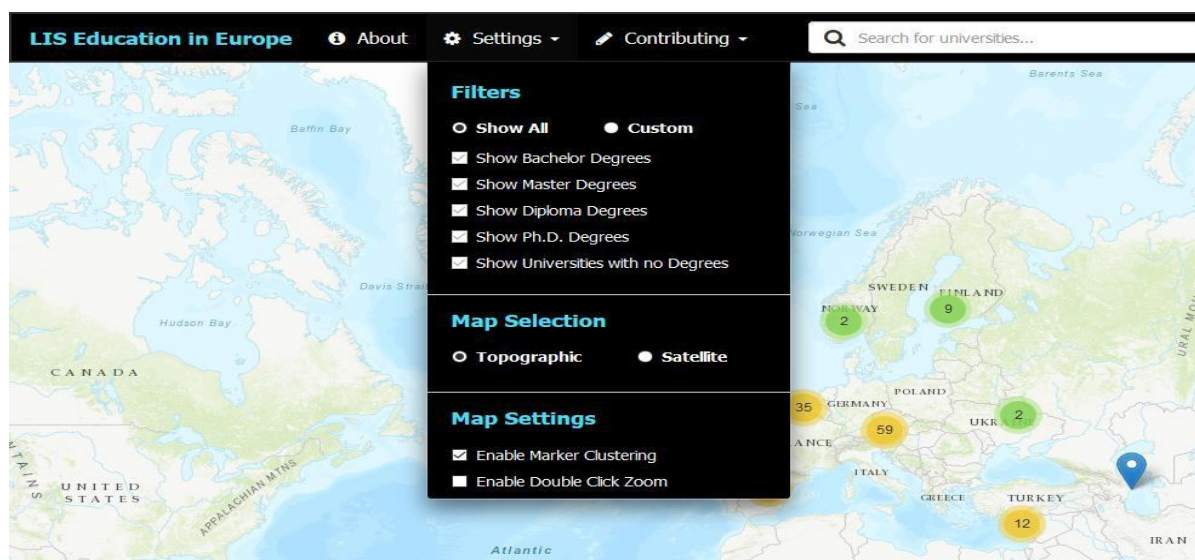


Figure 2. Settings dropdown

Beside the data that was already gathered, it is possible for any user to add universities and programmes as well as to edit existing ones. Through this collaborative approach it will be assured to keep the data up-to-date. To avoid spam, any new entry has to be approved by an admin who receives an email when an item has been added. Figure 3 shows the admin panel with pending, approved and rejected objects.

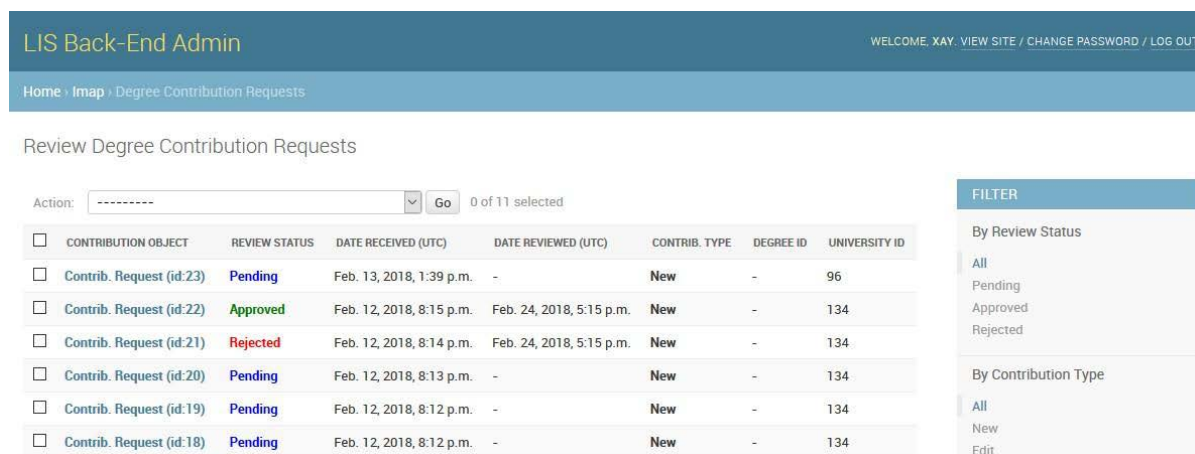


Figure 3. Admin view of edited and newly submitted universities

By clicking on one markers of the map, information on the corresponding program is displayed. As an example, Figure 4 depicts the information on a Master’s program of the University of Parma, Italy. The International Master in Digital Library Learning (DILL) is a prime example for the internationalization of LIS education. Curricular internationalization exists by offering a program in English language as well as through the partnership with Tallinn University, Estonia. Graduates of the program acquire a joint Master’s degree recognized by both universities. Further, students spend semesters both in Parma and Tallinn (“DILL. Digital Library Learning,” 2018). Examples like this are still rare regarding the LIS education in Europe.

Out of 51 investigated countries, 32 (62%) offer some kind of LIS education. In total, 140 institutions could be identified, altogether offering 157 undergraduate programs, 150 postgraduate programs and 41 PhD programs. Countries with the most institutions offering LIS education, are France (17), Spain (16) and Germany (14). Only in 45 of the programs, English could be identified as the teaching language.

From these, 26 programs are located in the UK, Ireland or Malta. Only 19 programs offer English as a language different from the country's own language.

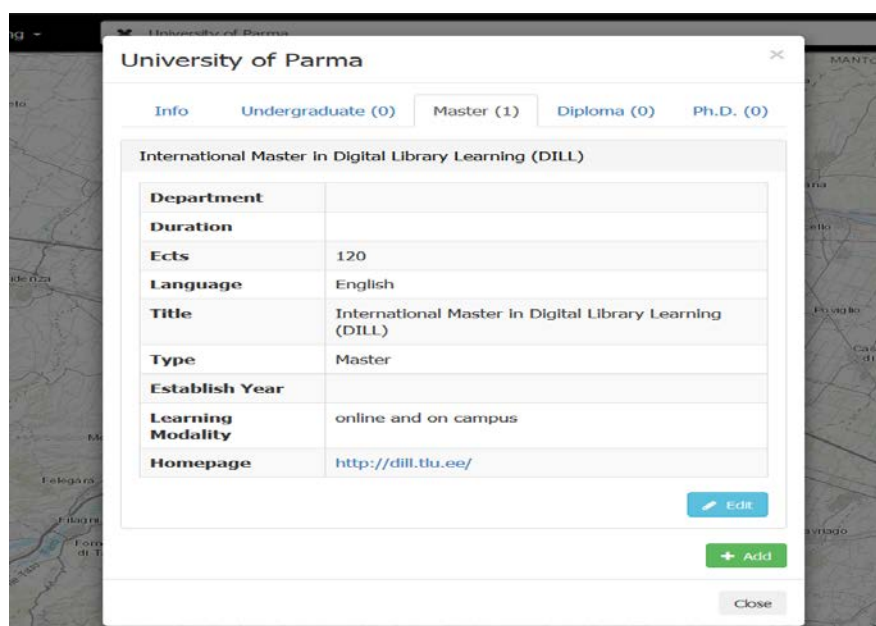


Figure 4. Program details for the International Master in Digital Library Learning (DILL)

The diverse foci of the programs come clear when taking a look at the disciplinary affiliations (Table 1). Nearly 40% of the programs could be dedicated to the discipline Library and Information Science.

Table 1. Disciplinary affiliation

Discipline	No. of programs	%
Library & Information Science	121	33.89
Communication Science	55	15.41
Arts & Humanities	38	10.64
Knowledge & Information Management	15	4.20
Media Studies	11	3.08
Archival Studies	11	3.08
Computer Science	10	2.80
Social Sciences	9	2.52
Documentation Studies	5	1.40
Linguistics	4	1.12
Business & Economics	2	0.56
Other	16	4.48
Ambiguous	34	9.52
No information	26	7.28

Not included in Table 1 are country specific tendencies to certain disciplines. Upon looking at the departments in each country using the developed map, there are indeed trends showing in certain countries. Estonia, Denmark, Malta, Slovakia, Latvia, the United Kingdom, Switzerland, Poland and Azerbaijan show almost a complete tendency towards Library & Information Science. Germany and Spain include a lot of LIS links as well, though there is also a smaller tendency towards Communication Sciences present in both countries. In Lithuania in contrast, all of the listed degrees are linked to Communication Science. France has most of their degrees linked to Communication Science as well. In Sweden, Italy and Belgium, almost all of the offered degrees are linked to Arts & Humanities. Knowledge & Information Management links are mostly present in Portugal and Turkey, which combined almost make up for the complete amount of Knowledge & Information Management links presented in Table 2. Most of the Media Studies links belong to the Netherlands and almost all Archival Studies links are present in the Czech Republic and Norway. With regards to Computer Science, Austria links Information Science to Computer Science the most. Countries with very varied tendencies include for example Finland, where Communication Science, Social Science and Library & Information Science links are found.

Discussion and Conclusion

Education in LIS in Europe is widespread. The most offered programmes are those of undergraduate and master's degrees, those of doctorate are scarcer. The observations have shown that, even though there are degrees available in many countries throughout Europe, there remain discrepancies between how institutions handle LIS, as visible within the variety of disciplinary affiliations.

In addition to that, only a small part of all gathered degrees in Europe provide approachability for international students by offering degrees in the English language. Student mobility in Europe in the area of LIS may thus be tampered in those countries where English degrees are not being offered. Although this is not an optimal situation for European students to find themselves in when student exchange is regarded as one of the core concepts of internationalization (Abdullahi & Kajberg 2004, Tammaro 2014), the ability of universities to internationalize in general in the current time when there is evidently no unification of LIS curricula among European universities yet has to be addressed.

One of the main objectives of the research carried out and the creation of an interactive map is to promote greater mobility and exchange in Europe, both students and teachers, and promote a better visibility and possible confluences.

In future work it would be very interesting to analyse the study plans in depth. In this way, their strengths and weaknesses could be analysed with ways to improve them. New professional profiles are required and programs must be updated to meet the demands of society. This map could contribute to know more about each other. Nonetheless, the project has some limitations. As the data presented depends on information sent to us by others and a review of the institutions' websites, it cannot be precluded that some information is missing or incorrect. But as further collaboration with users may unfold over the upcoming years, the application may ultimately turn into a timeline representing the development of European or perhaps even worldwide LIS education and internationalization, if the data range of the application were to spread to more continents than just Europe.

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