



## Digital cartography of the Historic Centre of São Luís, Brazil: educational uses and cultural diversity with Google My Maps

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### Abstract

This research aims to reveal the educational contributions of digital cartography with Google My Maps aimed at the democratization of cultural goods and apparatus, and exercise of citizenship in the Historic Centre of São Luís. It consists of a qualitative study that starts from the bibliographical research and is based on the documentary and field research for the construction of a map in the digital platform Google My Maps with the main cultural spaces existing in the Historical Centre of São Luís, Maranhão. It discusses the concepts of cultural citizenship as a prerequisite for the recognition of cultural diversity and democratization of its assets, considering the views of authors like Canclini (2015), Santos (2001). It addresses topics about the Historical Centre of São Luís based on Andrès (1998) and Figueiredo (2012). The study culturally maps the Historic Centre of São Luís, emphasizing the need for demarcation of cultural spaces and access to their assets by the population, as well as it reflects on their contributions to education, research, cultural diversity and the exercise of cultural citizenship. It presents a digital mapping of cultural apparatus in the Historic Centre of São Luís and ratifies the importance of technological mediation to increase knowledge and access to the cultural assets at the capital of Maranhão state. It also demonstrates the contribution of Google My Maps both for education and for the effective exercise of cultural citizenship.

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# **Digital cartography of the Historic Centre of São Luís, Brazil: educational uses and cultural diversity with Google My Maps**

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## **Abstract**

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**Keywords:** Digital cartography; Google My Maps; Historic Centre of São Luís; Cultural citizenship; Cultural diversity.

## 1. Introduction

Demarcating places where access to the public and cultural goods are favorable for the individuals to take ownership and exert their citizenship is not an easy task. The lack of information still is one of the major problems regarding access and use of public and cultural places.

Among the places with some of the most remarkable traits of Maranhão state, in Brazil, the Historic Centre of São Luís – the main example in terms of distinct cultural manifestations – is the stage for festivals, artistic expositions, and other cultural events. Recognized by the United Nations Educational, Scientific and Cultural Organization (UNESCO) on the World Heritage List in 1997, it is one of the leading figures when it comes to cultural diversity. For this reason, this is one of the places that must be explored and mapped so people can easily find and enjoy its cultural assets and recognize them as part of their identity. In a world marked by the intense use of technologies, responsible for fostering the globalization and the accelerated flow of innovations and information, the great network and its resources can contribute to facilitating access to cultural goods to those who should benefit from them. Among the countless applications that move in this direction, there is My Maps, a resource aggregated to Google Maps that allows the creation of personalized and shareable maps with the demarcation of places according to the interest of those who create them.

With that in mind, this research aims to point out the contributions and the educational potential of digital mapping of the Historic Centre of São Luís with Google My Maps. Thereby, it aims to demarcate places of cultural diversity, to promote education and citizenship. Besides that, it discusses how the educational potential, the access, and use of public cultural places can help in the identification, recognition, and appreciation of these spaces and promotion of the extensive educational development and citizenship practice in the capital of Maranhão state, in Brazil.

This is an exploratory and descriptive study and uses as instruments for theoretical grounding the bibliographic and documentary research, collecting previously elaborated materials and documents to discuss culture, cultural diversity, mediation by the use of technologies, based on authors such as Canclini (2015), Santos (2001), among others. Additionally, it elaborates about the Historic Centre of São Luís according to authors as Andrès (1998), Figueiredo (2012) and Silva (2009). It approaches the mapping process with digital technologies, contextualizing and characterizing the Google My Maps and considering the digital cartography of cultural diversity places at the Historic Centre. It also discusses how this mediation could impact on people's relationship with these places and what is its effectiveness for the education and extended practice of cultural citizenship.

## 2. Maranhão Culture in the Historic Centre of São Luís, Brazil

The Historic Centre of São Luís is nationally known for its beauty and, likewise other cities in Brazilian Northeast, the development was more pronounced in the coastal and port region. According to Fonseca and Barbosa Filho (2017), the capital of Maranhão developed in the region of Praia Grande (Big Beach), a

central area of the city, becoming a commercial center in the colonial period. Masullo and Lopes (2016) highlight that the capital of the state is in the Maranhão Gulf, between Sao Jose and Sao Marcos bays, whose main rivers are Anil and Bacanga.

As reported by Figueiredo (2012), the buildings in the Old Centre of the capital of Maranhão, marked by orthogonal traces, street widths, with fountains and fortifications, express the wealth of the state elite, as well as the Portuguese-Brazilian architecture strongly reinforced in its big colonial houses. Duailibe (2012) notes that the whole architectural arrangement of the Historic Centre of São Luís comes from Portuguese origin and it assembles approximately 3,500 buildings, among them administrative monuments, big colonial houses, commercial buildings, residences, churches, and others.

Cutrim, Costa, and Oliveira (2017) affirm that the Historic Centre of São Luís constitutes a region of great value, not only for its landscape and architectural character but also for its historic and cultural features. As stated by Masullo and Lopes (2016), the Old Centre is located northwest of São Luís, between Bacanga and Anil rivers, covering about 220 hectares, bypassed by an 8km road, namely Anel Viário (Ring Road). In agreement with the National Historic and Artistic Heritage Institute (IPHAN, 2016a), the Historic Centre of São Luís was submitted to the World Heritage List by the Federal Government in 1955 and, according to Silva (2009, p. 5), “The registrations also occurred in buildings considered characteristic of the time of the state's economic acme and only later in urban complexes in São Luís”. The National Historic and Artistic Heritage Service (SPHAN) also registered the Historic Centre of São Luís, on March 13th, 1974. This action was a result of the concern the state had with the area abandonment, as well as the advance of the heritage policies (SILVA, 2009; CUTRIM; COSTA; OLIVEIRA, 2017; REIS, 2010).

In the 1980s, because of its Federal registration, the Historic Centre of São Luís had approximately 200 colonial big houses restored in Praia Grande district. The international listing of the place only occurred on December 4th, 1997, recognizing the center of the capital of Maranhão, with about 60 hectares, as the ninth historic-cultural monument in the UNESCO List of Cultural and Natural World Heritage (Iphan, 2016a, Aires, 2008; Lopes, 2008).

Masullo and Lopes (2016, p. 3) draw attention to the fact that the area affected by this registration “[...] goes from the Cais da Sagração, Palace of the Lions, Deodoro Square, Canto da Fabril in the East-West direction, and the Gonçalves Dias Square to the Madre Deus neighborhood through the Sao Pantaleão in North-South direction”. The area protected by UNESCO includes about 1,300 properties, which are the exceptional testimonial of cultural tradition, whose architectural ensemble remains from the 18th and 19th centuries, a period when Maranhão had one with the leading roles in the Brazilian economy. It keeps characteristics and traces of Portuguese colonization, by means of the elements that emphasize the Portuguese connotations in its landscape, similar to the views in the cities of Porto and Lisbon (Carvalho; Almeida, 2018; Iphan, 2016a; Andrès, 1998).

Therefore, it is clear the historic and cultural value of the Historic Centre of São Luís, reinforcing its role as the main locus to reinvigorate the identity of this capital. It is also worth mentioning the symbolic wealth, expressed in its streets, lanes, and intersections, where architectural traces, Portuguese colonial tiles, stonework, among other features, validate its senses and meanings.

### 3. Google my Maps: characteristics and potential.

Because of the relation between technology and knowledge, allied to the environmental transformations and globalization, different knowledge areas have had their methods and methodologies restructured. The use of new tools might not only equalize access to information, culture, and knowledge but also strengthen education and promote people's understanding of concepts, environment, and the processes that occur on the Earth's surface, contributing to humanity's development.

Technologies have advanced and the internet rethought the access to strategies and use of information. Considering this, Moran (2015, p. 16) understands that "What technology brings today is the integration of all spaces and times". In this context, Silveira, Oliveira, and Junger (2017) note that in the niche of tools available, those aimed at georeferencing have advanced considerably, following the technologies progress. The tools to create graphic mappings and demarcation of geographic points, increasingly more sophisticated and precise, imply more quality, accessibility, and cost reduction to conduct those activities (Silveira; Oliveira; Junger, 2017). The flow of information in the large network favors data provision, especially those from mapping, such as Google Maps, Here Maps, Waze, among others.

According to Rêgo and Serafim (2015), these applications make possible navigation through geographic space, as well as incorporate representations of this space by means of images on different scales. Oliveira (2012) still reinforces that these representations occur with the use of high definition images, whose varied scales promote a richer navigation experience since it is possible to perceive in greater detail the terrain, hydrography, vegetation, distribution of urban equipment, cultural spots, historical places, and others.

As reported by Eggea (2013), the first version of Google Maps was launched in mid-2005, still in beta version, however, it provided an innovative interface during this period and its functions have not been fully explored. Kataria (2009) emphasized that in the following years, the next versions of Google tools received some improvements, including zoom, better rendering of maps, and greater capacity with different web browsers.

Rêgo and Serafim (2015, p. 3) state that Google Maps consists of "[...] a free search and visualization software developed by the American company Google; it provides satellite images and maps of all parts of Earth's surface." Oliveira (2012), Rêgo, and Serafim (2015) highlight that the application is a variation of the already known Google Earth, however, it has more sophisticated and modern resources.

Considering the growth in popularity of Global Positioning System (GPS) services, Google made a series of investments in Google Maps. Although it had been projected specifically for basic geographic information, the service Google Maps now has a series of supplementary resources to explore the aspect of "social network" in the application.

It is possible to trace routes, to check traffic jam points, narrated navigations, to save routes and addresses frequently visited, to navigate offline, among other features. However, the greatest highlights go to more complex and powerful tools, such as:

- a) Google Street View – it enables the navigation and sharing in 360 degrees of all areas mapped by Maps, with a huge precision scale.
- b) Google Indoor Maps – a tool capable of mapping buildings, building directories, with zooms in maps of indoor spaces, with the possibility to change the floors in airports, malls, stadiums, among other locations.

c) Google My Maps – a service available in Maps that enables the user to create personalized maps, where he/she can draw, add specific points, search places previously inserted, import maps, that is, it offers a complex interface for maps customization.

The last service is the one in evidence in this study. Cardozo (2016) notes that “My Maps” allows dynamic cartographic practices, from the creation of personalized maps by users to the insertion of places, markers, lines, routes, cities, neighborhoods anywhere in the world. Thereby people can understand the concept of drawing cartography with technology support. In its interface, keeping the basic concepts of Google Maps, it allows the collaborative construction of maps. A person can finish the creation and save it in the company virtual drive service, Google Drive, and afterward merge it in a website, blog, etc. (Google, 2018).

To personalize the map, the user can add layers that need to be decomposed according to the category to be divided, that is, the type of place specified such as a church, a restaurant, a public building, a school, etc. It is even possible to insert customized icons to distinguish each place. When the user wants to insert another type of place, he/she adds an additional layer so all places can receive different icons. Besides that, the tool also allows people to insert information about the place, such as business hours, a brief description of services, the target audience, contact numbers, pictures, etc. Therefore, “My Maps” offers multiple possibilities to create personal maps and it has great value for the mediation and education of touristic routes, heritage recognition, and others.

In this study, the tool was used not only to map but also to demarcate historic and cultural places capable of retelling the history of the place and instigating knowledge acquisition. Hence the goal was to promote the education and citizenship practice in this locus. In the next topic, the study presents the cartography of places and public and cultural apparatus that people from São Luís could and should recognize, utilize, and take ownership since these environments intersect history, memory, education, and citizenship.

#### **4. Digital Cultural Cartography with Google My Maps and its Educational Potential**

The process of demarcating cultural assets in the Historic Centre of São Luís occurs according to the understanding of Oliveira, Maculan, and Gomes (2016, p. 4) who say that these are “[...] spaces designed to cultural practices, such as theaters, cinemas, libraries, cultural centers, film libraries, museums [...]” or any other place for circulation, production, and consumption of material and immaterial goods.

It is worth to mention that the use of technologies for mapping those places is based on the “[...] ease of access to the internet, especially in smartphones; the use of applications is recurrent because they make easier some of people’s daily tasks.” (Santos; Feitosa; Perinotto, 2017, p. 175). Hence, one of the goals is to make citizens from São Luís more familiar with the spaces with unrestricted access, reinforcing their rights to access information, knowledge, cultural goods, and services offered in the demarcated places. Therefore, it is possible to explore the info-educational potential of the tool presented.

It is noticeable that the creation of routes and organization of cultural information by using mapping technologies benefits knowledge exchange. The application offers services of public interest in an easy interface and accessible language. Perinotto (2013) affirms that the navigation through maps, especially those created in Google My Maps platform, is capable of promoting the establishment of cultural destinations since the availability of information guarantees safety to people and adds value to the places

that might be visited.

Cunha, Silveira Junior, and Perinotto (2014) emphasize the ease these resources provide to identify public heritage and cultural goods, contributing directly not only to stimulate leisure and tourism activities but also to express the educational possibilities about public heritage. Additionally, these tools become sources for studies and researches that deal with how this type of technology can be powerful if used with educational purposes (Morán, 2015).

Based on these characteristics, the map that resulted from this research, entitled Cultural Places of the Historic Centre of São Luís, covers spaces of sociability and cultural citizenship practice such as artistic collectives, artistic occupations of public places, and other sociocultural actions conducted by the community and non-governmental organizations.

In this regard, Oliveira (2012) underlines that the use of digital resources (satellites, applications, three-dimensional screens) implies great advantages for the visualization of places, that is, the products resulting from this intersection represent advances for cartographic language, demonstrating how products can go beyond the simple mapping, becoming rich sources of information, and resources for researchers, professors, students, and citizens. Hence, the individuals have the possibility to get to know places “unknown” so far, and they can finally access them by checking the information on the application.

Based on the assumption that São Luís has different spaces of cultural nature, to demarcate them becomes crucial. This represents more than providing information, also promoting identification and access to these places, enrichment of researchers’ formation, and ownership of cultural heritage by educational communities in all their levels. In the first stage of the digital cartography, 10 categories were listed for cultural places split into layers. It should be noted that the tool defines a quantity limit, causing the gathering of similar places in the same layer, what is exposed in Figure 1:

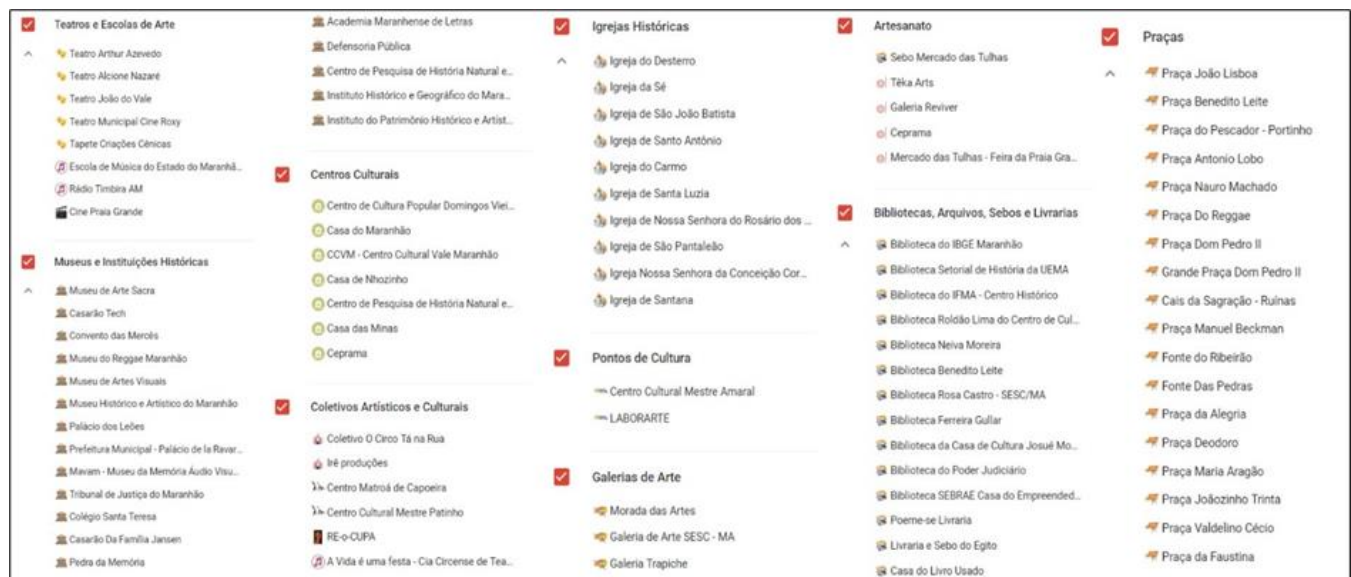


Figure 1. Layers representing cultural assets

From the layers shown in Figure 1, it is possible to recognize an important contribution of the suite for creating custom maps from Google: the possibility to demarcate and inform spaces that favor interactions with public cultural goods, allowing people to autonomously build visiting routes, itineraries mediated by

technological resources (Eggea, 2013). Furthermore, Medeiros et al. (2018, p. 791) explain that “My Maps” can also benefit teachers since “[...] the use of Google Maps serves as an important source for research and it can be used as a teaching strategy in schools [...]”.

It is worth to mention, as Cardozo (2016) notes, that “My Maps” platform dynamism allows continuous updating regarding the insertion of new cultural assets and operating information, renovations. These and other functions can be shared with users that have access to the map link, in this case, made available in QR Code format, in the lower-left corner (Figure 2), which can be read in smartphones or tablets with camera and code reading application.



Figure 2. Digital Map Cultural Places of the Historic Centre of São Luís on My Maps

Conti et al. (2018) underline the educational potential of Google Maps and its complementary resource “My Maps”. These applications besides allowing spatial representation also awaken students, teachers, and researchers' interests for places that compose the cartography. Medeiros et al. (2018, p. 782) agree with this perspective, affirming that “This platform is an important resource to work with content related to cartography since it enables a complete view of the place to be studied.”

Based on the result obtained, it is intended to disseminate the wealth of existing cultural facilities in the Historic Centre of São Luís, contributing to population access to the cultural goods. It is noticeable the use of the application "My Maps" makes the digital access to information addressing Maranhão state history and memory easier and more dynamic, by collaborating with touristic routes, valuing diversity, and potentializing citizenship practice of cultural agents, community, and the general public.



## 5. Conclusion

The cultural diversity theme has been established as one of the main issues for understanding society, due to the increasing dilution of borders between peoples and their cultures, made possible with the mediation of information and communication technologies. This situation directly affects people's identities since they start consuming the most varied influences of the globalized world.

From this new unstable and borderless ground, emerges the need for creating practices to reinforce people's identity recognition towards their lands, their symbolic values, and their cultural traditions, so they do not get lost in the sea of multiculturalism. It also becomes necessary to enable the practice of cultural citizenship to engage people in social and political decisions, giving new meanings to cultural spaces and considering the progressive intersection of technology and education.

Recognizing the positive integration of technology, education, and culture, the use of Google My Maps as a tool to demarcate cultural assets in the Historic Centre of São Luís has proved to be relevant as it makes easier to access places sometimes unknown to the population, confirming the area as an educational and cultural locus in Maranhão. Thereby, it becomes evident the great concentration of places that produce, reproduce, and circulate the cultural assets of the state.

Ultimately, it is worth to notice the importance of demarcating and mapping cultural places as a strategy to strengthen education, pondering the intense use of technologies as well as the practice of cultural citizenship, to guarantee the unrestricted access of the population to information addressing their history. In this study, the use of technology to demarcate cultural assets resulted in the propagation of places that contribute to protecting the memory of Maranhão state and its cultural practices. Further studies are welcome to investigate and bring forth new results regarding the relationship between culture and technology.

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