Abstract.
Brasilia’s urban landscape is almost entirely consisted of modern architecture. Buildings constructed from the 1960s to the present day follow Le Corbusier’s concepts proposed in 1926: the supports, roof-gardens, the free ground plan, and horizontal windows and free façade. Besides this, modern Brazilian architecture exhibits characteristics such as the presence of crafts, integrated arts, lightness, symbolism; and the influence of the Promenade of Le Corbusier’s. All these elements combined define the design of the modern space usually materialized with apparent concrete, glass and steel, among other materials. These elements are commonly used by preservationists during interventions in historic heritages, due to its distinguishable characteristics in terms of material consistency and patina. However, the presence of patina is not so easily accepted in modern heritage buildings. In this scenario, steel corrosion, small cracks in the concrete and patches on the coating are signs of pathologies and do not mean value, such as age-value. Authenticity is a tool to appraise values normally present on the fabric of the heritage and on the patina; but how to assess modern buildings’ significance where material consistency alone is no longer a defining characteristic of the heritage? This paradigm involves the understanding of modern architecture not only by its physical consistency, but also by its spatial logic design. In addition, modern laws require access to cultural heritage for all, a challenge to the preservation of historical or recent heritage buildings. This paper aims to contribute to the understanding of state-of-the-art of the preservation of Brazilian modern heritage sites through the analysis of the Palace of Justice Raymundo Faoro designed by Oscar Niemeyer in 1962. This goal might be achieved through the use of the Matrix of Authenticity and Accessibility [1] that provides building characterization with emphasis on authenticity and guides the interventions for universal access adaptations, through the identification of architectural barriers and their impacts on material consistency and on the original spatial design. This article suggests the Matrix is an effective tool for obtaining a complete information framework, a guideline for adaptations of historical or modern heritage.

1. Introduction
As in other countries, the recognition of modernist architecture as an object of preservation begins in Brazil by the election of individual icons. The Church of São Francisco de Assis in Pampulha (1947), the Catetinho (1959) and the Metropolitan Cathedral of Brasilia (1967) are buildings that started a process of social construction of modern heritage. The focus of a preservation practice passes then to other cultural goods culminating with the inscription of the Brazilian capital in 1990 by the National Artistic and Historic Heritage Institute – IPHAN, three years after its recognition as World Cultural Heritage by the United Nations Educational, Scientific and Cultural Organization – UNESCO [2].
The preservation of modern heritage gradually becomes a routine in Brasília. In 2010, an artistic panel by Athos Bulcão that composes the façades of the Claudio Santoro National Theater (1958) designed by Oscar Niemeyer (1907-2012) was completely restored. It is also clear that the use of different practices such as change of use, renewals or adaptations, during interventions on other modern works, also listed locally and regionally, is a frequent reality. However, the basis for such interventions refers mostly to the traditional heritage. The theoretical framework relating to modern heritage preservation practice is still under construction.

Extensively researched and valued in the characterization of the traditional heritage authenticity, in most cases the presence of the patina on modern heritage is not considered to be a value, but a pathology that should be properly corrected through maintenance processes. Modern materials such as glass, steel or apparent concrete are commonly used in interventions on the traditional heritage. But as long as the adoption of modern heritage becomes more frequent, how to evaluate the patina insertion on new materials? Actions like adaptation for accessibility can also modify the spatial configuration of the environment and will surely introduce “new” materials and techniques that are not so easily distinguishable from the original materials used in modern heritage.

Although such actions could mean a risk to preservation, universal access is now not only a legal requirement but a moral obligation. In 1990, a fundamental concept to ensure universal access was introduced with the enactment of the “American with Disabilities Act” – ADA [3]. This Act first introduced the idea of "equivalence" and with it the "equality of access"; in other words, any intervention in buildings should propose new access or worthily adapt the existing ones to disabled individuals, elderly, pregnant women, children or anyone with reduced mobility, permanent or temporary.

However, when this subject is concerned in heritage preservation (traditional and modern) there is a lack of a broader theoretical framework especially focused on the modern heritage preservation. Such gap, according to Theodore Prudon [4], can be filled by a shift in focus on preservation practice from the conservation not only of the material consistency (the building materials and patina), but especially the conservation of original intentions and the spatial design proposed by its designer or architect. These two features observed during the case studies are the roots of modern architecture, and might be translated by the pilotes, free plan, free façade, horizontal window and roof garden, which make up the five points of the "new architecture" proposed by Le Corbusier, in 1926.

In order to contribute to the debate and offer possibilities for the study of modern heritage facing the demands of accessibility adaptation and authenticity preservation, this paper presents a methodology for assessing both the authenticity and accessibility: the Matrix of Authenticity and Accessibility applicable to the study of the modern heritage including the development of guidelines to interventions for accessibility adaptation.

2. Authenticity, Accessibility and Modern Heritage

2.1 Authenticity

Cultural heritage is a social construction based on many values attributed during different moments of its existence. Conservation is closely related to the preservation of these same values in a relationship that is almost tautological. In 1964, the Venice Charter stated authenticity as an element that qualifies cultural heritage, but without defining the term. Later, in 1994, the Nara Document on Authenticity introduced the concept of authenticity as a key element for the qualification of the values that characterize cultural heritage. These values may vary depending on the social and cultural aspects, but always include aspects like form and design, materials and substance, use and function, traditions and techniques, location and space; spirit and feeling.

Herb Stovel [5] states that after the adoption of the Nara Document on Authenticity there was a change both in theory and in the practice of preserving the world heritage. The document allowed the use of authenticity as a tool to guide not only the selection of cultural heritage that would appear on the list of World Heritage Sites,
but as an important tool for preservation. Authenticity is currently understood as the ability of a particular cultural heritage; a building, for instance, has its meaning and importance over time. A “much larger concept than material integrity” [6].

Preserving values also means ensuring the identity of a cultural good. Any intervention in the heritage built has some impact on the aspects that make its dimensions and hence over their values. And also there are impacts over the way a group or community relates to this cultural heritage. Retaining the identity of a heritage built, in other words, is to keep the relationship between society and the cultural asset, and it is also an instrument for the preservation of cultural heritage to this and future generations. The social bond is structured throughout the history of the building through the sense of space or through education, research and communication. Building up a process of ‘patrimonialization’, as well as a process of appreciation of recent past, of marketing, and of transformation of old artifacts into fashion is also involved. At the same time this process creates a preservation instrument that surely involves the modern architecture.

2.2 Modern heritage
The concept of modern Brazilian architecture presented by Lucio Costa, Henrique Mindlin, Yves Bruand, Glauco Campello de Oliveira and Carlos Eduardo Dias Comas, among others, allows us to establish some basic elements that make up its character, such as the free plan - obtained from the proper choice of the structural system -, the reinforced concrete construction technique, accessories for sun protection as the brise-soleil and ‘cobogós’, free façades, promenade architecturale, the integrated work of art, independent walls, the sinuous lines, the monumental ramps and stairs, among others. To use the Matrix presented in this article, professionals should identify elements in order to establish guidelines for action on accessibility adaptation, and must preserve these elements because they are, among others, the elements that characterize the authenticity of the cultural heritage.

Among these features of modern architecture presented above, the promenade architecturale provides users with the possibility to enjoy performance of cultural heritage through the experience of their several perspectives and spaces from a path through the landscape frameworks, in many cases, deliberately and carefully crafted by the architect. Ramps, monumental stairs, double ceiling height and mezzanines enclosing works of art, as frescoes, sculptures and several panels are part of these paths. However, speaking in accessibility in this period is anachronistic. The discussions and the creation of the concepts of accessibility and of universal design occurred in the 1980s.

2.3 Accessibility
Accessibility as defined after several years of debate, is the condition of access and use of certain place, goods or service in a safe and autonomous way by as many people as possible. This view was regulated in Brazil with the enactment of the Federal Decree No. 5.296/2004. To enjoy the power of getting anywhere with comfort and independence, understand the spatial relationship organization of a place and participate in activities making use of available equipment – all these can define accessibility. The conditions of access to information and the possibility of displacement, where everyone exercises their rights as citizens, are also part of the concept. Therefore, the spaces must be free of barriers: elements that prevent or hinder the process of enjoyment of places and their equipment. Those barriers can be sociocultural, physical and informational, and the existence of barriers interferes with the autonomy of the individuals’.

The adaptation for accessibility of the Brazilian cultural heritage is linked to the Instruction No. 01 of 2003, published by the Historic and Artistic National Heritage Institute – IPHAN, which presents basic considerations on accessibility adaptation of cultural properties. This statement considers the need for developing studies based on the evaluation of successful adaptation proposals, international standards, techniques and new accessibility technologies with the aim of developing methods for assessing the conditions of accessibility to cultural heritage. According to the statement, the interventions limits should be linked to the possible degree
of assurance of the property authenticity. Accessibility is part of the requirements for adaptation interventions in the environment built and is associated to the requirements of the technical standard NBR-9050/2004 linked to the Federal Decree 5.296/2004 and other legal tools. Adaptations and transformations of urban spaces and buildings to allow accessibility for people with disabilities or reduced mobility demonstrate the pursuit for creating a new urban reality and more democratic cities. In this sense, the case study of this article is presented below.

3. Palace of Justice Raymundo Faoro
Designed by the architect Oscar Niemeyer in 1962, the Palace of Justice Raymundo Faoro, located on the Ministries Esplanade, is the headquarter of the Ministry of Justice. As suggested by Lucio Costa, both the Palace of Justice and the Itamaraty Palace, headquarter of the Foreign Ministry, were designed differently from the other ministries (designed as rectangular bars), as a way to create a visual enclosure to the Esplanade [7]. Both buildings were designed as square volumes with the same height sitting on a reflecting pool. The similarities between the two buildings do not end here; both have reinforced concrete structure designed to provide extreme lightness to the arches and pillars that form the façades, as well as the use of free plan, free façade, roof garden and integrated artworks.

The palace, whose construction began in October 1965, was opened only in 1972, after several interruptions. In 1985, Oscar Niemeyer made an important intervention on the building demanding the return of the original design by withdrawing the white marble cladding of the façades, originally conceived in plain concrete and the recasting of the arches of the main façade facing the Esplanade (South façade) constructed as full arches. The architect's original design used semi-arches. On July 3 2003, the Palace was renamed to Palace of Justice Raymundo Faoro in honor of the Brazilian jurist and historicist that died on May 15, 2003.
3.1 Description
The building consists in a rectangular block with 84.00m x 75.00m. Its roof creates a balcony that surrounds the building with two different widths: 7.00m on the East and West façades and 11.00m at North and South. This balcony protects from the sun a square plan with 61.10m side, five floors high and one basement [8]. The first and second floors are public areas, such as the Black Hall (Salão Negro), the auditorium and the library. The Black Hall is the main area of the building and is located on the ground floor with a small mezzanine that gives access to the auditorium. The hall is accessed by a footbridge over the reflecting pool through the main façade (South side). This façade consists of ten pillars intercepted by six rectangular apparent concrete "slab-trough" - the artificial waterfalls. The building also has three additional accesses, two for staff on the north and west façades (that is blocked nowadays) and one exclusive for the minister’s office on the east façade.

Unlike the Itamaraty Palace (also designed by Niemeyer) and other palaces of Brasilia, the Palace of Justice has four different façades, each of which with different pillar spacing conforming solar protections, brise-soleils, especially at the West façade. It has also a differentiated internal occupation rather compartmented by small offices and only one great hall.

4 The Matrix of Authenticity and Accessibility
The methodology used in the analysis of the Palace of Justice Raymundo Faoro was previously applied to the study of ten Brazilian buildings, nine of which vernacular and one modern: the Itamaraty Palace in Brasilia/DF. This paper presents the analysis of a second modern building with the application of the Matrix. This instrument was created from the Nara Grid proposed by Koenraad Van Balen [9]. However, the proposed tool evaluates not only aspects related to the authenticity of the property, but the relationship between interventions of accessibility and their impact on the authenticity of the building under study. The research initially involves the application of the table proposed by Van Balen that is composed by information collected about the history of the building: the assessment of its architectural features, the conformation and spatial configuration of the site and its importance to local community.

The final moment of the method is composing the Matrix of Authenticity and Accessibility by merging the aforementioned tables. This array is a simple instrument built from the answer of the question: How each of the interventions needed to adapt the heritage built to the accessibility standards required could change or damage the following aspects: form and design, materials and substance, use and function, traditions and techniques, location and space and spirit and feeling in relation to each of the dimensions of cultural heritage: artistic, historic, social and scientific?
Modern architectural heritage analysis, however, demanded a review of the aspects and dimensions proposed in Nara Document on Authenticity from the point of view not only of identifying potential impacts of adaptations for accessibility on the material consistency of historic heritage, but mainly answering how these impacts might affect the authenticity of the space design of modern heritages like the *pilotis*, free plan, free facade, roof garden, horizontal windows and integrated artworks.

In the case study of the Palace of Justice one realizes that the building has aesthetic characteristics that qualify it as a work of art, an exemplar that meets several characteristics of modern production architecture. In fact, among the five points proposed by Le Corbusier to achieve the "new architecture" the Palace of Justice misses only the first one, the *pilotis*. Also presented in its conception are the *promenade architecturale*, the *brise-soleil* and integrated artworks.

The *promenade* is given by movement along the sidewalks and porches, especially in the main entrance hall and inside the Black Hall. Comprising floor, pillars and counter coated in black polished granite, two large side panels coated with stamped stainless steel tiles, other walls coated with black mirrors, plus five big chandeliers in stainless steel, the noble hall of the Palace of Justice is darker and somewhat less impressive if compared, for example, to the halls of the Itamaraty Palace, but its sobriety, complemented by the presence of rectilinear staircase giving access to the mezzanine level where one can access the auditorium, is in harmony with the spirit and feeling of the building as well, and the result of the architect's original design. In other words, in its formal arrangement resulting from a worldview, the building embodies the artistic record of a way of doing architecture, a culture of technical, artistic and also historical of a recent past [2].

During the visit to the building to prepare the Matrix, the major nonconformities identified as regulatory requirements for accessibility and safety were: 1) Irregular surfaces; 2) Lack and/or poor maintenance of floors (external sidewalks); 3) Lack of tactile paving; 4) Lack of handrails on ramps and stairs; 5) Lack of tactile maps and plans; 6) Reception counters are not adapted; 7) Lack of specific training for receptionists answering to general public; 8) Lack resource materials for those visitors such as headsets, models and tactile totems; 9) Inadequate layout for free movement; 10) Bathrooms not correctly adapted to disabled person; 11) Lack of sound and light alarms in case of fire or panic; 12) Narrow doors with inadequate doorknobs; 13) Lifts not correctly adapted; 14) Lack of ramps and seating areas for disabled and overweight people or/and with reduced mobility in the auditorium; 15) Lack of emergency exits and safety items as sprinklers, smoke detectors and signals.

After the creation of the Matrix which identified that adaptations would interfere little with the material consistency of the heritage in most environments based on the spatial characteristic of the Palace of Justice, extremely busy with small workspaces connected by relatively large circulations and cores with vertical access and toilets. The adequacy of these spaces can be summarized replacing partitions and adequacy of doorways and furniture, besides adequacy of toilets and lifts to current standards. It is noticed that the building underwent accessibility adaptations, which, however, failed to meet the standard NBR-9050/2004. In contrast, the *promenade architecturale* characteristic part of the modern architectural design and an important part of its authenticity should be carefully evaluated. The path made to visitors, a tourist or a formal guest, includes access through the main façade at the Black Hall, and main entrance of the building.

Changing the space with the insertion of appropriate guardrails and handrails on the mezzanine, tactile paving, changing in lighting and coatings on polished black granite, with the aim of reducing ambiguity and high reflectivity, both on floor and walls (mirrors) to ensure free access and safe spatial orientation for all people and those with visual impairments, in particular, would fundamentally change the characteristics of the place and therefore its authenticity. A careful study should be carried out for adapting the hall taking as reference, however, the concept of equivalence of access also proposed in 1990 by the ADA.

5. Final Considerations
The construction of the Matrix indicated that adaptations are possible in most of the building rooms without interfering too much on its values and thus on the authenticity of the heritage. The preparation also allowed the identification of the Black Hall area as susceptible to risks of accessibility adaption. The Matrix presented a satisfactory outcome, highlighting the importance of artistic and historical dimensions of the building, and also showing the barriers and guidelines for possible solutions. This detailing was summarized due to restrictions related to the congress presentation; nevertheless, the entire survey was prepared, and the tables of authenticity, accessibility and the final matrix were developed to analyze the case study and the constructing of the text.

As an indication of fast interventions without adverse impacts, it mentions simple measures and procedures that could easily make the Palace of Justice Raymundo Faoro more accessible, including: Training in sign language for employees who deal with the public; Availability of tactile models and headsets; Improved signaling and establishment of visual communication plan; Adaptation of service counters; Setting-up of exclusive seats in the auditorium. Other actions require more care in proposition and execution, such as adaptation of toilets, installation of tactile paving, installation of handrails on stairs and ramps, widening doors and doorknobs change.

The adaptations for accessibility are possible respecting authenticity. Although the tool used is focused on meeting the standard of accessibility, other standards and technical criteria can still be included, such as evaluating the lighting quality. Maintaining authenticity as a starting point, however, it would guide all possible adaptations desired, both for accessibility and for any other purpose. This article represents a path to be considered to search for solutions to adapt to accessibility regarding authenticity.

6. List of References


