

Cultural Elements Framework for Information Systems (CEFIS)

Technical Report

Project: [Project title and acronym omitted]

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Introduction

The Cultural Elements Framework for Information Systems (CEFIS) organizes cultural elements and maps them onto user-interface components that may be incorporated into information systems such as websites. CEFIS describes key cultural elements and provides examples that may apply to various cultures. In addition, CEFIS provides specific examples for the Hispanic culture and the application domain of food security (see Section "In-Practice Examples" within each cultural element). Moreover, CEFIS can be extended to other cultures and application domains by substituting the content in the In-Practice Examples Section for each cultural element.

The CEFIS definition of culture and its breakdown into cultural elements is one of many; the cultural elements were selected from other authors' work on culture [1][2] based on their significance towards information systems surrounding Hispanic culture within the domain of food security. The research team is aware that CEFIS could have included more cultural elements, been organized differently, and included more mappings for each cultural element. CEFIS structure will be refined as we start gathering feedback from its users.

CEFIS is the endeavor to provide a structured way of thinking for software engineers when incorporating cultural elements into the user interface design of information systems. In addition, CEFIS can provide more value when software engineers of a prominent culture create an information system for another culture they do not understand.

Goal

The [Project Name and acronym omitted] project aims to integrate cultural, linguistic, data, and infrastructure factors into ISs that provide access to food-security services such as food pantries to increase their use by Hispanics and other underserved populations. CEFIS, a product of the [Project Name omitted] project, aims to integrate cultural elements into the user interface design of Food Assistance Information Systems (FAIS) to increase its use and adoption by Hispanics.

Once cultural elements are incorporated into the user interface components of an Information System (IS) - e.g., a website- the IS could increase its use and adoption. Users of the target culture may feel welcome and more identified with images, traditions, and values related to their culture, increasing the possibility that users adopt the website into their everyday lives.

Importance

The culture of user populations has been overlooked when considering technology acceptance and software usability. Overlooking users belonging to a particular culture hinders their sense of belonging and may not consider their specific needs.

Research has shown that differences in cultures' behaviors, habits, and preferences can affect their learning styles and perceived usefulness of a new technology. Based on Census 2020, Hispanics are 19.1% of the US population, with 70% of them of Mexican origin [1]. Hispanics encompass 22.7% of the population under food security in the USA [2].

CEFIS Structure

The Cultural Elements Framework for Information Systems (CE) provides elements of culture and mappings into user interface components of the information system. CEFIS clusters cultural elements into three groups: Norms, Values, and Symbology, as shown in Figure 1. The groups and cultural elements are numbered for identification purposes only, and there is no priority among them.

CEFIS is shown as a Work Breakdown Structure (WBS). Moreover, software engineers and web developers can access an interactive version of CEFIS on the web built with the Lucid chart tool. Figure 1 shows the CEFIS WBS. The WBS is read from left to right.

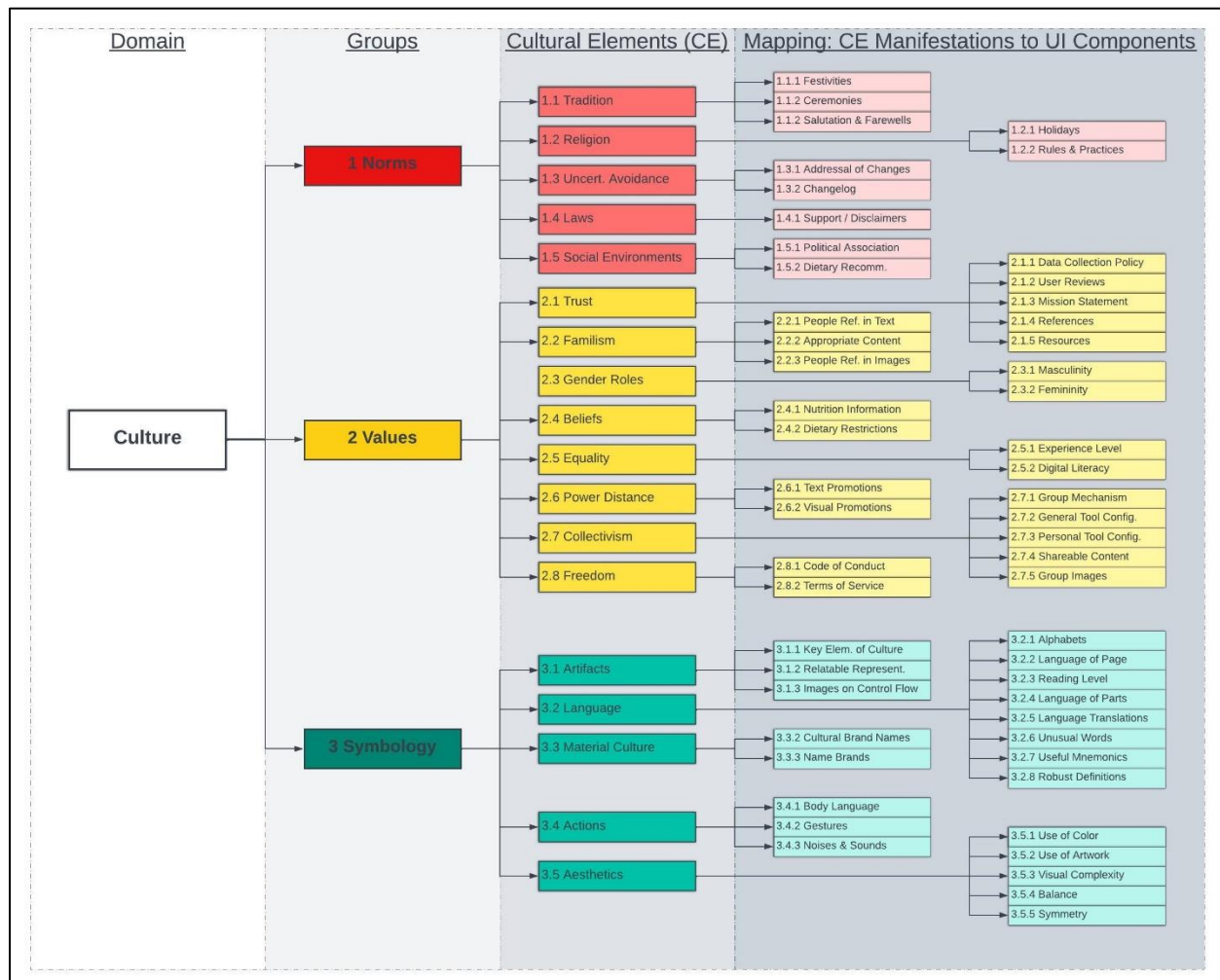


Fig. 1: Cultural Elements Framework for Information Systems (CEFIS) work breakdown structure.

CEFIS also incorporates a set of user interface mappings. A cultural element (e.g., tradition) may have several manifestations (e.g., festivities, ceremonies, salutations and farewells). A cultural

element manifestation is mapped onto a user-interface component of the information system, as shown in Figure 1. CEFIS has a user-interface mapping for each cultural element manifestation. Just as with cultural elements, user-interface mappings have assigned numbers for identification purposes only, and there is no priority among them. As mentioned above, the more user-interface mappings implemented in an IS, the better the user experience for members of the target culture.

A user-interface mapping for a cultural element manifestation has three parts: 1) a defined user-interface component, 2) a specific attribute of that user-interface component, and 3) a success metric (i.e., a Boolean expression) that guides the software engineer (e.g., web developer) on how to test whether the cultural element manifestation has been incorporated correctly into the information system. For instance, a user-interface mapping for “Festivities” (i.e., a cultural element manifestation of “Traditions”) to 1) a button (i.e., a user-interface component), 2) with an image (i.e., user-interface component characteristic), and 3) success metric: There is an image (e.g., “a calaverita” – a skeleton) that represents a tradition (i.e., “Día de los Muertos” – Day of the Dead [3]) in a button.

The information for each group and cultural element is presented in a table format while user-interface mappings are short paragraphs with color-coded text for readability.

Guidelines for Software Engineers/Web Developers

Software engineers/website developers may increase the usage and adoption of FAIS by Hispanics by utilizing CEFIS to identify and incorporate a set of elements of Hispanic culture into the User Interface (UI) design of the information system/website—the more cultural elements and UI components the software engineer considers, the better the experience for the target audience (e.g., Hispanics). However, all projects have resource limitations and hard deadlines that may limit the number of cultural elements and mappings included in the IS.

Software engineers should first identify the target audience's culture and document their needs and potential challenges in customer requirements. These requirements may also include a description of the IS deployment environment, user profiles, and IS application domain (e.g., healthcare, food security).

During the design phase, software engineers may use CEFIS to become aware of cultural elements and then select the potential cultural elements (e.g., traditions, familism) that are more appropriate to the type of system (e.g., food pantry) and the needs and challenges of the target culture (e.g., Hispanics). The selected cultural element manifestations will then be mapped to UI design components of the IS.

Cultural Elements Modifiers

Modifiers provide a mechanism for analyzing different behaviors within population subgroups in a culture. Modifiers, such as *Demography*, provide perspective for the varied life experiences within Hispanic subgroups. For example, in the religion cultural element, the age modifier means that each age group perceives the religion differently. Software engineers should be aware of the modifiers because they may identify types of users with different needs and challenges in each

cultural element. Therefore, software engineers should examine if a modifier may show different behaviors in the Hispanic subgroups for a cultural element during the analysis and design development phases for information systems. There are some examples of modifiers in the cultural elements of the group Symbology.

In this work, the following modifiers are considered: age range, education level, languages used, immigration status, and income range. Table 1 shows the cultural element modifier and their descriptions.

Name	Description
Age Range	Age groups such as children, young adults, middle-aged adults, and older adults
Education Level	elementary, middle school, high school, higher education, advanced/professional degrees
Immigration Status	citizen, resident, legal temporary residents
Income Range	lower, middle, upper
Languages Used	monolingual, bilingual, multilingual

Table 1: Cultural Element Modifiers

Features of CEFIS Group, Cultural Element, and Mapping: CE Manifestation to User-Interface Component

Group

Definition.	This includes the standard definition of <i>Norms</i> , <i>Values</i> , or <i>Symbology</i> as well as definitions of any key terms
Intent.	At a high level, the intent describes how <i>Norms</i> , <i>Values</i> , or <i>Symbology</i> will manifest in the information system.
Examples.	These are general examples of <i>Norms</i> , <i>Values</i> , or <i>Symbology</i> .

Cultural Element

Definition.	This includes the standard definition of the cultural element with a reference for clarity.
General Examples.	These examples explain how the definition applies in a general setting and <i>are not specific to information systems or any culture</i> .
Intent.	At a high level, the intent describes how the cultural element will manifest in the information system.
In-practice.	<p>This section provides informal descriptions of how the cultural element may be applied to a user interface component or the design of the software application. This will apply to the UI and/or the strategy for navigating the information system (e.g., menu, content structure, control flow of information system). The included examples are not mandatory or all-inclusive as they only provide ideas of use within the domain. <i>Because the IS-CUCO project aims to increase Hispanics' use of Food Assistant Information Systems (FAIS), the examples in this section are specific to FAIS and/or Hispanic culture.</i></p> <p><u>Demographics (Optional).</u> These can be used to tailor user interface mappings or provide an example of applying the mapping to a specific demographic. They are extensions of the in-practice section of the cultural elements.</p>

Mapping: CE Manifestation to User-Interface Component

The following key will identify what each piece of color-coded text represents for the various user-interface mappings:

UI Component	a specific user-interface component in the system (e.g. flow, structure, extension box, sentiment analysis, colors, images, labels, or text content)
Attribute of UI Component	The attribute of the user-interface component of concern (i.e., the attribute of the user-interface component being enhanced with culture)
Success Metric	The success metric is a quantifiable measure used to evaluate the achievement of a particular objective (i.e., a Boolean test case)

Disclaimers

Norms, Values, or Symbols and their respective cultural elements identified within this document are not intended to be a holistic description of culture in general. *Norms, Values, or Symbols* and their respective cultural elements have been selected based on their significance towards Information Systems surrounding Hispanic culture within the Food Assistant Information Systems (FAIS) application domain. Moreover, a cultural element may belong to multiple groups (*i.e., Norms, Values, or Symbols*). For the sake of simplicity, the research team placed cultural elements in the group most applicable to Hispanic culture and FAIS.

1 Norms

Group Definition.	<p>Norms are the formal and informal rules regarding what kinds of behavior are acceptable and appropriate within a culture. Norms are specific to a culture, time period, and situation [4].</p> <p><u>Formal norms</u>, also called mores and laws, refer to the standards of behavior considered the most important in any society. Examples in the United States include traffic laws, criminal codes, and—in a college context—student behavior codes addressing such things as cheating and hate speech [4].</p> <p><u>Informal norms</u>, also called folkways and customs, refer to standards of behavior that are considered less important but still influence how we behave [4].</p>
Examples.	Table manners, civic participation, traffic laws or criminal code; how we interact with a cashier or ride in an elevator.
Intent.	The purpose of <i>Norms</i> is to ensure that cultural norms are addressed in the design of any applicable software elements of the system. By understanding the audience's cultural norms (i.e., behaviors), different elements can be designed to interact with such norms thus creating an environment that increases the usability and familiarity of the system.

The group Norms have five cultural elements.

Tradition, Religion, Uncertainty Avoidance, Laws, and Geo/Political Environment.

1.1 Norms > Tradition

Cultural Element Definition.	A tradition is a belief or behavior with significance or symbolism towards past origins. Traditions are a component of cultural expressions and folklore. They are passed down, persist, and evolve from within a group or society [5].
General Examples.	holidays (e.g., Memorial Day, Day of the Dead, April Fools' Day); celebrations (e.g., carnival, sweet sixteen, quinceañeras); meaningful clothes; salutations, farewells, and greetings.
Intent.	<i>Tradition</i> ensures that targeted user groups' traditions are represented in UI components. The appropriate representation of a targeted culture's customs and traditions could result in the use and adoption of the information system.
In-practice Examples.	<p>Dia de los Muertos is a traditional celebration largely observed in Mexico. It is traditionally celebrated on November 1st and 2nd, but this may change depending on the locality [3]. For example:</p> <ol style="list-style-type: none">1. Images related to Dia de los Muertos can be added to the style of the system a week prior.2. Other images like logos can be adjusted to hint at the celebration.3. The pantry logo can be modified with colors and imagery that refer to this celebration.

The cultural element Tradition has three manifestations.

Festivities, Ceremonies, and Salutations & Farewells.

A manifestation should identify a **UI Component**, the **UI Component Attribute**, and its **Success Metric** (see table XY for more detailed information).

1.1.1 Norms > Traditions > Festivities

UI Mapping. Representations of the audience's traditional festivities are found as **images or text in the content displayed**. **The information system must show some representations through images and text within the appropriate time related to the traditional festivities.**

1.1.2 Norms > Traditions > Ceremonies

UI Mapping. Representations of the audience's customary ceremonies are found as **images or text in the content displayed**. **The information system must show some representations through images and text.**

1.1.3 Norms > Traditions > Salutation and Farewells

UI Mapping. Salutations and Farewells depicted in **content** displayed through **images or videos** of the audience's culture are **found within the system and follow the expected customs**.

1.2 Norms > Religion

Cultural Element Definition.	Religion is a system of beliefs, values, and practices concerning what a person holds sacred or considers to be spiritually significant [6], [7]. Religions have practices that their members are supposed to follow. Members generally agree about the nature of those practices and how strictly members adhere to these practices. Practices are an important part of religious experiences. Portrayal of these practices could result in the use and adoption of the information system [6].
General Examples.	eating practices, sacred time periods, dress code, and moral behavior
Intent.	<i>Religion</i> ensures that the predominant religious norms of the audience are represented on a website. <i>Note:</i> Be cautious when there is no clear predominant religion.
In-practice Examples.	Hispanics are mostly Christian (76%) [8], and Catholics are the majority denomination (48%) [8]. Some other denominations are Protestantism (which includes Anglicanism, Lutheranism, Methodism, Baptists, and others), and Eastern Orthodox Churches [9]. There is a shift in religions stemming from migration. During the Lent, they will fast (typically by abstaining from consuming meat) each Friday after Ash Wednesday. As an example of inclusivity: 1. Images can depict seafood on Fridays.

The cultural element Religion has two manifestations.

Holidays, and Rules & Practices.

1.2.1 Norms > Religion > Holidays

UI Mapping. Holidays or events belonging to the audience's religion are found as images or text and the content displayed. The information system must show some representations through images and text within the appropriate time related to the holiday or event.

1.2.2 Norms > Religion > Rules and Practices

UI Mapping. Rules and practices belonging to the audience's religion are found as images or text and the content displayed. The information system must display some representations through images and text when possible.

1.3 Norms > Uncertainty Avoidance

Cultural Element Definition.	Uncertainty avoidance is a rating of the tolerance that a culture has towards unpredictability. High levels of uncertainty avoidance produce cultures that behave in strict manners, prefer rules, and believe in discipline. Low levels of uncertainty avoidance produce cultures that construct fewer rules and accept change more readily [10].
General Examples.	change of services, change in requirements, flexibility of support
Intent.	<i>Uncertainty Avoidance</i> ensures that inevitable website changes are properly managed and communicated to users.
In-practice Examples.	If a change of requirements is imposed by the government to access a food pantry, information about this change should: <ol style="list-style-type: none">1. be communicated through email, social media posts, and a notice on the front page of the system2. include the specific changes (change of requirements),3. include the reason why (e.g., government ordinance/law),4. include how the change affects the use of the system (inclusion of document submission service) and the user informally (the change may require the user to provide documentation that they don't have and now need to acquire).

The cultural element Uncertainty Avoidance has two manifestations.

Addressal of Changes, and Changelog.

1.3.1 Norms > Uncertainty Avoidance > Addressal of Changes

UI Mapping. Proper communication for audiences with high levels of uncertainty avoidance is performed by the system's functionality (through services like RSS) and in its content displayed (web page dedicated to changes). The information system must address the following:

1. The user is informed when changes are made. The communication must contain what has been changed, the reasons why changes were made, how it affects the interaction in the system, and how it informally affects the user.
2. The communication must be performed through a method or combination of methods widely available to the user (social media post, emails, RSS) and as notices on the front page of the system.

1.3.2 Norms > Uncertainty Avoidance > Changelog

UI Mapping. A changelog for audiences with high levels of uncertainty avoidance is kept available and updated on its **dedicated web page** with its **content** containing any pertaining information. **The information system must address either of the following:**

1. The changelog is updated throughout revisions, always available to the user, containing all the information about any changes made to the system or the service it provides.
2. Changes logged into the changelog may be resumed into a short version with a link to the Addressal of Changes related to the revision.

1.4 Norms > Laws

Cultural Element Definition.	Laws are sets of rules created and enforced by social or governing institutions to regulate behavior [11]. The law does not just reflect the norms of a culture, but it can establish culture [12].
General Examples.	Family and child protection laws, immigration laws, table manners, dressing etiquette
Intent.	Laws ensure that the relationships between an audience and their laws are established. These relationships are often the result of a sensitivity towards laws that may affect a given culture. Identifying a culture's sensitivity towards laws results in an environment that increases the sense of familiarity and safety for the audience.
In-practice Examples.	Surveys have captured that Hispanics are sensitive to migratory laws [13]. Therefore, 1. concerns about the use of a website affecting migratory status in the US will be addressed openly on a dedicated page and throughout highly visible sections related to the website's use. 2. specific parts of the website from which the user applies for services should have visible notices if the use of a service will or will not affect a user's migratory status.

The cultural element Laws has one manifestation.

Support/Disclaimers.

1.4.1 Norms > Laws > Support/Disclaimers

UI Mapping. Legal support/FAQs and disclaimers are used to address formal laws that may affect the audience's legal status in its **separated web page** and its **content** and through the use of **textual disclaimers** found in the **content displayed**. **The information system must have:**

1. **A dedicated legal support/FAQ addressing all concerns (e.g., legal status, family welfare) pertinent to the use of the system or services and resources it provides.**
2. **Disclaimers in highly visible areas related to high-priority concerns.**

1.5 Norms > Social Environments

Cultural Element Definition.	Social environments encompass the immediate physical surroundings, social relationships, and cultural milieus within which groups of people function and interact [14]. There can be multiple components ranging from infrastructure to wealth and government.
Examples.	level of gentrification, access to ports of entry, availability of holy places, policing, wealth gap
Intent.	<i>Social Environments</i> address the interactions a culture has with its environment and the reactions that such interactions may produce. Designers should consider geographical locations, infrastructure access, politics, or any other subjects and events that may affect a culture on a large scale. These considerations can affect how the audience views or uses the website.
In-practice Examples.	<p>1. Partisanship in Hispanic culture has historically been democratic leaning but varies heavily by country of origin [15]. Therefore, politically motivated content should be reviewed. Since there is bipartisanship within Hispanics, political content is avoided whenever possible.</p> <p>2. Based on geographical location, the Ecuadorians living in areas further away from port of entries like those in the Mountain TZ may lack access to fresh and traditional ingredients to cook traditional and religious dishes like Fanesca (dish made with 12 grains and salted cod). Research is performed to offer best alternatives to traditional ingredients like using lisa fish instead of salted cod or recommending vegetarian variations using cheese [16].</p> <p>3. In Peruvian ceviche, mahi-mahi is the fish mostly used, however, when mahi-mahi is unavailable, it can be substituted with white neutral-flavored fish.</p>

The cultural element Social Environments has two manifestations.

Political Association, and Dietary Recommendations.

1.5.1 Norms > Social Environment > Political Association

UI Mapping. For political content (i.e., statements or endorsements) found as **images and text in content displayed**, the following are true:

1. **If posted, the content has been reviewed and has addressed the demographic of the users.**
2. **If demographics are too varied, political content should be avoided.**

Political content can be different depending on the time, place, and audience. For some, abortion is a religious subject, and for others, it is a political subject. Migration can be seen as a social issue or

a political issue. Careful consideration must be taken before deciding whether a subject is political or not.

1.5.2 Norms > Social Environment > Dietary Recommendations

UI Mapping. For dietary recommendations made through text and images displayed in the content, the content of dietary recommendations is reflective of the audience's demographics with culturally relevant ingredients (i.e., suitable alternatives if the traditional ingredients are unavailable).

2 Values

Group Definition.	The principles or fundamental convictions that serve as general guides to human behavior and the related actions are then judged as good or desirable (or not) [Hofsted & Taylor 2000]. Values shape the way individuals perceive the world and interact with others. Values are not static. They may change over time and due to events.
Examples.	honesty, integrity, compassion, equality, freedom, justice, loyalty, and respect.
Intent.	<i>Values</i> aims to ensure that the content or services offered by the website align with the values of the targeted culture. Understanding and respecting diverse values is essential for effective communication and collaboration in multicultural contexts. Different cultures may prioritize these values to varying degrees.

The group Values has eight cultural elements.

Trust, Familism, Gender Roles, Beliefs, Equality, Power Distance, Collectivism, and Freedom.

2.1 Values > Trust

Cultural Element Definition.	Assured reliance on the character, ability, strength, or truth of someone or something [Merriam-Webster]. It involves confidence and faith that the person or entity being trusted will act in a certain way that is beneficial or expected; each party upholds its part of any agreement.
General Examples.	confidentiality of collected data; integrity of collected data; availability of service; information accuracy; personally identifiable information is encrypted
Intent.	The intent of <i>Trust</i> is to outline best practices to foster trust in the system, system services, and sponsors of the system; additionally, the content of the information is tailored to the target audience (i.e. culturally relevant information)
In-practice Examples.	1. The information that the food pantry collects will not be sold/shared with outside parties unless specified otherwise (i.e. government sponsored). 2. In some food pantries that are not sponsored by the government, personal identification information may be reviewed but not stored; demographic information (e.g., household size, income range) is collected. 3. Older generations of Hispanics tend to trust in-person services versus online or automated services (privacy and security are concerns).

The cultural element Trust has five manifestations.

Data Collection Policy, User Reviews, Mission Statement, References, and Resources.

2.1.1 Values > Trust > Data Collection Policy

UI Mapping. The website **includes a disclaimer** detailing the **data review/collection policy**. The disclaimer will specify **what data is reviewed/collected, how the data is reviewed/collected, when the data is reviewed/collected, who will use the reviewed/collected data (internal/external parties), and why it was necessary to review/collect the data**. Personally identifiable information will only be collected if required by any sponsors (i.e., government sponsored sites).

2.1.2 Values > Trust > User Reviews

UI Mapping. The website **allows for the collection of user feedback or experiences** via a **user review** mechanism. The review will include predetermined criteria such as: **overall rating, detailed feedback, quality, customer service, ease of use, and value.**

2.1.3 Values > Trust > Mission Statement

UI Mapping. The website **includes an About page** detailing the **mission statement**. The page may include **the purpose, goals/objectives, target audience, scope, and sponsors** of the website.

2.1.4 Values > Trust > References

UI Mapping. **References/Information sources (see Symbology > Artifacts > Relatable Representations)** are **provided** for **text** within the page that includes **medical information, nutritional information, facts, quotes, or legal information.**

2.1.5 Values > Trust > Resources

UI Mapping. For **text** that **includes a hyperlink to an outside resource** (e.g., other websites), **the system includes a note that the links are continuously verified, endorsed, and updated. If this is not possible, it is mentioned.**

2.2 Values > Familism

Cultural Element Definition.	A social pattern in which the family assumes a position of ascendance over individual interests [Merriam-Webster]. Loyalty, respect, tradition, and continuity are common components of familism.
General Examples.	strong family-ties, collective decision-making, obligation to care for one's family members
Intent.	The intent of <i>Familism</i> is to ensure that the family is portrayed as the central and most important social unit, and decisions will be made with the well-being and interests of the family in mind.
In-practice Examples.	<p>Extended families (grandparents, aunts/uncles, cousins) are common with Hispanics. Some of the following examples can be useful:</p> <ol style="list-style-type: none">1. Provide user-stories or testimonials (i.e. in English/Spanish) from families who benefited from the food pantry's services.2. Promote good eating habits towards the well-being of the family (e.g., parents can incentivize children to eat fruit using popular condiments such as chile powder).3. Provide resources for families on topics such as budgeting, meal planning, or cooking on a budget.4. Promote events that accommodate the family (and extended family).5. Extended family may choose to live near each other to help raise children.6. Extended family members are preferred for childcare.

The cultural element Familism has three manifestations.

People Referenced in Text, Appropriate Content, and People Referenced in Images.

2.2.1 Values > Familism > People Referenced in Text

UI Mapping. For content within the page, **text** that **refers to people** (individuals or groups) **includes (a) a reference to the individual plus their family or (b) the family.**

Family can mean immediate or extended family.

2.2.2 Values > Familism > Appropriate Content

UI Mapping. **Images and text** displayed on the page are **appropriate for children** by ensuring that **all material is free of inappropriate language, violence, or adult themes.**

2.2.3 Values > Familism > People Referenced in Images

UI Mapping. For content within the page, **images** that **show people** will always depict a family unit by **portraying a minimum of two family members which can include both immediate and extended members.**

2.3 Values > Gender Roles

Cultural Element Definition.	Predefined expectations, tasks, roles, or behaviors that are typically associated with an individual's gender. Gender roles can embody values.
General Examples.	expected social behavior for men versus women; masculinity/femininity; modesty, chastity, virtue, strength, bravery, and responsibility are some values associated with gender.
Intent.	<p>The intent of <i>Gender Roles</i> is to ensure that websites adhere to the traditional gender roles and their associated values within the target culture. At the very least, the website should not have content that is atypical of the culture's gender roles.</p> <p><i>Although traditional gender roles may include outdated practices and ideas, the goal is to capture the target culture's current gender roles, not redefine them.</i></p>
In-practice Examples.	<p>Hispanic culture is traditionally masculine with men being strong, brave, and responsible while women are caring, modest, and virtuous.</p> <ol style="list-style-type: none">1. Men are the primary providers, and women take care of the household.2. Images of cash transactions show the man with the wallet.3. Images containing women should have them dressed modestly (e.g., knee-length skirts).4. Images with children should have a woman present as the caretaker. <p><i>This may vary for single parent households.</i></p>

The cultural element Gender Roles has two manifestations.

Masculinity, and Femininity.

2.3.1 Values > Gender Roles > Masculinity

UI Mapping. Text descriptions or images that include references to men portray them in a traditionally masculine role.

2.3.2 Values > Gender Roles > Femininity

UI Mapping. Text descriptions or images that include references to women portray them in a traditionally feminine role.

2.4 Values > Beliefs

Cultural Element Definition.	Cultural beliefs are the ideas and thoughts common to several individuals that govern interaction—between these people, and between them, their gods, and other groups—and differ from knowledge in that they are not empirically discovered or analytically proved [Grief 1994].
General Examples.	home remedies, and the American Dream (i.e., anyone who works hard enough will be successful and wealthy [LumenLearning]).
Intent.	The intent of <i>Beliefs</i> is to ensure that beliefs (i.e., ideas and thoughts) are considered in the information being shared. Additionally, information should not directly challenge or discount beliefs relevant to the culture.
In-practice Examples.	1. The website for a food pantry could convey the message of coming early to get better quality and variety as: "al que madruga, Dios lo ayuda" [translation: God helps those who wake up early]. 2. Certain foods may be restricted or off limits during certain time periods due to a belief. Christian Hispanics may have restrictive diets during Lent.

The cultural element Beliefs has two manifestations.

Nutrition Information, and Dietary Restrictions.

2.4.1 Values > Beliefs > Nutrition Information

UI Mapping. Images or text that reference(s) food items include(s) nutrition information or a link to the relevant nutrition information.

2.4.2 Values > Beliefs > Dietary Restrictions

UI Mapping. Images or text that reference(s) recipes include(s) a list of ingredients or a link to the list of ingredients.

2.5 Values > Equality

Cultural Element Definition.	Belief in fairness and equal opportunities for all individuals.
General Examples.	social justice, equal rights, anti-discrimination.
Intent.	The intent of <i>Equality</i> is to promote fairness in terms of access, opportunity, and distribution of resources to individuals or families.

In-practice Examples.	<ol style="list-style-type: none"> 1. Children are typically seen as equal to other children within a family unit. 2. All families are treated equally in a food pantry regardless of circumstances, social status, race, or religion. 3. To ensure an equal opportunity for understanding the content, it has to be written at a lower secondary-school level (i.e., 7th grade in the American education system).
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The cultural element Equality has two manifestations.

Experience Level, and Digital Literacy.

2.5.1 Values > Equality > Experience Level

UI Mapping. For content within the page, the **reading level** of any **text is written at a lower secondary school level (i.e., grade seven in American public education system).**

2.5.2 Values > Equality > Digital Literacy

UI Mapping. For each **webpage**, the **content structure and flow are at the lowest level of digital literacy (i.e., basic).**

2.6 Values > Power Distance

Cultural Element Definition.	<p>Power distance refers to the strength of a society's social hierarchy. The Power Distance Index (PDI) measures the extent to which those people who are at the lower end of the hierarchy accept the fact that social stance or power is not distributed equally in society. A high-power distance setting means that a specific culture accepts the inequality in power differences. A high-power distance culture encourages bureaucracy and supports rank and authority [1].</p> <p>[1] https://www.organizationalpsychologydegrees.com/faq/what-is-power-distance/</p>
General Examples.	income inequality (i.e., the spread between the richest and poorest); different treatment based on power/status; centralized command structure and leadership
Intent.	The intent of <i>Power Distance</i> is to portray individuals based on the PDI of the culture; depending on the PDI, authority figures can influence how the individual approaches and interacts with the information system.
In-practice Examples.	<p>Hispanic nations have a high PDI. Therefore, the following behavior can manifest:</p> <ol style="list-style-type: none"> 1. Siblings are equal but will often defer to parental figures in certain cases. 2. Elders are viewed as having more life experience or wisdom. 3. Elders are simply afforded respect by default. 4. Religious figures, teachers, healers, and doctors influence their communities. 5. Food pantries may provide additional accommodation for older adults. 6. Images of teachers, doctors, or religious figures advocating for the food pantry.

The cultural element Power Distance has two manifestations.

Text Promotions, and Visual Promotions.

2.6.1 Values > Hierarchy > Text Promotions

UI Mapping. For content within the page, text that refers to promotional material includes a respected figure (e.g., a doctor, teacher, or religious authority).

2.6.2 Values > Hierarchy > Visual Promotions

UI Mapping. For content within the page, images that refer to promotional material include a respected figure (e.g., a doctor, teacher, or religious authority).

2.7 Values > Collectivism

Cultural Element Definition.	Individualism is the emphasis on individual rights, autonomy, and personal achievement. Collectivism is the emphasis on group harmony, cooperation, and the well-being of the community.
General Examples.	(Individualism) independence, self-expression, personal success. (Collectivism) group loyalty, social responsibility, cooperation.
Intent.	<i>Collectivism</i> aims to accurately capture whether the target culture is collectivist or individualist. Cultures are categorized as collectivist or individualist [Hofstede].
In-practice.	Hispanic culture is traditionally regarded as collectivist as the needs of the many (i.e., family) outweigh the needs of the individual, so: 1. Activities include the entire family (Group Mechanism). 2. The local community promotes activities that benefit members. 3. Members participate in activities that benefit the community.

The cultural element Collectivism has five manifestations.

Group Mechanism, General Tool Configuration, Personal Tool Configuration, Shareable Content, and Group Images.

2.7.1 Values > Collectivism > Group Mechanism

Some in practice examples are:

UI Mapping. The website allows for the interaction of users amongst each other via a user forum. The forum will allow users to leave comments, suggestions, questions, answers, and relevant links for other users.

2.7.2 Values > Collectivism > General Tool Configuration

UI Mapping. The website allows the user to edit/save general settings in the user interface such as: font size, language, notification/communication settings, and integrations.

2.7.3 Values > Collectivism > Personal Tool Configuration

UI Mapping. The website **allows the user to edit/save personal settings** in the **user interface** such as: **password, email, name, username, and privacy settings**.

2.7.4 Values > Collectivism > Shareable Content

UI Mapping. The website **allows the user to share content** where the **content of the page** can include items such as: **images, text, and links**.

2.7.5 Values > Collectivism > Group Images

UI Mapping. For content within the page, **images** that **show people** will always depict a family unit by **portraying a minimum of two family members which can include both immediate and extended members**.

2.8 Values > Freedom

Cultural Element Definition.	Valuing personal freedom, civil liberties, and political freedom; being free from external constraints or coercion; individuals can act, speak, think, and pursue their own choices and interests; freedom is a fundamental human right of democratic societies
General Examples.	freedom of speech, political freedoms, and individual rights.
Intent.	The intent of <i>Freedom</i> is to determine the level of control a user has when accessing information or using functionality in an information system.
In-practice Examples.	<ol style="list-style-type: none">1. Within Hispanic culture, freedom of expression is apparent in celebrations and festivities (see 1.1.1 and 1.1.2).2. Users of the food assistance service should be allowed to choose their own food items if possible.3. Users of the food assistance service can choose not to participate at any time.4. Users have the option to access the information system without authentication.5. Users have the option to customize the system features. <p>Possible manifestations of these cultural elements are Code of Conduct and Terms of Service.</p>

The cultural element Freedom has two manifestations.

Code of Conduct, and Terms of Service.

2.8.1 Values > Freedom > Code of Conduct

UI Mapping. The website **includes a Community Guidelines page** detailing the **rules and recommendations**. The page may include the **behaviors, expectations, and what is allowed (or not allowed)** when using the website.

2.8.2 Values > Freedom > Terms of Service

UI Mapping. The website includes a Terms of Service page detailing the legal agreements between the service provider and a person who wants to use that service.

3 Symbols

Group Definition.	Symbols is when a word, action, or object represents an abstract idea.
Examples.	figures, flags, emblems, sounds, colors, facial expressions, or word interpretations
Intent.	The purpose of <i>Symbols</i> is to ensure that symbolic representations for a given culture can be rendered into the user experience of the website.

The group Symbols has five Cultural Elements.

Artifacts, Language, Material Culture, Actions, and Aesthetics.

3.1 Symbols > Artifacts

Cultural Element Definition.	<p>The tangible objects that carry a special meaning for a culture.</p> <p>The <i>tangible objects of a culture</i> include the everyday items, materials, and images that embody common themes and ideologies from within that culture. Also included are any tangible objects that appear at special occasions like celebrations and funerals.</p> <p>REFERENCED through XXXXX's document.</p>
General Examples.	flags, silverware, pottery, musical instruments, clothing, accessories, the crucifix
Intent.	<i>Artifacts</i> ensures that the content displayed to the user includes artifacts relevant to their culture. The artifacts will occasionally be used—when appropriate—to convey information flows.
In-practice Examples.	<p>Be aware that several artifacts can be used to represent the same meaning. The choice will depend on the intended audience.</p> <ol style="list-style-type: none">1. Certain images on buttons that redirect to other windows may be representations of artifacts (i.e., popular foods or kitchen tools) to intuitively direct screen flows.2. Images of gatherings and celebrations depict foods commonly enjoyed by Hispanic culture (e.g., chiles, corn, beans, squash) [consider SH].3. Images of food being prepared to show the appropriate cookware for that food in that culture [consider SH].4. For Catholics, religious presence can be achieved using cartoon angels, candles with the Virgin Mary, or saints [consider AR].5. For Christians, religious presence can be achieved using a crucifix, or depictions of Jesus.6. The use of pre-Columbian pyramids or the Aztec sun for historic relevance in certain Hispanic holidays.

The cultural element Artifacts has three manifestations.

Key Elements of Culture, Relatable Representations, and Images on Control Flow Elements.

3.1.1 Symbols > Artifacts > Key Elements of Culture

UI Mapping. Within the user interface, the following is true when displaying **images or videos** to the user: **tangible objects of a culture are found within the image.**

3.1.2 Symbols > Artifacts > Relatable Representations

UI Mapping. When **images or videos** are applied on website content, it is true that the **objects depicted in the image** are **portrayed in the appropriate environment and in the appropriate manner pertaining to the culture.**

3.1.3 Symbols > Artifacts > Images on Control Flow Elements

UI Mapping. When **images are applied on or as interface buttons:** they **depict a tangible object of the culture** whose **purpose can be visually recognized and properly associated with the functionality of the button.**

3.2 Symbols > Language

Cultural Element Definition.	<p>The principal method of communication between human beings. It consists of words used in a structured and conventional way whether written or spoken.</p> <p>[1] Llabre, M. M. (2021). Insight Into the Hispanic Paradox: The Language Hypothesis. <i>Perspectives on Psychological Science</i>, 16(6), 1324-1336.</p>
General Examples.	English, French, Mandarin Chinese, Spanish
Intent.	<p><i>Language</i> ensures that the content presented to the user is done so in the language that is most relevant to their culture. Language will be used—when appropriate—to convey information flows. Language may be present in all aspects of the interface both as content and as information control elements. If multiple versions of a language exist and the message is meant to be widely informative, the version of language chosen should be the most neutral amongst the population.</p>
In-practice Examples.	<p>Be aware that a word can have several interpretable meanings depending on the context of its use and the audience. The choice of language will depend on the intended audience.</p> <ol style="list-style-type: none">1. Text content for a food pantry is short and concise [consider AR].2. If text content is expected to be viewed by different nationalities of Hispanics and is to be translated to Spanish, it is to be translated to Latin American Spanish because it is the most neutral version of the language [consider LU].3. If text content is expected to be viewed by a specific Hispanic nationality and is to be translated to Spanish, it is to be translated to that nationality's version of Spanish because it is the most familiar version of the language to that user [consider LU].

	4. The dialects and accents associated with Hispanics in a region such as the city of El Paso, TX are appropriate compared to the accents and dialects popular in a different region such as New York, NY [consider LU].
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The cultural element Language has eight manifestations.

Alphabets, Language of the Page, Reading Level, Language of the Parts, Language Translations, Unusual Words, Useful Mnemonics, and Robust Definitions.

3.2.1 Symbols > Language > Alphabets

UI Mapping. The different symbols in different alphabets for different cultures can be programmatically rendered with minimal user effort. For software to meet minimal user effort requirements, it must have at least one of the following options available:

1. Predictive text options for the correct rendering of an alphabetic symbol are available.
2. If the user must manually enter the alphabetic symbol, it can be done in two key presses or less.
3. If the user must manually enter the alphabetic symbol, it can be done in less than two clicks or two taps.

Note: If a targeted culture does not have an alphabet representing their language, then the software must have visual or audio alternatives available for that audience.

3.2.2 Symbols > Language > Language of the Page

UI Mapping. The default language of a page has an equal translation to another word, or group of words, in the language of the targeted culture.

The default language of a page is the language on User Interface components that are specific to the operation of the web page (i.e., words used on tabs, buttons, links, menus.). Translations from English should be done by a *native speaker* of the targeted culture's language (see Language Translations, 4.2.5).

3.2.3 Symbols > Language > Reading Level

UI Mapping. When text requires a reading ability more advanced than the lower secondary education level (disregarding proper names and titles) one or more of the following options are also available:

1. Supplemental content that defines advanced vocabulary terms and demonstrates concepts.
2. An alternative version that does not require reading ability more advanced than the secondary education level.

3.2.4 Symbols > Language > Language of the Parts

UI Mapping. The language of the text content found within a web page is free from spelling and grammatical errors while maintaining the integrity of messages.

These conditions should hold true whether the page is being created in the language of another culture or whether the page is being translated into the language of another culture. Translations should be provided by a *native speaker* of the language (see Language Translations, 4.2.5).

3.2.5 Symbols > Language > Language Translations

UI Mapping. If the **text appearing on a web page** was originally created in the **language** of one culture and is to be translated into the language of another culture, both of the following are true:

1. **Translation of the page is provided by a *native speaker* proficient at the 12th grade education level (or above) in the destination language.**
2. **The translator is at least capable of *professional working proficiency* in the use of the source language**

Native speakers of a targeted language are considered individuals who have lived in the culture as children or in the culture while using the targeted language fluently for ten years or more.

3.2.6 Symbols > Language > Unusual Words

UI Mapping. Within the web page's **text content**: if **idioms, metaphors, puns, and other literary elements** are being used to convey the significance of an idea, then **the meaning of those words must be provided**.

The meaning can be provided with a simple textual explanation or a robust definition of the word or group of words. (see Robust Definitions, 4.2.8)

3.2.7 Symbols > Language > Useful Mnemonics

UI Mapping. If the **text content, images, or videos** within a web page use a memorization tool such as **associations, acronyms, and/or visualizations**, then **equivalent versions of those memorization tools are provided using the language of the targeted culture**.

3.2.8 Symbols > Language > Robust Definitions

UI Mapping. If the **text content** within a web page includes complicated foreign concepts in one language, such as legal processes, the **definitions of words** in the text **are provided and fortified with metaphors, images, media, or examples that accurately and appropriately convey the meaning in the language of the targeted culture**.

3.3 Symbols > Material Culture

Cultural Element Definition.	The relationship between a people and their things. This includes the value and priority that people put into acquiring certain objects and materials [anecdotal]. [1] https://www.sciencedirect.com/topics/nursing-and-health-professions/material-culture
General Examples.	Oreo cookies, Vicks Vapor Rub, iPhones
Intent.	<i>Material Culture</i> ensures that the content presented to the user is aligned with the preferred choices of the user. An individual's willingness to pursue certain foods,

	services, or commodities over others may be influenced by the availability and preference for certain items over others.
In-practice Examples.	<ol style="list-style-type: none"> 1. Text, images, and visual media that depicts popular Hispanic food choices, such as Abuelita hot chocolate, may be used as a sentiment to attract more Hispanics to food pantries. 2. Name brands and logos that are local to Hispanic regions, such as Goya, may be used to increase a Hispanic user's familiarity with a food pantry.

The cultural element **Material Culture** has two manifestations.

Cultural Brand Names, and Name Brands.

3.3.1 Symbols > Material Culture > Cultural Brand Names

UI Mapping. When **images** or **videos** are applied to website content, it is true that the **items depicted are items from brands that appear prevalently throughout the homes of the targeted culture.**

3.3.2 Symbols > Material Culture > Name Brands

UI Mapping. When **images, videos, or text** are applied to website content, it is true that the **items depicted are items from recognizable companies that usually charge higher prices for their goods.**

3.4 Symbols > Actions

Cultural Element Definition.	<p>The use of a person's body to convey messages without the direct use of verbal or written communication.</p> <p>[1] Merriam-Webster Dictionary</p>
General Examples.	hand salutes, thumbs up, crossed fingers, hushes
Intent.	<p><i>Actions</i> ensures that the content displayed to the user includes human gestures relevant to their culture. Human actions and interactions should be used—when appropriate—to subtly convey information that is not directly written or spoken.</p> <p>Gestures that are considered offensive to a culture should be avoided.</p>
In-practice Examples.	<ol style="list-style-type: none"> 1. Giving a thumbs up within videos can be used to indicate correctness. 2. The waving-away hand gesture is often used for dismissal of interest amongst Hispanics. 3. Hispanics tend to recognize performing the sign of the cross over one's chest as a sign of Catholic faith. 4. Hispanics may use the sound of a whistle through the tongue to get somebody's attention.

The cultural element **Actions** has three manifestations.

Body Language, Gestures, and Noises & Sounds.

3.4.1 Symbols > Actions > Body Language

UI Mapping. In images and videos depicting people, the body language of the individuals is appropriately aligned with the message intended for the audience.

3.4.2 Symbols > Actions > Gestures

UI Mapping. In images and videos depicting people, the gestures used by individuals are appropriately aligned with the message intended for the audience.

3.4.3 Symbols > Actions > Noises and Sounds

UI Mapping. In videos or audio depicting people, the bodily sounds produced by individuals are appropriately aligned with the message intended for the audience.

3.5 Symbols > Aesthetics

Cultural Element Definition.	<p>The set of principles concerned with the nature and appreciation of beauty [Oxford languages]. The aesthetics for website interfaces are the characteristics of it which are perceived as pleasing or appealing to users of the targeted culture.</p> <p>[1] J. M. G. Mendoza and A. Marasinghe, "Kansei Color Concepts in Interface Design for Mexican and Japanese E-Commerce Websites," 2013 International Conference on Biometrics and Kansei Engineering, Tokyo, Japan, 2013, pp. 154-159, doi: 10.1109/ICBAKE.2013.62. keywords: {Image color analysis;Sociology;Color;Educational institutions;Clothing;Principal component analysis;Kansei Engineering;e-Commerce;Interface Design;Website Colors},</p> <p>The relationship between visual interface aesthetics, task performance, and preference [Salimun, C. 2013].</p>
General Examples.	3D animations for hero images, limiting color palettes to make content appear serious without being dull, vibrant colors to engage users, page orientation, use of artistic work
Intent.	<p>The intent of <i>Aesthetics</i> is to provide interface design characteristics to consider while designing websites intended for user groups of a targeted culture.</p> <p>Design choices in the look and feel of a website, along with the consistency of such choices, further enhance the user's experience of the website by tailoring such choices to the targeted culture.</p>
In-practice Examples.	<ol style="list-style-type: none">1. Minimize blocks of text on food pantry websites to concise messages.2. Use fonts that are easy to read and consistent.3. Use color pallets that are bright and engaging to promote vitality and joy to Hispanics.4. Hispanics are an orderly culture and may prefer a web page with a clear visual design.5. Low visual complexity in a website interface's design results in a positive response to the aesthetic of the design and a more positive user experience.

The cultural element Aesthetics has five manifestations.

Use of Color, Use of Artwork, Simplicity, Balance, and Symmetry.

3.5.1 Symbols > Aesthetics > Use of Color

UI Mapping. The colors selected in the user interface and throughout any visual content should be representative of the culture's preferences.

Color is used as a visual means of conveying information, stimulating reactions, indicating actions, prompting responses, and distinguishing visual elements.

3.5.2 Symbols > Aesthetics > Use of Artwork

UI Mapping. The use of artwork within images or videos on a website must be representative of the targeted culture by ensuring the artwork is either done by a famous artist from within the culture, or the art depicts the culture kindly (if at all) when done by a foreign artist.

3.5.3 Symbols > Aesthetics > Simplicity

UI Mapping. The complexity of a website's usability can be adjusted according to the perceptions of the targeted culture by:

1. Modifying the amount of information through elimination, addition, or redirect.
2. Modifying the flow of subpages required to complete tasks.

3.5.4 Symbols > Aesthetics > Balance

UI Mapping. Balance is achieved through the unity of a web pages organizational structure. The different elements of a web page (colors, images, buttons, icons, fonts, sizes, page orientation) must compliment and compensate for each other's purposes according to the perceptions of a targeted culture. These elements must be kept consistent throughout the different pages of a website.

3.5.5 Symbols > Aesthetics > Symmetry

UI Mapping. When text and/or imagery information presented to users within web pages is done in a side-by-side manner, the information shall be done according to the preferences (vertical, horizontal, diagonal) of the targeted culture.

Note: Anglo and Hispanic cultures prefer vertical symmetry [reference needed].

References

- [1] M. M. Noe-Bustamante Mark Hugo Lopez and Luis, “11 facts about Hispanic origin groups in the U.S.,” Pew Research Center. Accessed: Mar. 16, 2025. [Online]. Available: <https://www.pewresearch.org/short-reads/2023/08/16/11-facts-about-hispanic-origin-groups-in-the-us/>
- [2] M. P. Rabbitt, “Statistical supplement to household food security in the United States in 2023.” in Administrative publication ; Number 124. Economic Research Service, U.S. Department of Agriculture, Washington, D.C, 2024. doi: 10.1133/8753946, 10.32747/2024.8753946.ers.
- [3] “About: Day of the Dead.” Accessed: Mar. 16, 2025. [Online]. Available: https://dbpedia.org/page/Day_of_the_Dead
- [4] A. removed at request of original Publisher, “The Elements of Culture,” Apr. 2016, Accessed: Mar. 16, 2025. [Online]. Available: <https://pressbooks.howardcc.edu/soci101/chapter/3-2-the-elements-of-culture/>
- [5] “About: Tradition.” Accessed: Mar. 16, 2025. [Online]. Available: <https://dbpedia.org/page/Tradition>
- [6] R. McGivern, “Chapter 15. Religion,” Nov. 2014, Accessed: Mar. 16, 2025. [Online]. Available: <https://opentextbc.ca/introductiontosociology/chapter/chapter-15-religion/>
- [7] E. Rosenberg, “Religion and Culture,” Jan. 2018, Accessed: Mar. 16, 2025. [Online]. Available: <https://uen.pressbooks.pub/speakingofculture/chapter/chapter-9-religion-and-culture/>
- [8] “America’s Changing Religious Identity | PRRI,” PRRI | At the intersection of religion, values, and public life. Accessed: Mar. 16, 2025. [Online]. Available: <https://www.prri.org/research/american-religious-landscape-christian-religiously-unaffiliated/>
- [9] D. Demars, “A Handy-Dandy Breakdown of Different Christian Denominations,” Theology Pathfinder. Accessed: Mar. 16, 2025. [Online]. Available: <https://derekdemars.com/2018/09/06/a-handy-dandy-breakdown-of-different-christian-denominations/>
- [10] “About: Uncertainty avoidance.” Accessed: Mar. 16, 2025. [Online]. Available: https://dbpedia.org/page/Uncertainty_avoidance
- [11] “About: Law.” Accessed: Mar. 16, 2025. [Online]. Available: <https://dbpedia.org/page/Law>
- [12] R. Post, “Law and Cultural Conflict,” *Chic.-Kent Law Rev.*, vol. 78, no. 2, p. 485, Jun. 2003.
- [13] M. Moslimani, “Around four-in-ten Latinos in U.S. worry that they or someone close to them could be deported,” Pew Research Center. Accessed: Mar. 16, 2025. [Online]. Available: <https://www.pewresearch.org/short-reads/2022/02/14/around-four-in-ten-latinos-in-u-s-worry-that-they-or-someone-close-to-them-could-be-deported/>
- [14] “A definition of ‘social environment,’” *Am. J. Public Health*, vol. 91, no. 3, pp. 465a–4465, Mar. 2001, doi: 10.2105/AJPH.91.3.465a.
- [15] R. I. and A. Budiman, “The Changing Racial and Ethnic Composition of the U.S. Electorate,” Pew Research Center. Accessed: Mar. 16, 2025. [Online]. Available: <https://www.pewresearch.org/race-and-ethnicity/2020/09/23/the-changing-racial-and-ethnic-composition-of-the-u-s-electorate/>
- [16] “Fanesca: el exquisito sabor de la tradición – Ministerio de Turismo.” Accessed: Mar. 16, 2025. [Online]. Available: <https://www.turismo.gob.ec/fanesca-el-exquisito-sabor-de-la-tradicion/>

- [#] Publisher, A. R. a. R. O. O. (2016, April 8). *The elements of culture*. Pressbooks.
<https://pressbooks.howardcc.edu/soci101/chapter/3-2-the-elements-of-culture/>
- [#] *Tradition*. (n.d.). DBpedia. <https://dbpedia.org/page/Tradition>
- [#] *Day of the Dead*. (n.d.). DBpedia. https://dbpedia.org/page/Day_of_the_Dead
- [#] Greenwood, S., & Greenwood, S. (2024, April 14). *Black and Hispanic Americans see their origins as central to who they are, less so for white adults*. Pew Research Center.
<https://www.pewresearch.org/social-trends/2021/05/14/black-and-hispanic-americans-see-their-origins-as-central-to-who-they-are-less-so-for-white-adults/>
- [#] McGivern, R. (2014, November 6). *Chapter 15. Religion*. Pressbooks.
<https://opentextbc.ca/introductiontosociology/chapter/chapter-15-religion/>
- [#] Rosenberg, E. (2018b, January 26). *Religion and culture*. Pressbooks.
<https://uen.pressbooks.pub/speakingofculture/chapter/chapter-9-religion-and-culture/>
- [#] Nadeem, R., & Nadeem, R. (2024, April 14). *Among U.S. Latinos, Catholicism continues to decline but is still the largest faith*. Pew Research Center.
<https://www.pewresearch.org/religion/2023/04/13/among-u-s-latinos-catholicism-continues-to-decline-but-is-still-the-largest-faith/>
- [#] *Uncertainty avoidance*. (n.d.). DBpedia. https://dbpedia.org/page/Uncertainty_avoidance
- [#] *Law*. (n.d.). DBpedia. <https://dbpedia.org/page/Law>
- [#] Post, R. (n.d.). *Law and Cultural Conflict*. Scholarly Commons @ IIT Chicago-Kent College of Law.
https://scholarship.kentlaw.iit.edu/cklawreview/vol78/iss2/3/?utm_source=scholarship.kentlaw.iit.edu%2Fcklawreview%2Fvol78%2Fiss2%2F3&utm_medium=PDF&utm_campaign=PDFCoverPages
- [#] Blazina, C. (2024, April 14). Around four-in-ten Latinos in U.S. worry that they or someone close to them could be deported. *Pew Research Center*.
<https://www.pewresearch.org/short-reads/2022/02/14/around-four-in-ten-latinos-in-u-s-worry-that-they-or-someone-close-to-them-could-be-deported/>
- [#] Greenwood, S., & Greenwood, S. (2024b, April 14). *The changing racial and ethnic composition of the U.S. electorate*. Pew Research Center.
<https://www.pewresearch.org/2020/09/23/the-changing-racial-and-ethnic-composition-of-the-u-s-electorate/>
- [#] *Fanesca: el exquisito sabor de la tradición – Ministerio de Turismo*. (n.d.).
<https://www.turismo.gob.ec/fanesca-el-exquisito-sabor-de-la-tradicion/>
- [#] Organizational Psychology Degrees. (2022, August 26). *Power Distance: Definition and Examples - Organizational Psychology degrees*.
<https://www.organizationalpsychologydegrees.com/faq/what-is-power-distance/>

- [#] panel, A. links open overlay, Buscemi, P., Bush, V., Cahalane, C. F., DeGaetano, D. H., Fleury, P., Haglund, W., Houck, M. M., Council, N. R., Schiffer, M., Stokes, D., Wargacki, S., Wilson, C., Bugliosi, V., Gaddis, J. L., Hughes, T., & National Institute of Justice Technical Working Group on Crime Scene Investigation. (2018, January 5). *Introduction*. The Science of Crime Scenes (Second Edition).
<https://www.sciencedirect.com/science/article/pii/B9780128498781020019?via%3Dihub>
- [#] J. M. G. Mendoza and A. Marasinghe, "Kansei Color Concepts in Interface Design for Mexican and Japanese E-Commerce Websites," 2013 International Conference on Biometrics and Kansei Engineering, Tokyo, Japan, 2013, pp. 154-159, doi: 10.1109/ICBAKE.2013.62. keywords: {Image color analysis;Sociology;Color;Educational institutions;Clothing;Principal component analysis;Kansei Engineering;e-Commerce;Interface Design;Website Colors},