

# Digital Tool to Increase Accessibility of Handicap Certificates for Romanians

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# WPI

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## **List of Abbreviations**

ANDPDCA Romanian National Authority for the Rights of Persons with Disabilities

AT Assistive Technology

DGASPC Directorate General of Social Assistance and Child Protection

NGO Non-Governmental Organization

W3C World Wide Web Consortium

WAI Web Accessibility Initiative

WCAG Web Content Accessibility Guidelines

## 1.0 Introduction

The European Commission claims 15% of the global population has a disability (European Commission, 2019). People with disabilities face various challenges, including those that limit communicating and obtaining information. Communication barriers occur when information is not accessible to users or it is difficult to comprehend coming from multiple sources or websites. The lack of information on the protections under policies for people with disabilities combined with systemic discrimination leads to this vulnerable group not having the proper knowledge of their rights, or how to obtain them (European Commission, 2019).

Statistically, Romania has a remarkably low reported percentage of people with disabilities (4%) compared to the United States of America, which stands at 26% (CDC, 2019). This is due to few people registering as having a disability with the government. In Romania, the government issues handicap certificates to people who wish for recognition as a person with a disability, as well as for protections and benefits. There are many advantages to obtaining the certificate, however, many people are hesitant to undertake the long, complex, bureaucratic, and invasive process (Baciu & Lazar, 2017).

In 2015, the United Nations passed the 2020-2030 sustainable development goal to reduce inequality based on disability. As a member of the U.N., Romania has the moral and social obligation to create safer and more inclusive spaces for people with disabilities (United Nations General Assembly, 2015). Despite this goal, Romanians with disabilities continue to face higher levels of social, opportunistic, and economic prejudice compared to other Romanian citizens (Anghelescu, Bușcă, Constantin, et al., 2016). To address inequality towards people with disabilities, the Romanian Government has put protections in place, such as Law 448/2006

“Regarding the protection and promotion of the rights of disabled persons,” with the intent to support and develop inclusivity by empowering these individuals despite their differences.

There is a significant gap regarding the process to obtain the available resources for people with disabilities in Romania. Furthermore, protections and benefits are in place for the vulnerable group, however, the main inhibiting factor is the lack of centralized information on the process to gain access to these protections. Formalizing the process and steps to obtain a handicap certificate under one source will promote inclusivity and decrease systemic discrimination by reducing external barriers that hinder providing rights to people with disabilities. The community must listen to the voices of this vulnerable group to understand the most effective methods for informing on the certificate process.

The goal of this project is to work with Civic Labs to propose an informative digital tool that will guide the process of seeking a handicap certification for Romanians with disabilities. The team established four objectives to achieve this goal:

1. To identify the complexities people with disabilities face when seeking a handicap certification.
2. To identify the best practices to present information through a digital application.
3. To design a digital solution to outline the information needed for the handicap certification process.
4. To evaluate the effectiveness of our design in reducing the complications of seeking a handicap certificate.

The IQP team anticipates that proposing a digital solution with Code for Romania: Civic Labs will simplify the arduous process of navigating legislation and medical assessments, therefore

increasing access to state benefits for people with disabilities. The following proposal contains a background on the population of people with disabilities in Romania, the current environment of accessibility in Romania, the Romanian handicap certificate process, the non-governmental organization Code for Romania, and technology statistics on device usage. The methodology section describes the methods the team will use March 14th to May 3rd to accomplish the project goal. These include surveying people with disabilities, interviewing NGO's and people with disabilities, designing a digital solution in Figma, and evaluating its effectiveness through surveys.

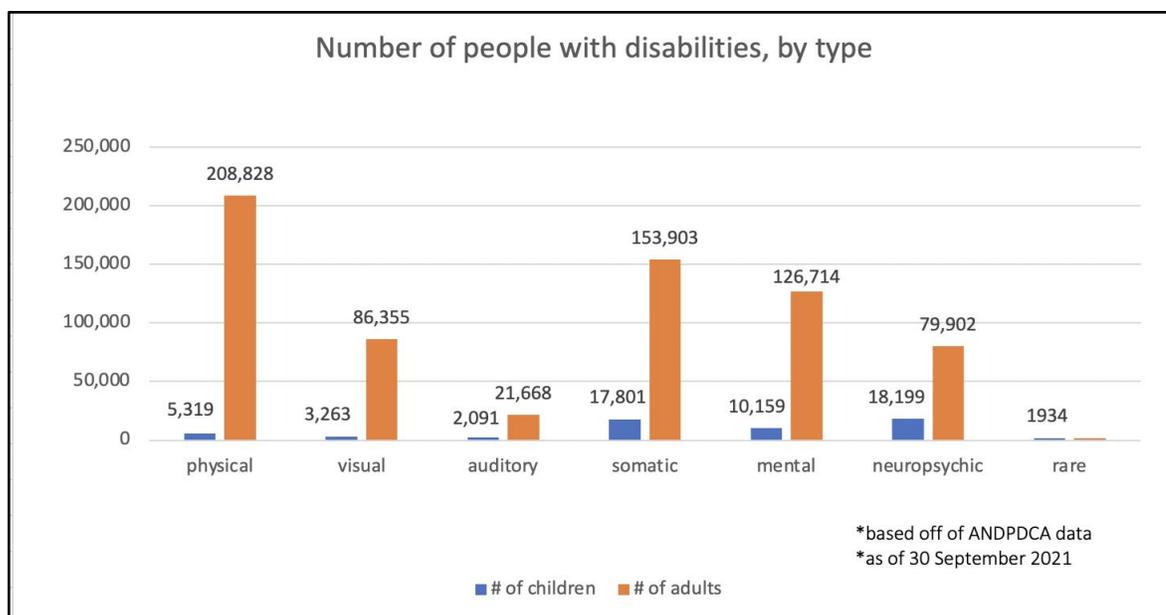
## **2.0 Background**

This chapter presents important background information about disabilities in the context of Romanian demographics, laws, Romanian handicap certificates, and technology as it relates to the current state of accessibility in Romania. Romania has long been bereft of accessibility for people with disabilities, who represent a stigmatized portion of the Romanian populace. Though the government has passed laws that provide benefits to their disabled citizens, they have marred their attempts at inclusivity by creating an onerous registration system for a handicap certificate (Law 448/2006 “Regarding the protection and promotion of the rights of disabled persons”, 2006). Hurjui and Hurjui (n.d.) assert the certificate is tangled in bureaucracy and hostility, and many of the intended recipients do not make it through the process to receive their benefits; many do not even start the process at all (Baciu & Lazar, 2017). Though the government has stagnated in the progress of accessibility laws, there are still non-governmental organizations (NGOs), including Code for Romania: Civic Labs, who fight for awareness and recognition.

### **2.1 Romanian Demographics on Disability**

The Romanian Ministry of Labor and Social protection collects data on individuals with disabilities in Romania. Data from the Romanian National Authority for the Rights of Persons with Disabilities (ANDPDCA) in September of 2021 indicates that there are 866,390 people with disabilities in Romania, amounting to approximately 4.5% of the population (ANDPDCA, 2021). Comparatively, 26% of adults in the United States of America have some type of disability (CDC, 2019). However, ANDPDCA’s data only includes those with an issued handicap certificate, which does not reflect the true number of individuals living with disabilities.

Romanian legislation defines people with disabilities as “people with long-term physical, mental, intellectual or sensorial deficiency which, in interaction with various barriers, may hinder the full and actual participation of the people in society, under conditions of equality with the others” (Romanian Legislation, Law 292/2011). The government further divides disability into levels of severity (severe, accentuated, and moderate) to determine the appropriate level of assistance required to support each person. Severe disability is the incapacity to do any physical movement, requiring constant attendance. Accentuated disability is the inability to do any work, not requiring constant attendance. “Attendance” refers to the presence of an attendant. This is the person who provides care to a person with disability and has legal rights (European Commission, n.d.). Moderate disability is the loss of at least half of working capacity, but the individual is still able to perform the activity (Mirică & Soare, 2020). Information in this area is scarce: the Romanian government does not publish their classifications readily. Law 448/2006, which introduces the handicap certificate, does not define the levels of disability (Law 448), and neither do any government websites (ANDPDCA). Figure 2.1 shows the disability demographics by type of disability for adults and children.



*Figure 2.1. Number of people with disabilities, by type (ANDPDCA, 2021)*

ANDPCA reports physical impairments is the most common impairment (25% of the disabled population), followed by somatic (20%) and then mental disorders (16%). Physical disorders limit mobility. Somatic disorders include cardiovascular, respiratory, or endocrine diseases. Mental disorders include depression and schizophrenia while neuropsychic disorders include epilepsy and stroke.

## **2.2 Environmental Influence of Struggles for People with Disabilities in Romania**

Disability includes restrictions, barriers, and other limitations people with impairments face (Mirică & Soare, 2020). When businesses, the government, or other organizations do not consider the challenges people with impairments face, they limit individuals' ability to participate in mainstream activities, thus creating social exclusion. This section explores social struggles that result from the exclusion of people with disabilities and worldwide efforts to make resources more accessible for people with disabilities, specifically in terms of technology.

### 2.2.1 Social Struggles

Currently, people with disabilities in Romania face stigmatization and discrimination due to their different abilities. Social inequity leaves people predisposed to isolation, mental health issues, poverty, moral and economic prejudice, and provides them with less opportunity to access basic social services, education, and economic achievements (Angelescu et al., 2016). People with disabilities are often reduced to their impairments, and culture focuses on what the person cannot do, instead of what they can do. Businesses are less likely to hire people with disabilities because they may require more support, higher training costs, different work schedules or other accommodations to reach expected standards (Birau, Dănașică, Spulbar, 2019). In 2018 over 50% of the disabled Romanian were deemed fit to work, but only 14% were employed (Gradea, 2018; Angelescu et al., 2016). Creating a universal approach to inclusivity will help to reduce exclusion as a result of disability (Garland-Thomson, 2017).

### ***2.2.2 Web and Mobile Accessibility***

The World Wide Web Consortium (W3C) and its Web Accessibility Initiative (WAI) are currently working towards improving and addressing accessibility and other related user needs on the web (Henry, Abou-Zahra, Brewer, 2014) by providing guidelines and standards for an accessible website. Other popular approaches of integrating accessibility include progressive enhancement and responsive design. Progressive enhancement is a functionality that will provide a user the basic necessities of a website if the user has limited internet connection, and responsive design is the ability of a webpage to dynamically alter its appearance as necessitated by the user's window or screen dimensions (Henry, Abou-Zahra, Brewer, 2014). Despite current efforts,

website developers in Romania have significant ground to cover before its websites are compliant with these guidelines (Pribeanu et al., 2012).

Elements of web accessibility include the inclusion of alt text (invisible text that describes an image, and can be read by screen reading software), using style sheets to control layout and presentation, and proper tabbing order (navigating buttons and links sequentially by using the “tab” key). The Web Content Accessibility Guidelines (WCAG) in place by the W3C divides into four levels: objectively automated, subjectively automated, semi-automated, and manual. One of the main limitations of accessibility-checking software is that many accessibility guidelines fall under the latter three levels, which all require some level of human input. Subjectively automated guidelines require little human input, but the latter two require not only manual effort, but specialized knowledge and training in the field. Examples of automated guidelines include the presence of alt text, use of high contrast, and the length of sentences; whereas manual guidelines include subjective elements like layout that require human judgment. The fact that many accessibility guidelines are not quantifiable or automatable is a primary reason for website accessibility (Centeno et al., 2006).

According to the Web Accessibility Initiative, mobile accessibility refers to making access to the web easier when on phones and tablets, devices in car dashboards or airplane seatbacks, and more mobile screens. (WAI, n.d.). Though not all of these situations apply to the digital tool, the tool should be accessible to smaller touchscreens, and for people who need considerations like adjusted contrast, different input modalities (voice vs. touch), or adjusted brightness.

## 2.3 Romanian Handicap Certification

The National Strategy on the Social Protection, Integration, and Inclusion of People with Disabilities, defines handicap as “the loss or the limitation of a person’s chances to take part in the community life at an equivalent level as the other members. It describes the interaction between the person and the environment” (National strategy on the social protection, integration, and inclusion of people with disabilities, 2006, p. 6). This is the definition the government uses to grant people with disabilities access to benefits but is now considered discriminatory by some. As a result, future administrative, legislative, and official acts should avoid this language (National Strategy..., 2005). More recent legislation, such as Law 448, uses the term disability and handicap interchangeably.

### 2.3.1 Handicap Recognition

Romanian law no. 448/2006, articles 85 and 89 states that a person must obtain a handicap certificate to have legal recognition as a person with disabilities. This law grants the person access to various facilities, financial benefits, and employment opportunities (Baciu & Lazar, 2017). The process of obtaining the certificate is complex, time-consuming and subjects the recipient to the social stigmas around having a disability, as well as discrimination (Baciu & Lazar, 2017). Overall, the main objective of the certificate is for financial benefits for the person with disability, also known as disability allowance. Furthermore, the government will not issue certificates if they deem the person asking for it is untruthful and taking advantage of the benefits (Baciu et al., 2016).

### 2.3.2 Benefits of Obtaining the Certificate

The legal benefits of obtaining a Romanian disability certificate include the right to a government pension, legal assistance, tax benefits, employment benefits, and protections assuring the access to accommodations sufficient to allow them equal opportunities and inclusivity (Romanian Law, 2006). Additional benefits include access to medical insurance to certain services free of charge (Baciu & Lazar, 2017). The government pension involves two parts: an “indemnity,” and a “complementary personal budget.” As of the bill's passage in 2006, the combined total for a person with a severe handicap is RON 159 (\$36.50) for a person with an accentuated handicap it is RON 207 (\$47.01). A monthly indemnity is not available for Romanians with a moderate handicap; however they are still entitled to a complementary personal budget of RON 30 (\$6.81) per month (Romanian Law, 2006). The government distributes pension, also referred to as the disability allowance, to Romanians with the certificate once a specialist performs a medical assessment. The status of their employment does not impact whether they are granted the allowance (Baciu et al., 2016). Disabled Romanians are entitled to dramatic tax reductions in addition to financial assistance. Persons with a severe or accentuated handicap from income tax, property tax, automotive tax, and several smaller tax benefits (Romanian Law, 2006). Employment benefits are extensive and may include the following as applicable: professional formation courses, reasonable accommodations for the workplace, reduced working hours, and free counseling from a labor mediation counselor (Romanian Law, 2006).

The Romanian Government guarantees free education for all Romanians (Romanian Const. chap. II. art. XXXII). Case by case accommodations by the government must be made for all Romanians with disabilities to ensure that Romanians “shall have a free and equal access to any form of education, irrespective of their age, according to the handicap type, degree and the

educational needs thereof' (Romanian Law, 2006). The ownership of a handicap certificate enables a Romanian to seek the necessary educational accommodations that they need, guaranteed at the expense of the government.

Transportation benefits are another advantage to owning a disability certificate. Law 448/2006 allocates funding for Romanians with mobility issues, granting them access to specific transportation adapted to their needs, free tickets to urban land transportation, and 12 free interurban transportation tickets per annum. Gaining access to benefits the certificate provides is very advantageous for people with disabilities in Romania. The main shortcoming in achieving these benefits is the lack of accessibility in navigating the process to obtain the certificate. It is very difficult to achieve disability status and receive benefits.

### 2.3.3 Process to Obtain the Certificate

The process for obtaining the handicap certificate in Romania is extensive and elaborate. Under Law 448/2006, it is first necessary for social insurance physicians from the County House of Public Pensions to classify the type and severity of the disability, prior to proceeding with the remainder of the process. The classification of the severity and type of disability only occurs if the diagnosed disability is also located in the medical-psychosocial criteria, approved by Order no. 762/1992/2007. The types of disabilities which fit the criteria are physical, somatic, auditory, visual, mental, neuropsychic, associated, HIV/AIDS, rare diseases, and deaf-blindness.

The person going through the process must undergo a complex assessment with a trained professional who examines and estimates the person's development, integration, and social inclusion, interprets the results, and ultimately makes a decision to classify or reject the type and

severity of the disability (Certificat de încadrare, 2018). Currently, the complex assessment is accessible in a remote setting due to the COVID-19 pandemic. From the evaluation, the specialists of the Complex Assessment Service for Adults compile the results into a report (DGASPC, 2018).

In addition to the assessment report, several documents and applications are necessary to submit to obtain the certificate. The first is an application which confirms the applicant allows the processing of their information by the General Directorate of Social Assistance and Child Protection sector 4. Additionally, the person must provide medical letters from both their primary doctor and from a specialist (DGASPC, 2018). These doctor's letters are in addition to the evaluation the physician performs in the complex assessment, totaling three doctor consultations over the process. The primary care doctor letter should include the current status of the disability, and the specialist letter should cover the diagnosis and history of the disability. The applicant must also submit other administrative documents, including an identity card, income documents, and a certificate if the applicant is in a disability or elderly center. The submission of these documents is directly at the registry of the Bucharest municipality local council or online (DGASPC, 2018). Figure 2.2 shows

a simplified version of the handicap certification process in Romania, including the steps within the process, and the necessary documents to submit.

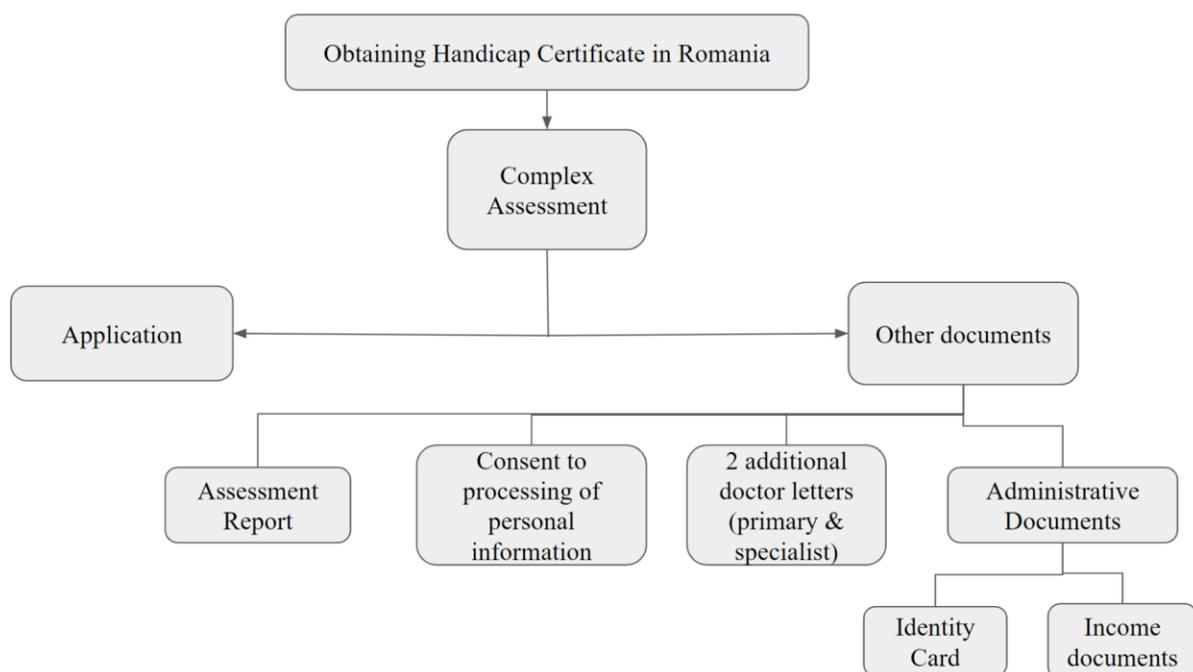


Figure 2.2 Simplified view of handicap certificate process in Romania

During the process to obtain a handicap certificate, the institutional network, shown in Figure 2.3, monitors the steps before the certificate is obtainable by the applicant. Likewise, the decision to approve the application for the certificate is difficult and involves much reassurance for the government and the social insurance county office to feel secure in granting the financial allowances. The government's need for certainty on the decision stems from the fact that the certificate grants the holder financial benefits. This in turn causes the government to become suspicious of fraud and misuse (Baciu et al., 2016). Overall, the concept of receiving the handicap

certificate solely focuses on obtaining the documentation, rather than gaining the applicant support and inclusion (Baciu et al., 2016).

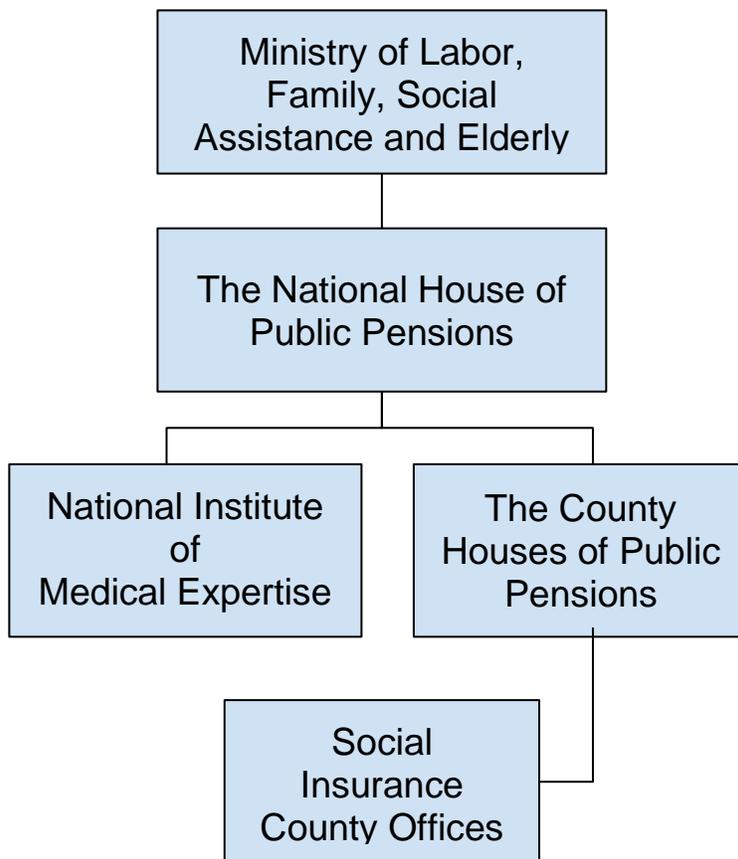


Figure 2.3 Institutional network in Romania

### 2.3.4 Complexities with Obtaining the Certificate

Despite the benefits of obtaining a certificate, people with disabilities are hesitant to get the formal recognition of their disability because they often encounter staff members acting authoritatively or in a condescending manner (Baciu & Lazar, 2017). Parents of children who are diagnosed with disabilities have claimed their disabilities are described by medical specialists as irreversible and a family burden (Hurjui & Hurjui, 2018). Additionally, doctors often treat their beneficiaries as inferiors, rather than educating them on their rights and possible benefits (Baciu

& Lazar, 2017). There is also poor availability of information on the rights and benefits for people with disabilities. Much of the information must be retrieved from several different organizations and is not formalized in one location. Consequently, there is substantial confusion and lack of awareness regarding the rights and protections people with disabilities have access to under the legislation. To gain more clarity on the situation, people with disabilities will often seek the advice of others who have experience with the process already (Baciu & Lazar, 2017). Consequently, the lack of information and awareness on the benefits creates the appearance that it is more beneficial and convenient to remain unrecognized as having disabilities. As a result, many Romanians do not undertake the process to obtain the certificate

## **2.4 Code for Romania**

The significant issues regarding inclusivity for people with disabilities in Romania, stem from the government not prioritizing this vulnerable group previously. In addressing this, several organizations aim to promote awareness and implement improvements around issues. Code for Romania is an independent, non-partisan, non-political, non-governmental organization which addresses a wide variety of problems within the Romanian community using technological solutions. Civic Labs, a branch within Code for Romania, works with ING Banking and Lidl Romania towards digital solutions relating to education of children, healthcare for all citizens, supporting vulnerable groups, and environmental protection. Overall, Civic Labs works to provide inclusivity for all communities within Romania, including vulnerable groups such as people with disabilities. Their mission is to produce the best technological solution to deliver a “scalable, efficient and impactful” tool that any user can access within Romania.

Civic Labs operates by focusing on one problem at a time and developing a strong solution with the goal of it being implemented by another organization. Furthermore, Civic Labs creates the idea to solve the issue by doing sufficient research, brainstorming, and developing a high-fidelity prototype. The collaborators have pre-made components for the interfaces to be consistent in aesthetic. After creating, testing, and finalizing the prototype, it is sent to another organization to be sponsored to develop entirely.

Civic Labs uses a web-based software called Figma to create their prototypes. It is a collaborative application used to design user interfaces and prototypes. Each of Civic Lab's prototypes focus on three user tasks, which are the actions a user may need to do on the application. The prototype then has three flows, or the series of steps to complete a user task. The goal of the prototype is not to show a full application, but to understand if the solution is intuitive.

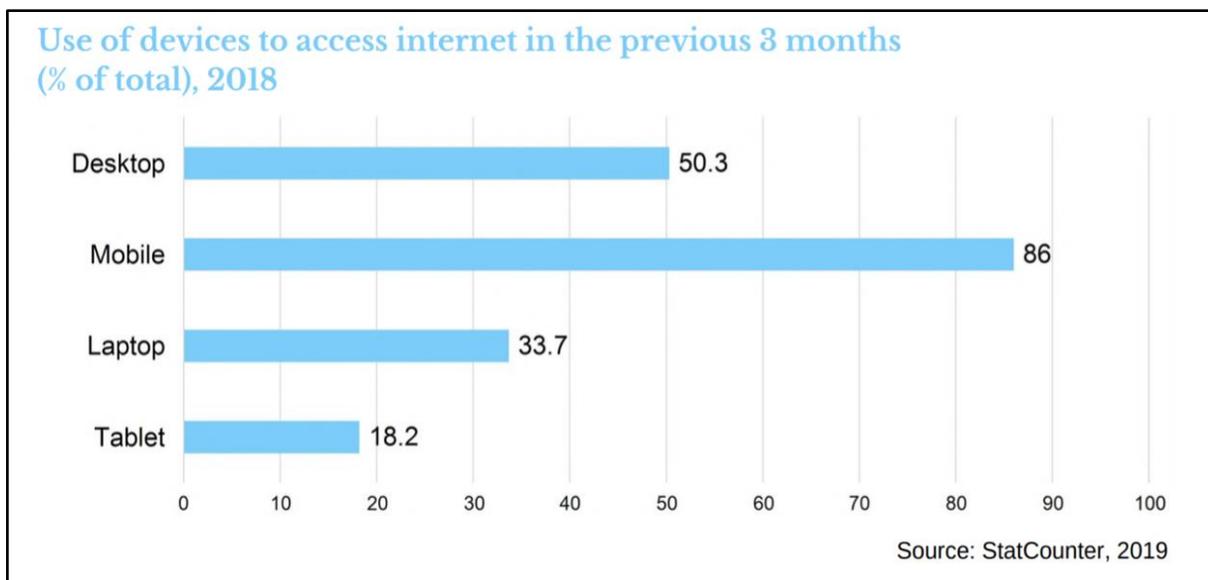
## **2.5 Technology in Romania**

This section examines technology usage in Romania. It includes statistics on the monthly cost of mobile subscriptions, devices people in Romania use to access the internet, and popular social media. The section also covers the limited accessibility of Romanian municipal websites.

### ***2.5.1 Web and Mobile Statistics***

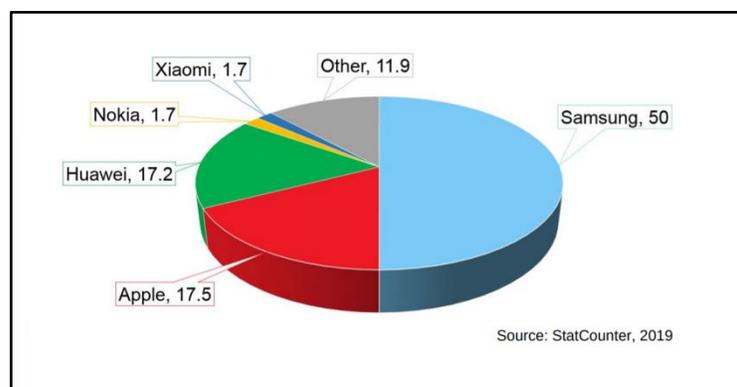
Like most of the world, more than two-thirds of the Romanian population uses the internet. Romania is also ranked top in the world for its extraordinarily high-speed internet as well as its affordable mobile packages. On average, mobile subscription packages range from approximately €7 to €16 per month, which is equivalent to about \$8 to \$18.30 (Holdis, 2019). The use of mobile

devices is the primary avenue for Romanian access to the internet. In 2018, 86% of the Romanian population relied on mobile devices and 50.3% reported using a desktop computer (Holdis, 2019). Figure 2.3 displays the device usage in Romania in terms of percentage of the entire Romanian population.



*Figure 2.4 Romanian use of devices to access internet in the previous 3 months (percent of total), 2018 (Holdis, 2019)*

In Romania, citizens use the internet daily, and the percentage of the Romanian population who use the internet daily increases each year (Holdis, D., 2019). According to the Center for Media, Data and Society, Facebook is the most popular social media platform in Romania and is available on desktop and mobile devices (Holdis, D., 2019). Facebook is accessible to users with various impairments due to it being equipped with built-in features and technologies to support users with disabilities (*Meta Accessibility*, n.d.).



*Figure 2.5 Market of mobile devices (by percent of total pop), 2018-2019 (Holdis, 2019)*

Android devices, including Samsung, are the most common devices in Romania, primarily for their affordability. Figure 2.5 is a pie chart portraying the distribution of the mobile phone market in Romania. Samsung devices are significantly more popular than the others, with a 50% market share in 2018 (Holdis, 2019).

### 2.5.2 Online Accessibility of Municipal Websites

The current state of web accessibility in Romania is largely deficient. According to the National Institute for Research and Development in Informatics in Bucharest and BAUM Engineering's study, Romanian municipal websites are not compliant with international standards, including the World Wide Web Consortium's WCAG 2.0 guidelines, and WAI. The study looked at municipal websites in the 60 largest cities in Romania and evaluated each one against the WCAG 2.0 guidelines. The results showed that on average each website had more than 20 errors per page, an abnormally high number for a webpage (Pribeanu et al., 2012).

At the same time, individuals with disabilities who seek accessibility products and services as well as assistive technologies (AT) face high prices due to lack of market competition, and legislative regulation. Disparities between laws, regulations, and administrative provisions create

barriers for individuals with disabilities. This affects people with disabilities and businesses on the market by minimizing their reach of consumers (Directive (EU) 2019/882 of the European Parliament and of the Council of 17 April 2019 on the Accessibility Requirements for Products and Services, 2019).

### 2.5.3 Usability Heuristics

When making products accessible, such as digital applications, it may be difficult to determine what to consider. In 1994, Jakob Nielsen published a set of principles, or heuristics, that professional evaluators could use as a set criterion to determine a product's usability known as Nielsen Heuristics (Jain, 2015). These usability standards act as a checklist designers should consider ensuring that their product is accessible. Nielsen Heuristics are made of 10 rules which can be found in Table 2.1. User interfaces should aim to follow these principles to provide users the best experience. By taking these standards into consideration from the beginning, the development process goes much quicker when trying to ensure the product is accessible.

Table 2.1 Nielsen Heuristics

#	Heuristic	Abbreviation	Notes
1	Visibility of system status	Visibility	<ul style="list-style-type: none"> <li>· The website keeps the user informed about what is going on through constructive, appropriate and timely feedback.</li> </ul>
2	Match between the system and the real world	Match	<ul style="list-style-type: none"> <li>· Language usage, such as terms, phrases, symbols, and concepts, is similar to that used by the users in their day-to-day environment.</li> <li>· Information is arranged in a natural and logical order.</li> </ul>
3	User control and freedom	Control	<ul style="list-style-type: none"> <li>· Users control the system.</li> <li>· Users can exit the system at any time even when they have made mistakes.</li> <li>· There are facilities for Undo and Redo.</li> </ul>
4	Consistency and adherence to standards	Consistency	<ul style="list-style-type: none"> <li>· Concepts, words, symbols, situations, or actions refer to the same thing.</li> <li>· Common platform standards are followed.</li> </ul>
5	Error prevention, specifically prevention usability-related errors	Error	<ul style="list-style-type: none"> <li>· The system is designed in such a way that the users cannot easily make serious usability errors.</li> <li>· When a user makes an error, the application gives an appropriate error message.</li> </ul>
6	Recognition rather than recall	Recognition	<ul style="list-style-type: none"> <li>· Objects to be manipulated, options for selection, and actions to be taken, are visible.</li> <li>· The user does not need to recall information from one part of a dialogue to another.</li> <li>· Instructions on how to use the system are visible or easily retrievable whenever appropriate.</li> </ul>
7	Flexibility and efficiency of use	Flexibility	<ul style="list-style-type: none"> <li>· The site caters to different levels of users, from novice to experts.</li> <li>· Shortcuts or accelerators, unseen by the novice users, are provided to speed up interaction and task completion by frequent users.</li> </ul>
8	Aesthetic and minimalism in design	Aesthetics	<ul style="list-style-type: none"> <li>· Site dialogues do not contain irrelevant or rarely needed information, which could distract users as they perform tasks.</li> <li>· Displays are simple and multiple page displays are minimized.</li> </ul>
9	Recognition, diagnosis, and recovery from errors	Recovery	<ul style="list-style-type: none"> <li>· Error messages are expressed in plain language.</li> <li>· Error messages indicate precisely what the problem is and give quick, simple, constructive, specific instructions for recovery.</li> </ul>
10	Help and documentation	Help	<ul style="list-style-type: none"> <li>· The site has a help facility and other documentation to support the users' needs.</li> <li>· The information in these documents is easy to search, focused on the user's task, and lists concrete steps to be carried out to accomplish a task.</li> </ul>

## 2.6 Summary

This chapter reviewed Romanian demographics, legislation, and current issues regarding the inclusivity of Romanians with disabilities. The limited inclusion of people with disabilities in Romania remains a significant issue, as it stems from the perception that the extent of the problem

is much less significant than it is. A primary barrier inhibiting Romanians with disabilities from inclusivity is the process of obtaining a handicap certificate. Many people are hesitant to undergo the steps to get the certificate as they are complex, time-consuming, invasive, and unclear. Presenting the certificate process in a more simple and structured way, under one source, would allow people with disabilities to be able to navigate the steps with ease and less confusion. Implementing a resource tool with education regarding the certificate will increase the inclusivity of people with disabilities in Romania.

### 3.0 Methodology

The goal of this project is to collaborate with Civic Labs to propose an informative digital tool that will guide the process of seeking a handicap certification for Romanians with disabilities.

The team established four objectives to achieve this goal:

1. To identify the complexities people with disabilities face when seeking a handicap certification.
2. To identify the best practices to present information through a digital application.
3. To design a digital solution to outline the information needed for the handicap certification process.
4. To evaluate the effectiveness of our design in reducing the complications of seeking a handicap certificate.

The team of WPI undergraduates will spend seven weeks completing these objectives. The project team will work in Worcester, Massachusetts March 14th to March 23rd and then in Bucharest, Romania March 25th to May 3rd, 2022, developing their project in collaboration with Code for Romania.

The IQP will focus on learning about the struggles people with disabilities face when seeking and trying to apply for a handicap certificate and finding the best way to make it easier for them. The process will include developing surveys, conducting interviews with NGOs, analyzing the needs found in interviews, and developing the prototype of a digital solution to outline the process of obtaining a handicap certificate. Organized by objectives, this chapter provides the details of our proposed methods.

### **3.1 Identify Complexities of Obtaining a Handicap Certificate**

The first step in accomplishing the team's goal is to identify the complexities people with disabilities face when obtaining a handicap certification. The team will start with interviewing Romanian or Bucharest-based NGOs whose mission is to assist people with disabilities. Their responses will help provide insight about the current state of accessibility in Romania, as well as the NGO's experiences working to make Romania more inclusive for people with disabilities. The team will analyze responses as a basis to finalize survey and interview questions for people with disabilities.

The researchers will conduct surveys with Romanians with disabilities who have received a handicap certification as well as with those yet to receive a certification. People who have the handicap certificate can provide insight into the challenges of the handicap certificate process. People without handicap certificates may also be able to contribute to this information if they have sought the certificate previously. From this, the researchers will further understand the barriers within the process that inhibit the applicant from obtaining a certificate. If they have not sought the certificate, the team will ask about the barriers the person encountered, and why they did not start the process. The researchers will finally analyze the responses from all participants to understand the complications about navigating the process of acquiring a handicap certificate. The team is also hopeful to gain insight on the best practices to ideally implement the goal based on their input. Figure 3.1 is a graphical outline of the project methods the team will use to complete the objectives.

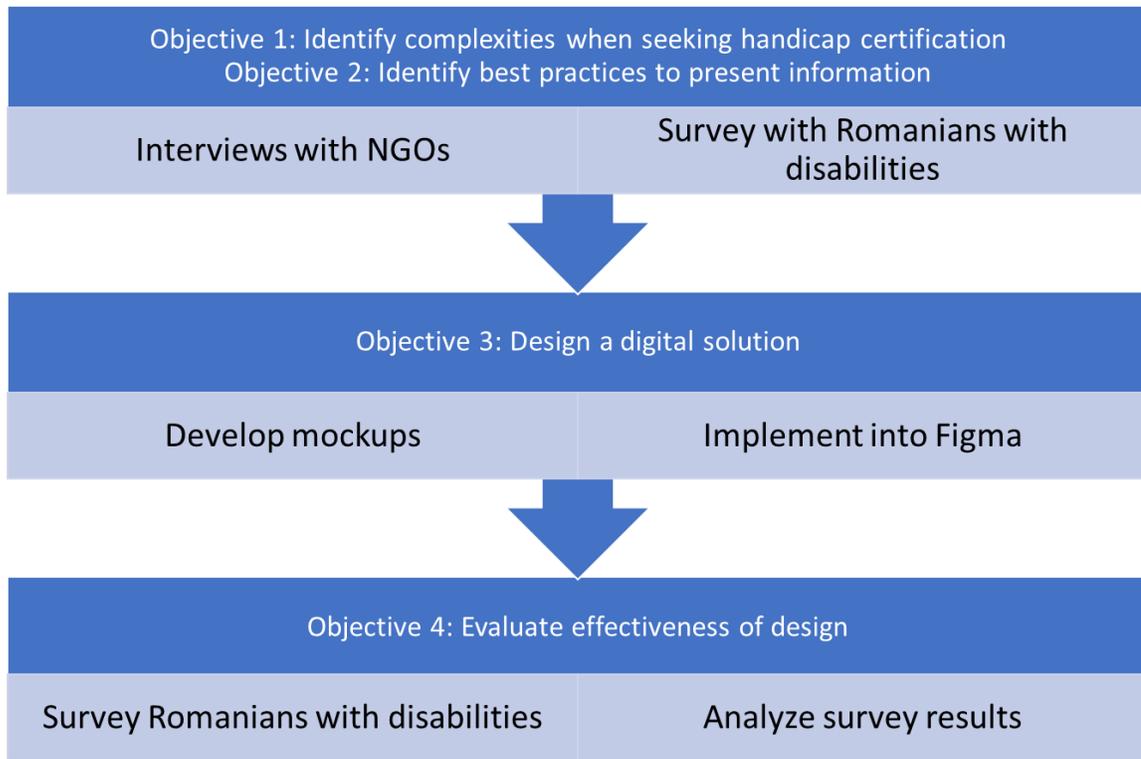


Figure 3.1 Schematic of methods to complete objectives

### 3.1.1 Interviewing NGOs in Romania

The researchers will hold interviews with NGO representatives whose mission is to support people with disabilities. These NGOs can offer perspective into the current climate of accessibility in Romania and may have insight into the legislation surrounding protecting people with disabilities' rights.

To accomplish objective one, the team will begin with reaching out to NGOs identified in Table 3.1. The team identified NGOs to reach out to via the collaborator and research online. The team will contact NGOs via emails found on their websites, with the introduction presented in Appendix B: Email Introduction for Interviews. The introduction will introduce the project team, explain the purpose of reaching out to the NGO, state the goal of the project, justify why the

interview is not confidential, and conclude with the group's contact information to address any questions or concerns.

While scheduling interviews, the team will plan logistics. The interview may take place in person or online, depending on the team's location or the interviewee's preference. If the interviewee does not speak English, the team will ask for a volunteer from Civic Labs or a student from the University of Bucharest to sit in on the interview and translate.

During each interview, there will be two members of the research group attending. One member will act as the interviewer and the other as the note-taker. The interviewer will begin by obtaining consent from the participant to record the session, as well as informing them that they are allowed to skip the question or end the session at any point, as described in Appendix B: Interviews with NGOs: Introduction and Questions.

Interview questions, as described in Appendix B: Interviews with NGOs: Introduction and Questions, will cover the topics of their organization's goals, how they have assisted people with disabilities, if they have assisted people with the handicap certificate process, and how they relay information to the people they assist.

*Table 3.1 Romanian NGOs supporting individuals with disabilities*

<b>Name of NGO</b>	<b>NGO Website</b>	<b>NGO Focus</b>
Association for Blind People in Romania (RAB)	<a href="https://www.anvr.ro/">https://www.anvr.ro/</a>	Social, accessibility, educational services for the blind
Association of Alternative Methods of Social Integration	<a href="https://amais.ro/despre-noi/">https://amais.ro/despre-noi/</a>	Inclusive architecture, technology, social projects
Estuar Foundation	<a href="https://sites.google.com/site/adulteduinmentalhealth/about-me/estuar-foundation">https://sites.google.com/site/adulteduinmentalhealth/about-me/estuar-foundation</a>	Adult education in mental health/training/support
Foundation For You	<a href="https://zeroproject.org/practice/romania-pentru-voi/">https://zeroproject.org/practice/romania-pentru-voi/</a>	Innovative accessibility solutions for all
Motivation Foundation	<a href="https://motivation.ro/en/about-us/">https://motivation.ro/en/about-us/</a>	Freedom of movement to persons with mobile disabilities, run by people with disabilities
National Association of the Deaf in Romania	<a href="https://ansr.org.ro/en/homepage/">https://ansr.org.ro/en/homepage/</a>	Support for the deaf
RENINCO Association in Romania	<a href="https://www.reninfo.ro/">https://www.reninfo.ro/</a>	Promotion inclusive education for children with learning disabilities
Romanian Angel Appeal	<a href="https://www.raa.ro/en/">https://www.raa.ro/en/</a>	Promotion inclusive education/ experiences for children with learning disabilities

### **3.2 Identifying the Best Practices to Present Information Digitally**

The team's second objective is to identify the best practices to present information through a digital application. The team will determine the best ways to present information

digitally by asking NGOs' their methods in the interviews described in Section 3.1.1

Interviewing NGOs in Romania. The team will also gain input from people with disabilities through surveys. Analysis will occur for all three research methods: interviews with NGOs, online surveys for people with disabilities, and interviews with people with disabilities.

### 3.2.1 Online Survey with People with Disabilities in Romania

The team used Qualtrics, an online survey software to develop an online survey for people with disabilities. The survey is intended for people with disabilities, with or without a handicap certificate. The respondents will be Romanian people aware of NGOs that support people with disabilities and those that use social media.

With the help of Civic Lab's communication manager, the researchers will obtain contact information for various local NGOs, found in Table 3.1, who can assist in distributing the online survey to people with disabilities in Romania via email. Given the shortened time frame of when the group will be in Romania, distributing the link via email to our target audience will help the team to reach a portion of the target sample.

In addition to NGO sources, the team has identified Facebook communities as an effective means of getting in contact with people with disabilities and reaching the target audience. Disability support groups and NGO pages are publicly available on Facebook, and the team will post the survey directly to the public pages. To prevent participants from submitting the survey twice, Qualtrics's security settings can detect and block multiple submissions, thus ensuring the data's integrity.

Appendix D: Survey Questions for People with Disabilities will begin with an introduction for the project, the topics mentioned in the survey, an estimated completion time, a confidentiality clause, and a consent to participate clause. To ensure the safety and privacy of the participants, the

introduction of the survey will inform individuals that the survey is anonymous and voluntary. Individuals will be free to skip any question or stop at any point throughout completion. Some survey questions will include an ‘other’ open-ended response option to allow respondents to freely express their opinions and experiences for appropriate questions.

The survey questions, presented in Appendix D: Survey Questions for People with Disabilities, will start with asking the respondent to provide general information such as gender, age, and disability type to understand the demographics of the participation pool. For individuals with a handicap certification, there is a section with questions focused on their experience on the issuance of the handicap certification, including any difficulties and challenges they faced. For participants without the certificate, the survey will focus on why the individuals do not have the certificate or what prevented them from obtaining it if they wished to obtain it. The survey will then ask about their technology preferences to narrow down the potential characteristics of the digital tool. The questions will be available in both English and Romanian so the respondents may answer in their preferred language.

### 3.2.2 Analysis of Survey and Interview Responses

As responses for the online survey and interviews come in, the team will analyze the results. The team will begin their analysis of the survey by using summary statistics for close-ended questions. The analysis of interviews with NGOs will be crucial to finalizing survey questions before posting it or sending it out via email. Based on the findings, the team will be adjusting their survey accordingly. Additionally, the interviews with NGOs will give insight on how they distribute information and the most effective ways they’ve used. For the survey

responses, the team can establish difficulties experienced by people with disabilities as well as their preferences for personal technology usage.

### **3.3 Designing a Digital Solution**

The third objective is to design a digital solution to outline the information needed for the handicap certification process. To achieve this, the team will start by developing possible mockups of different screens of the application, followed by creating the prototype.

To complete this object, the team will first be developing potential solutions and creating mockups of the screen layouts. Similar to Civic Labs' prototypes, the team will establish three user tasks by using the digital tool based on the results of the interviews and surveys. The user tasks will determine what screens will be necessary for the prototype. The researchers will also need to consider Nielsen Heuristics to ensure usability and accessibility in the digital tool. Throughout this phase, the researchers will be asking for feedback from their collaborators and advisors to determine which mockups showcase the best configuration for the information.

Once determining the screen layouts, the mockups will be referenced to create the prototype using Figma. One of the members of the team has previous experience with utilizing the software to create prototypes and will be able to help teach other members how to use the tool. Additionally, the researchers will be able to consult with the Civic Labs team for any advice on using Figma and further feedback on the prototype.

### **3.4 Evaluating its Effectiveness**

On the completion of the prototype, the final prototype will be sent out through email and social media to be assessed by people with disabilities. The prototype can be sent via a link produced by Figma along with a Qualtrics survey. The team will ask participants to use and interact

with the prototype. Following this, the researchers will send a survey to complete in order to determine if the presentation of information within the prototype was communicated clearly and if the design was intuitive. After collecting their responses, the team will determine possible improvements and propose them in the results section of the IQP final report.

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## Appendix A: Email introduction for Interviews with NGOs

### English

Hello, we are a team of four undergraduate students from a small science and technology school in Worcester, Massachusetts, US, called Worcester Polytechnic Institute. Our names are Sophia Calandrello, Charlotte Kokernak, Evelyn Tran, and John Clewley.

We are requesting an interview with a member of your organization about what your organization does and its role in assisting people with disabilities.

This interview will ask about your organization's experience helping people with disabilities and how your organization presents important information to people with disabilities. The goal of this interview is to help our team propose an informative digital tool that will guide the process of seeking a handicap certificate for Romanians with disabilities. Our collaborator, Code for Romania (<https://code4.ro/ro>), will assist us in reaching this goal.

We will ask for your consent to participate and record this interview prior to its commencement. We will associate your name and organization in our report, and answers will not remain confidential or anonymous.

Completion of this interview should take approximately 10-15 minutes. You may stop at any time or skip any questions presented. Comments, questions, and concerns can be addressed at [gr-C-Labs-D22@wpi.edu](mailto:gr-C-Labs-D22@wpi.edu).

## Română

Bună ziua, suntem o echipă de patru studenți de la o mică școală de știință și tehnologie din Worcester, Massachusetts, SUA, numită Worcester Polytechnic Institute. Numele noastre sunt Sophia Calandrello, Charlotte Kokernak, Evelyn Tran și John Clewley.

Solicităm un interviu cu un membru al organizației dumneavoastră despre ceea ce face organizația dumneavoastră și rolul acesteia în asistența persoanelor cu dizabilități.

Acest interviu va întreba despre experiența organizației dumneavoastră în a ajuta persoanele cu dizabilități și despre modul în care organizația dumneavoastră prezintă informații importante persoanelor cu dizabilități. Scopul acestui interviu este de a ajuta echipa noastră să propună un instrument digital informativ care să ghideze procesul de căutare a unui certificat de handicap pentru românii cu dizabilități. Colaboratorul nostru, Code for Romania (<https://code4.ro/ro>), ne va ajuta în atingerea acestui obiectiv.

Vă vom cere acordul pentru a participa și a înregistra acest interviu înainte de începerea acestuia. Vă vom asocia numele și organizația în raportul nostru, iar răspunsurile nu vor rămâne confidențiale sau anonime.

Finalizarea acestui interviu ar trebui să dureze aproximativ 10-15 minute. Vă puteți opri în orice moment sau puteți sări peste orice întrebări prezentate. Comentariile, întrebările și preocupările pot fi adresate la [gr-C-Labs-D22@wpi.edu](mailto:gr-C-Labs-D22@wpi.edu).

## **Appendix B: Interviews with NGOs: Introduction and Questions**

### **English**

Hello, our names are Sophia, John, Evelyn, and Charlotte (exclude names of those not present.) We are conducting research for Worcester Polytechnic Institute in the United States of America for a project meant to help people with disabilities in Romania have an easier time understanding the process to receive a handicap certificate. Thank you for taking time to let us ask you questions about your organization and experience helping people with disabilities. We need to inform you that information given in this interview will not be confidential, and your or your organization's name may be attached to our results. You are allowed to stop the interview or skip any questions. To easily transcribe this interview, we are asking for your permission to record this interview. Do we have your permission?

If yes, begin recording. Confirm "Now that we are recording, can you confirm we have your permission to record?"

1. Tell us about your organization (what does it work towards/what is the goal of your organization/what demographic does it serve)?
2. What is your role in the organization?
3. What service or benefits do you aim to provide for your demographic?
4. In your experience, what are the best ways to distribute information online?
  - a. A website or mobile app with a list of information or a decision flowchart?
5. What do you know about the handicap certification process in Romania?
6. Has your organization helped people with disabilities get certified?

- a. What have you heard from people who have tried to go through the certification process?
  - b. What are some issues that you see in the process if there are any?
7. Would you or your organization be willing to assist us in distributing a survey?
8. How do you think that the process can be improved? What could help make the process go smoother or become easier to navigate as a person with disabilities in Romania?

## Română

Bună ziua, ne numesc Sophia, John, Evelyn și Charlotte (exclueți numele celor care nu sunt prezenți.) Facem cercetări pentru Institutul Politehnic Worcester din Statele Unite ale Americii pentru un proiect menit să ajute persoanele cu dizabilități din România să aibă o situație mai ușoară. timp înțelegerea procesului pentru a primi un certificat de handicap. Vă mulțumim pentru timpul acordat pentru a vă pune întrebări despre organizația dvs. și experiența în a ajuta persoanele cu dizabilități. Trebuie să vă informăm că informațiile furnizate în acest interviu nu vor fi confidențiale, iar numele dumneavoastră sau al organizației dumneavoastră poate fi atașat la rezultatele noastre. Aveți voie să opriți interviul sau să omiteți orice întrebări. Pentru a transcrie cu ușurință acest interviu, vă cerem permisiunea de a înregistra acest interviu. Avem permisiunea ta?

Dacă da, începeți înregistrarea. Confirmați „Acum că înregistrăm, puteți confirma că avem permisiunea dvs. de a înregistra?”

1. Spune-ne despre organizația ta (Spre ce lucrează/care este scopul organizației tale/ce anume demografie servește)?
2. Care este rolul dumneavoastră în organizație?
3. Ce servicii sau beneficii intenționați să oferiți pentru populația dvs.?
4. Cum v-ați implicat în această organizație?
  - a. Care este rolul tău actual aici?
5. Cum ajută organizația dumneavoastră persoanele cu dizabilități?

6. Din experiența dumneavoastră, care sunt cele mai bune modalități de a distribui informații online?
  - a. Ar putea veni acest lucru sub forma unui pdf postat pe rețelele de socializare?
  - b. Sau un site web sau o aplicație mobilă cu o listă de informații sau o diagramă de decizie?
7. Dvs. sau organizația dvs. ați fi dispus să ne ajutați în distribuirea unui sondaj?
8. Ce știi despre procesul de certificare a handicapului din România?
9. A ajutat organizația dumneavoastră persoanele cu dizabilități să obțină certificare?
  - a. Ce ați auzit de la oameni care au încercat să treacă prin procesul de certificare?
  - b. Care sunt unele probleme pe care le vedeți în proces, dacă există?
10. Cum credeți că procesul poate fi îmbunătățit? Ce ar putea ajuta ca procesul să meargă mai ușor sau să devină mai ușor de navigat ca persoană cu dizabilități în România?

## Appendix C: Facebook/Email Advertising for Surveys

### English

Hello, we are a team of four undergraduate students from a science and technology school in Worcester, Massachusetts in the United States, called Worcester Polytechnic Institute. Our names are Sophia Calandrello, Charlotte Kokernak, Evelyn Tran, and John Clewley.

Below we have linked a survey for people with disabilities in Romania inquiring about the process of receiving a Romanian Handicap certificate and technology usage. The results will assist us in our project meant to help people with disabilities in Romania have an easier time finding the information to receive a handicap certificate, which we are working on with our collaborator, Code for Romania (<https://code4.ro/ro>).

We encourage people with all types and levels of disabilities and impairments to participate, regardless of handicap certification status.

Completion of this survey should take approximately 5-10 minutes. Responses are voluntary, and you may complete the survey in either Romanian or English. Qualtrics, our survey software, will record your email address, however the researchers will not have access to your email. There is no risk when choosing to participate in this survey. You may stop at any time or skip any questions.

## **Română**

Bună ziua, suntem o echipă de patru studenți de la școală de știință și tehnologie din Worcester, Massachusetts, Statele Unite, numită Worcester Polytechnic Institute. Numele noastre sunt Sophia Calandrello, Charlotte Kokernak, Evelyn Tran și John Clewley.

Mai jos am legat un sondaj pentru persoanele cu dizabilități din România care se întrebă despre procesul de primire a certificatului de Handicap românesc și despre utilizarea tehnologiei. Rezultatele ne vor ajuta în proiectul nostru menit să ajutăm persoanele cu dizabilități din România să găsească mai ușor informațiile pentru a primi un certificat de handicap, la care lucrăm împreună cu colaboratorul nostru, Code for Romania (<https://code4.ro/>). ro ).

Încurajăm persoanele cu toate tipurile și nivelurile de dizabilități și deficiențe să participe, indiferent de statutul de certificare cu handicap.

Completarea acestui sondaj ar trebui să dureze aproximativ 5-10 minute. Răspunsurile sunt voluntare și puteți completa sondajul în română sau engleză. Qualtrics, software-ul nostru de sondaj, va înregistra adresa dvs. de e-mail, cu toate acestea, cercetătorii nu vor avea acces la e-mailul dvs. Nu există niciun risc atunci când alegeți să participați la acest sondaj. Vă puteți opri oricând sau puteți sări peste orice întrebare.

## Appendix D: Survey Questions for People with Disabilities

### English

#### Introduction

Hello!

We are a team of four undergraduate students from a small science and technology school in Worcester, Massachusetts in the United States, called Worcester Polytechnic Institute. Our names are Sophia Calandrello, Charlotte Kokernak, Evelyn Tran, and John Clewley.

Below we have linked a survey for people with disabilities in Romania inquiring about the process of receiving a Romanian Handicap certificate and technology usage. The results will assist us in our project meant to help people with disabilities in Romania have an easier time finding the information to receive a handicap certificate, which we are working on with our collaborator, Code for Romania (<https://code4.ro/ro> ).

We encourage people with all types and levels of disabilities and impairments to participate, regardless of handicap certification status.

Completion of this survey should take approximately 5-10 minutes. Responses are voluntary, and you may complete the survey in either Romanian or English. Qualtrics, our survey software, will record your email address, however the researchers will not have access to your email. There is no risk when choosing to participate in this survey. You may stop at any time or skip any questions. By checking this box, the participant is consenting to participate in this study.

By checking below, the participant is consenting to participate in this study.

I consent to participate in this study. (1)

## Requirements

Q1 Do you have a disability?

No (1)

Yes (2)

Prefer not to say (3)

*Skip To: End of Survey If Do you have a disability? = No*

Q2 How old are you?

Under 18 (1)

18-24 years old (2)

25-34 years old (3)

35-44 years old (4)

45-54 years old (5)

55-64 years old (6)

65+ years old (7)

Prefer not to say (8)

*Skip To: End of Survey If How old are you? = Under 18*

## General Questions

Q1 Do you currently reside in Romania?

Yes (1)

No (2)

Q2 How do you describe yourself?

Male (1)

Female (2)

Non-binary / third gender (3)

Prefer to self-describe (4) \_\_\_\_\_

Prefer not to say (5)

Q3 What is the highest degree or level of education you have completed?

- Secondary (1)
- Upper Secondary (2)
- Post-Secondary (3)
- Bachelor's degree (4)
- Master's degree (5)
- Ph.D. or higher (6)
- Vocational (7)
- Prefer not to say (8)

Q4 What type of disability do you have? Check all that apply

- Physical (example: limited movement) (1)
- Visual (2)
- Auditory (3)
- Deafblindness (4)
- Somatic (5)

- Mental (example: depression, anxiety, schizophrenia) (6)
- Psychic (Autism, Downs Syndrome) (7)
- HIV/AIDS (8)
- Associated (9)
- Rare (10)
- Other (11) \_\_\_\_\_
- Prefer not to say (12)

Q5 Have you ever been issued a Romanian handicap certificate?

- Yes (1)
- No (2)

*Skip To: With Certification If Have you ever been issued a Romanian handicap certificate? = Yes*

*Skip To: Without Certification If Have you ever been issued a Romanian handicap certificate? =*

*No*

With Certification

Q1 When did you receive the handicap certificate?

- Within the past year (1)
- 1-5 years ago (2)
- 6-10 years ago (3)
- 11-15 years ago (4)
- 16-20 years ago (5)
- 20+ years ago (6)

Q2 Select the difficulty of each given prompt that most applied to you.

	Extremely difficult (1)	Somewhat difficult (2)	Neither easy nor difficult (3)	Somewhat easy (4)	Extremely easy (5)
Finding information on the process online (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Completing the Complex Assessment (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Obtaining  
medical letter  
from doctor  
(3)

Obtaining  
letter from  
specialist on  
diagnosis (4)

Submitting  
administrative  
documents  
(identity card,  
employment  
status, etc.) (5)

Q3 What, if any, complications did you experience when gaining the certificate?

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Without Certification

Q1 Have you ever applied for a Romanian handicap certificate?

Yes (1)

No (2)

Q2 If you checked “No” to the Q1, have you ever started the process?

Yes (1)

No (2)

Q3 For what reasons do you not have a handicap certificate? Check all that apply

Applied but were denied (1)

Benefits were not substantial (2)

Process was too complex (3)

- Was not aware of the certificate (4)
- Was not aware of the available benefits (5)
- Other (6) \_\_\_\_\_

Q4 What benefits of the certificate are you aware of?

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### Digital/Technology Usage

Q1 What devices do you own? Check all that apply

- Smartphone (1)

- Tablet (2)
- Laptop (3)
- Desktop (4)
- Other (5) \_\_\_\_\_
- Prefer not to answer (6)

Q2 Which device do you use most?

- Smartphone (1)
- Tablet (2)
- Laptop (3)
- Desktop (4)
- Other (5) \_\_\_\_\_
- Prefer not to answer (6)

Q3 If you had a choice between desktop/laptop, mobile phone or a mobile tablet, which device would you choose to get more information on the handicap certification process?

- Desktop/laptop (1)
- Smartphone (2)
- Tablet (3)
- No preference (4)

Q4 If you have a choice between a website and a mobile app, which would you typically choose?

- Website (1)
- Mobile App (2)
- No preference (3)

## Closing

By clicking below, responses will be recorded and submitted to the project team. Thank you for your participation in our survey.

- I'd like to submit my response. (1)

## **Română**

### Introduction

Salut!

Suntem o echipă de patru studenți de la o mică școală de știință și tehnologie din Worcester, Massachusetts, Statele Unite, numită Worcester Polytechnic Institute. Numele noastre sunt Sophia Calandrello, Charlotte Kokernak, Evelyn Tran și John Clewley.

Mai jos am legat un sondaj pentru persoanele cu dizabilități din România care se întrebă despre procesul de primire a certificatului de Handicap românesc și despre utilizarea tehnologiei. Rezultatele ne vor ajuta în proiectul nostru menit să ajutăm persoanele cu dizabilități din România să găsească mai ușor informațiile pentru a primi un certificat de handicap, la care lucrăm împreună cu colaboratorul nostru, Code for Romania (<https://code4.ro/>). ro ).

Încurajăm persoanele cu toate tipurile și nivelurile de dizabilități și deficiențe să participe, indiferent de statutul de certificare cu handicap.

Completarea acestui sondaj ar trebui să dureze aproximativ 5-10 minute. Răspunsurile sunt voluntare și puteți completa sondajul în română sau engleză. Qualtrics, software-ul nostru de sondaj, va înregistra adresa dvs. de e-mail, cu toate acestea, cercetătorii nu vor avea acces la e-mailul dvs. Nu există niciun risc atunci când alegeți să participați la acest sondaj. Vă puteți opri oricând sau puteți sări peste orice întrebare. Bifând această casetă, participantul este de acord să participe la acest studiu.

Prin bifarea acestei casete, participantul este de acord să participe la acest studiu.

Consent Bifând mai jos, participantul își dă acordul să participe la acest studiu.

Sunt de acord să particip la acest studiu. (1)

### Cerințe

Q1 Ai o dizabilitate?

Da (1)

Nu (2)

Prefer să nu spun (3)

*Skip To: End of Survey If Ai o dizabilitate? = Nu*

Q2 Cati ani ai?

- Sub 18 (1)
- 18-24 (2)
- 25-34 (3)
- 35-44 (4)
- 45-54 (5)
- 55-64 (6)
- 65 și peste (7)
- Prefer să nu răspund (8)

*Skip To: End of Survey If Cati ani ai? = Sub 18*

Intrebari generale

Q1 În prezent locuiți în România?

- Da (1)
- Nu (2)

Q2 Cum te descrii?

- Masculin (1)

- Femeie (2)
- Non-binar / al treilea gen (3)
- Prefer să se auto-descrie (4) \_\_\_\_\_
- Prefer să nu spun (5)

Q3 Care este cel mai înalt grad sau nivel de studii pe care l-ați absolvit?

- Secundar (1)
- Secundar superior (2)
- Post secundar (3)
- Licențiat (4)
- Masterat (5)
- Ph.D. sau mai sus (6)
- Vocational (7)
- Prefer să nu răspund (8)

Q4 Ce tip de handicap ai? Bifați tot ce se aplică

- Fizic (exemplu: mișcare limitată) (1)

- Vizual (2)
- Auditiv (3)
- Surdocecitate (4)
- Somatic (5)
- Mental (de exemplu: depresie, anxietate, schizofrenie) (6)
- Psihic (autism, sindrom Down) (7)
- HIV/SIDA (8)
- Asociat (9)
- Rar (10)
- Alte (11) \_\_\_\_\_
- Prefer să nu răspund (12)

Q5 Vi s-a eliberat vreodată un certificat de handicap românesc?

- Da (1)
- Nu (2)

## Cu Certificare

Q1 In ce an ai primit certificatul de handicap?

- În ultimul an (1)
- acum 1-5 ani (2)
- acum 6-10 ani (3)
- acum 11-15 ani (4)
- acum 16-20 de ani (5)
- acum 20 de ani (6)

Q2 Selectați dificultatea fiecărei solicitări date care vi s-a aplicat cel mai mult

	Extrem de dificil (1)	Oarecum dificil (2)	Nici ușor, nici dificil (3)	Oarecum ușor (4)	Extrem de ușor (5)
Găsirea online a informațiilor despre proces (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Finalizarea Evaluării Complexe (2)	<input type="radio"/>				
Obținerea scrisorii medicale de la medic (3)	<input type="radio"/>				
Obținerea scrisorii de la specialist cu privire la diagnostic (4)	<input type="radio"/>				
Depunerea documentelor administrative (carte de identitate, statut de angajare etc.) (5)	<input type="radio"/>				

Q3 Ce complicații ați întâmpinat, dacă există, la obținerea certificatului?

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## Fara Certificare

Q1 Ați aplicat vreodată pentru un certificat de handicap românesc?

Da (1)

Nu (2)

Q2 Dacă ați bifat „Nu” la întrebarea anterioară, ați început vreodată procesul?

Da (1)

Nu (2)

Q3 Din ce motive nu ai certificat de handicap? Bifați tot ce se aplică

Aplicat, dar au fost refuzați (1)

Beneficiile nu au fost substanțiale (2)

Procesul a fost prea complex (3)

Nu era la curent cu certificatul (4)

Nu era conștient de beneficiile disponibile (5)

Alte (6) \_\_\_\_\_

Q4 De ce beneficii ale certificatului cunoașteți în prezent?

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### Întrebări digitale

Q1 Ce dispozitive dețineți? Bifați tot ce se aplică

- Smartphone (1)
- Comprimat (2)
- Laptop (3)
- Desktop (4)
- Alte (5) \_\_\_\_\_
- Prefer să nu răspund (6)

Q2 Ce dispozitiv folosești cel mai mult?

- Smartphone (1)
- Comprimat (2)

- Laptop (3)
- Desktop (4)
- Alte (5) \_\_\_\_\_
- Prefer să nu răspund (6)

Q3 Dacă ați avea de ales între desktop/laptop, telefon mobil sau tabletă mobilă, ce dispozitiv ați alege pentru a obține mai multe informații despre procesul de certificare a handicapului?

- Desktop/laptop (1)
- Smartphone (2)
- Comprimat (3)
- Nici o preferință (4)

Q4 Dacă aveți de ales între un site web și o aplicație mobilă, pe care ați alege de obicei?

- Site-ul web (1)
- Aplicație mobilă (2)
- Nici o preferință (3)

## Închidere

Q1 Făcând clic mai jos, răspunsurile vor fi înregistrate și transmise echipei de proiect. Vă mulțumim pentru participarea la sondajul nostru.

Aș dori să trimit răspunsul meu. (1)

## Appendix E: Informed Consent Agreement for Participation in a Research Study

### English

### Informed Consent Agreement for Participation in a Research Study

**Investigators:** John Clewley, Sophia Calandrello, Charlotte Kokernak, Evelyn Tran

**Contact Information:** gr-c-labs-d22@wpi.edu

**Title of Research Study:** Accessible Digital Tools for Romanians with Disabilities

**Sponsor:** Code for Romania: Civic Labs

### Introduction

You are being asked to participate in a research study. Before you agree, however, you must be fully informed about the purpose of the study, the procedures to be followed, and any benefits, risks or discomfort that you may experience as a result of your participation. This form presents information about the study so that you may make a fully informed decision regarding your participation.

**Purpose of the study:** The goal of this study is to find the information we need to design a digital tool that will outline and simplify the process of receiving a handicap certification in Romania for people with disabilities. The purpose of interviewing/creating a survey is to learn more about the Romanian handicap certificate and its process from people who have experienced it or heard about the experience.

**Procedures to be followed:** We will request participation via email or social media. Introduction to each study procedure will start with an introduction to our project, explaining their right to refuse any questions, and recording consent to participate with a digital signature or verbal audio-recorded consent. Participation in the survey should take 5-10 minutes. Participation in the interview should take 30 minutes to an hour.

**Risks to study participants:** There are no foreseeable risks of participating in this survey.

**Benefits to research participants and others:** No benefits for study participants.

**Record keeping and confidentiality:** Study records will be kept by the investigators. Only the investigators will have access to the records. Study participants will not be required to identify themselves or reveal any information about their demographics.

Records of your participation in this study will be held confidential so far as permitted by law. However, the study investigators, the sponsor or its designee and, under certain circumstances, the Worcester Polytechnic Institute Institutional Review Board (WPI IRB) will be able to inspect

and have access to confidential data that identify you by name. Any publication or presentation of the data will not identify you.

**Compensation or treatment in the event of injury:** There is no risk of injury or harm from this survey. There is no compensation or treatment in the event of an injury. You do not give up any of your legal rights by signing this statement.

**For more information about this research or about the rights of research participants, or in case of research-related injury, contact:**

1. [gr-c-labs-d22@wpi.edu](mailto:gr-c-labs-d22@wpi.edu)
2. *Worcester Polytechnic Institute IRB Manager Ruth McKeogh*, Tel. 508 8316699, Email: [irb@wpi.edu](mailto:irb@wpi.edu)
3. *Worcester Polytechnic Institute Human Protection Administrator Gabriel Johnson*, Tel. 508-831-4989, Email: [gjohnson@wpi.edu](mailto:gjohnson@wpi.edu)

**Your participation in this research is voluntary.** Your refusal to participate will not result in any penalty to you or any loss of benefits to which you may otherwise be entitled. You may decide to stop participating in the research at any time without penalty or loss of other benefits. The project investigators retain the right to cancel or postpone the experimental procedures at any time they see fit. Should a participant wish to withdraw from the study after it has begun, the following procedures should be followed: contact [gr-c-labs0d22@wpi.edu](mailto:gr-c-labs0d22@wpi.edu). There are no consequences for early withdrawal for the subject.

**By signing below**, you acknowledge that you have been informed about and consent to be a participant in the study described above. Make sure that your questions are answered to your satisfaction before signing. You are entitled to retain a copy of this consent agreement.

\_\_\_\_\_

Date: \_\_\_\_\_

Study Participant Signature

\_\_\_\_\_

Study Participant Name (Please print)

\_\_\_\_\_

Date: \_\_\_\_\_

Signature of Person who explained this study

**Special Exceptions:** Under certain circumstances, an IRB may approve a consent procedure which differs from some of the elements of informed consent set forth above. Before doing so, however, the IRB must make findings regarding the research justification for different procedures (i.e. a waiver of some of the informed consent requirements must be necessary for the research is to be “practicably carried out.”) The IRB must also find that the research involves “no more than minimal risk to the subjects.” Other requirements are found at 45 C.F.R. §46.116.

**Română**

## **Acord de consimțământ informat pentru participarea la un studiu de cercetare**

**Anchetatori:** John Clewley, Sophia Calandrello, Charlotte Kokernak, Evelyn Tran

**Informații de contact:** gr-c-labs-d22@wpi.edu

**Titlul studiului de cercetare:** Instrumente digitale accesibile pentru românii cu dizabilități

**Sponsor:** Cod pentru România: Civic Labs

### **Introducere**

Vi se cere să participați la un studiu de cercetare. Cu toate acestea, înainte de a fi de acord, trebuie să fiți pe deplin informat cu privire la scopul studiului, procedurile care trebuie urmate și orice beneficii, riscuri sau disconfort pe care le puteți experimenta ca urmare a participării dumneavoastră. Acest formular prezintă informații despre studiu, astfel încât să puteți lua o decizie pe deplin informată cu privire la participarea dumneavoastră.

**Scopul studiului:** Scopul acestui studiu este de a găsi informațiile de care avem nevoie pentru a proiecta un instrument digital care va contura și simplifica procesul de primire a certificării de handicap în România pentru persoanele cu dizabilități. Scopul interviului/creării unui chestionar este de a afla mai multe despre certificatul de handicap românesc și despre procesul acestuia de la persoane care l-au experimentat sau au auzit despre experiență.

**Proceduri de urmat:** Vom solicita participarea prin e-mail sau rețelele sociale. Introducerea fiecărei proceduri de studiu va începe cu o introducere în proiectul nostru, explicând dreptul lor de a refuza orice întrebări și înregistrarea consimțământului de participare cu o semnătură digitală sau consimțământ verbal înregistrat audio. Participarea la chestionar ar trebui să dureze 5-10 minute. Participarea la interviu ar trebui să dureze între 30 de minute și o oră.

**Riscuri pentru participanții la studiu:** Nu există riscuri previzibile ale participării la acest sondaj.

**Beneficii pentru participanții la cercetare și pentru alții:** Nu există beneficii pentru participanții la studiu.

**Păstrarea evidenței și confidențialitatea:** Înregistrările studiului vor fi păstrate de anchetatori. Doar anchetatorii vor avea acces la înregistrări. Participanții la studiu nu vor fi obligați să se identifice sau să dezvăluie informații despre demografia lor.

Înregistrările participării dumneavoastră la acest studiu vor fi păstrate confidențiale în măsura permisă de lege. Cu toate acestea, anchetatorii studiului, sponsorul sau desemnatul acestuia și, în

anumite circumstanțe, Consiliul de revizuire instituțional al Institutului Politehnic din Worcester (WPI IRB) vor putea inspecta și avea acces la datele confidențiale care vă identifică după nume. Orice publicare sau prezentare a datelor nu vă va identifica.

**Despăgubiri sau tratament în caz de vătămare:** nu există niciun risc de vătămare sau vătămare din acest sondaj. Nu există compensație sau tratament în cazul unei răni. Nu renunțați la niciunul dintre drepturile dumneavoastră legale prin semnarea acestei declarații.

**Pentru mai multe informații despre această cercetare sau despre drepturile participanților la cercetare sau în caz de vătămare legată de cercetare, contactați:**

1. [gr-c-labs-d22@wpi.edu](mailto:gr-c-labs-d22@wpi.edu)
2. Directorul IRB al Institutului Politehnic din Worcester Ruth McKeogh, Tel. 508 8316699, Email: [irb@wpi.edu](mailto:irb@wpi.edu)
3. Administrator pentru protecția umană a Institutului Politehnic din Worcester Gabriel Johnson, Tel. 508-831-4989, e-mail: [gjohnson@wpi.edu](mailto:gjohnson@wpi.edu)

**Participarea dumneavoastră la această cercetare este voluntară.** Refuzul dvs. de a participa nu va duce la nicio penalizare pentru dvs. sau nicio pierdere a beneficiilor la care ați avea dreptul altfel. Puteți decide să opriți participarea la cercetare în orice moment, fără penalități sau pierderea altor beneficii. Anchetatorii proiectului își păstrează dreptul de a anula sau amâna procedurile experimentale în orice moment consideră necesar. În cazul în care un participant dorește să se retragă din studiu după ce acesta a început, trebuie urmate următoarele proceduri: contactați [gr-c-labs-d22@wpi.edu](mailto:gr-c-labs-d22@wpi.edu). Nu există consecințe pentru retragerea timpurie pentru subiect.

**Prin semnarea mai jos**, luați la cunoștință că ați fost informat și sunteți de acord să participați la studiul descris mai sus. Asigurați-vă că întrebările dvs. primesc un răspuns satisfăcător înainte de a semna. Aveți dreptul să păstrați o copie a acestui acord de consimțământ.

\_\_\_\_\_

Data: \_\_\_\_\_

Semnătura participantului la studiu

\_\_\_\_\_

Numele participantului la studiu (vă rugăm să imprimați)

\_\_\_\_\_

Data: \_\_\_\_\_

Semnătura persoanei care a explicat acest studiu

**Excepții speciale:** în anumite circumstanțe, un IRB poate aproba o procedură de consimțământ care diferă de unele dintre elementele consimțământului informat menționate mai sus. Înainte de a face acest lucru, totuși, IRB trebuie să facă constatări cu privire la justificarea cercetării pentru diferite proceduri (adică o renunțare la unele dintre cerințele de consimțământ informat trebuie să fie necesară pentru ca cercetarea să fie „realizată în mod practic”). IRB trebuie, de asemenea, să găsească că cercetarea implică „nu mai mult decât un risc minim pentru subiecți”. Alte cerințe se regăsesc la 45 C.F.R. §46.116.