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Toolkit on accessibility for leaders with visual impairment

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Content

Chapter 1 Introduction to Accessibility

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Accessibility means products, equipment, services, or environments designed in such a way that they can be used independently by people with disabilities. This, of course, does not preclude the use of compensatory aids and assistive technologies where it is necessary.(1) According to the general comment No. 2, Accessibility, of the UN Convention on the Rights of Persons with Disabilities accessibility is "...a prerequisite for persons with disabilities to be able to live independently and participate fully in all aspects of life. Without access to the physical environment, transport, information and communication, including information and communication technologies and systems, as well as to other facilities and services available or provided to the public, persons with disabilities will not have equal opportunities to participate in life in the societies concerned." (2)

It is also important to distinguish between accessibility, i.e. the term we defined in the previous paragraph, and availability. Availability means that a product, service, an internet website is within our reach or at our disposal. If something is available for a person with a disability, it does not mean that it is accessible. For example, a book by a well-known Japanese author has been translated into Slovak, i.e. it is available, but is not in an accessible format (audio or electronic form). Therefore, a blind person cannot read it.

So we have the definitions but how does it work in reality? In theory, a person with a medical condition, i.e. in our case person with a visual impairment, should have conditions created to allow them to live a full life just like any other person. Will Peter, who is blind, decide to learn Swedish? His only problem should be whether a beginner's language course is available anywhere. If he finds a suitable course, the organiser, in cooperation with one of the organisations working with the visually impaired, should prepare such conditions that Peter feels comfortable in the course and receives the same materials as other participants (textbooks, worksheets, etc.). To make this possible, the state, the trader, the employer, the service provider, etc. should provide so-called appropriate adjustments. This means that they should adapt the necessary environment (physical, information as well as services and factors related to communication with visually impaired people) to be accessible to the visually impaired. For example, a website of an online store should be programmed so that a blind person can easily use assistive technology to find their way around the site and buy the goods they are interested in.

What is the role of the blind and partially sighted in this whole tangle of information? You, the "sighted people", are the assessors of accessibility of the environment in which you live. You could argue that inaccessibility is not your problem, that those "others", who put up the stumbling blocks, are to blame. Yes, you might be right. The people probably don’t know the legislation, they do not know what their duties and what your rights are. This is usually not their intention, but rather an ignorance and perhaps disinterest.

But do you know it yourself? It is important not only to criticise but to also point out the problem politely if the other party does not perceive it as they are not themselves limited by the issue. If the mountain will not come to Muhammad, then Muhammad must go to the mountain And that's why it's very important that you learn or hone in on how to recognise accessibility versus inaccessibility, how to "diagnose" it from a legal point of view, and how to assert your rights.

In our guide, we divide accessibility into three groups:

1. Accessibility of the physical environment and transport (audible traffic lights, announcement of stops in public transport),
2. Accessibility of information (leaflet in enlarged black print, embossed QR code on printed material, which enables the blind to view the content of the material via the internet).
3. accessibility within the framework of interpersonal communication (assistance of the client employee in signing documents, notification of visual information during communication).

To understand what you can demand in terms of accessibility, we need to have a basic knowledge of the legislation – that is, weapons in your arsenal. You can read more about these weapons in Chapter 2 on legislation related to accessibility.

And once you have the weapons in your hands, you also need to improve in combat and elegantly, without harming anyone, guide your opponent where you need them. This art is called self-advocacy, more detail on this is given in Chapter 3.

Whilst we are talk here about fighting, we do not really mean an actual war, fighting everyone and looking for enemies. Our success depends very much on a sufficient number of converted, high quality allies. Therefore, in our self-advocacy, we must emphasise how useful accessibility is for everyone, for seniors, parents with prams, people with heavy luggage, people temporarily ill and after injuries in the sense of the motto "Necessary for us, useful for you".

To be able to combine your life experiences with expertise in the field of accessibility, read about all the categories of accessibility listed, and consider the details. We believe that, after studying the handbook, you will become experts from the ranks of visually impaired people who will be able to competently fight for their right to live a life of the highest possible standard, both emotionally and materially.

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List of technical terms

Accessibility

Availability

UN Convention on the Rights of Persons with Disabilities

General Comment on the UN Convention on the Rights of Persons with Disabilities

Appropriate adjustments

Self-advocacy

Chapter 2 Legislation

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Having a basic overview of legislation and other related regulations that determine the rules and obligations in the area of accessibility is essential to understand on what basis, in which areas and when you can demand accessibility, who can enforce it, and how.

Accessibility of the environment, transport, information, services, and goods is regulated by Slovak legislation, EU legislation, and international agreements. The different areas of accessibility are regulated differently in terms of scope and content. The legislation relates not only to the technical and operational aspects of accessibility but also to the right to accessibility and its enforcement.

What directives regulate the area of accessibility?

At the global level, these are international treaties such as the Convention on the Rights of Persons with Disabilities or The Universal Declaration of Human Rights.

Within the European Union, they are regulations and directives. Regulations are, in fact, laws that apply to all EU Member States in the same way in which they are written and cannot be changed by the national legislation of individual Member States. These are, for example, EU regulations on passenger rights in individual modes of transport.

Directives are protocols setting out the minimum requirements that must be incorporated – transposed – into the national legislation of individual Member States. This transposition does not need to be uniform, but the minimum requirements set out in a directive must be met by the legislation of each Member State. An example is Directive (EU) 2016/2102 on the accessibility of websites and mobile applications of public sector bodies.

At the national level, accessibility is regulated by the following: legal acts, the law implementing decrees, government regulations, measures of central government bodies, generally binding regulations of public sector bodies, and other regulations.

Norms/standards form a separate category; they contain recommendations for specific technical solutions. They become binding only when their compliance is

required by a specific legislative regulation (act, decree, etc.) or by a contract between a customer and a supplier.

The basic extent of the recognised rights of persons with disabilities including accessibility rights is declared in the UN Convention on the Rights of Persons with Disabilities (hereinafter referred to as 'the Convention'). The Convention does not introduce new rights but summarises existing fundamental and human rights. It organises and specifies them from a point of view of persons with disabilities. The Slovak Republic ratified the Convention in 2010 and according to The Constitution of the Slovak Republic, the Convention takes precedence over Slovak national legislation. This means that in the event of a conflict between Slovak legislation and the Convention, the Convention must be followed.

Accessibility is a cross-cutting principle of the Convention; it appears practically in all of its articles concerning all various areas of rights. It is dealt with specifically in Articles 9 Accessibility; 19 Living independently and being included in the community; 21 Freedom of expression and opinion, and access to information; and 30 Participation in cultural life, recreation, leisure, and sport.

Clarifications on the interpretation of selected articles of the Convention are issued by the UN Committee in the form of General Comments. The issue of accessibility is dealt with specifically in General Comment No 2, Article 9 Accessibility, and also General Comment No 5, Article 19 Right to independent living and being included in the community (in particular paragraphs 14, 16.b, 78).

Slovakia has also ratified the Optional Protocol to the Convention, which grants the citizens of the Slovak Republic and their organisations the right to approach and to submit a communication to The UN Committee on the Rights of Persons with Disabilities (hereinafter referred to as 'The UN Committee') if they believe that there has been an infringement of their rights in violation of the Convention.

However, these communications can only be accepted by The UN Committee if all possibilities to appeal against the decisions of Slovak courts have been exhausted. The UN Committee does not have the right to impose a penalty on states for violating the rights of persons with disabilities. It can only ask for an explanation or participate in an inquiry and can request that corrective measures are taken. Even these can be very powerful tools and the states usually take the measures of The UN Committee constructively and accommodatingly.

In the case of rights violation, especially if they are of a discrimination nature, it is possible to turn to the European Court of Human Rights; again, only after all available domestic options have been exhausted. This institution can impose a penalty, for example, in form of financial compensation to the claimant. Both processes are rather demanding and it is necessary to use the services of an experienced lawyer.

At the national level, the body of importance is The Commissioner for Persons with Disabilities, who participates in the protection of persons with disabilities by supporting and promoting the rights granted to these persons by international treaties that are binding for the Slovak Republic. Such a treaty is especially the above-mentioned UN Convention on the Rights of Persons with Disabilities. The status and the remit of the Commissioner is set in Act No 176/2015 Coll. on the Commissioner for Children and the Commissioner for Persons with Disabilities. When approaching the Commissioner due to violation of the law, it is important to follow the prescribed procedure. If you approach the Commissioner directly with a matter which is in the remit of the local or regional public sector body or The Offices of Labour, Social Affairs and Family (compensation payments, social services, etc.), you will only prolong the proceedings because the Commissioner must recommend that you approach the relevant authority in order to deal with the problem. Alternatively, the Commissioner will refer it directly to the authority. You should approach the Commissioner only when you believe that your rights have been violated by standard decisions regarding your claim, including appeals against the decisions of subordinate bodies.

In cases of non-compliance or violation of accessibility conditions, it is necessary to first approach the facility operator and the service provider:

- in the case of buildings or constructions, it is the owner or the construction operator;
- in the case of transport, it is the carrier (railway, bus, air or shipping) and the operator of the railway or bus station, airport, or port;
- in the case of information, it is the owner or the website operator (the local authority, a ministry, etc.), the information system provider (the tax office, a public sector body, etc.);
- in the case of service its provider and the like.

If you do not succeed at these directly responsible institutions, you can approach the following authorities: The Slovak Trade Inspection – an authority of internal market surveillance in the consumer protection issues in the case of transport and services, the construction trade authorities in the case of constructions, the Ministry of Investments, Regional Development and Informatization in the case of websites and mobile applications of public sector bodies. The courts and the above-mentioned international bodies are, of course, also available.

New buildings, transport, and information systems and services are often built with financial support from the European Structural and Investment Funds (ESIF or ESI Funds). It is important to note that accessibility is usually part of the so-called ex-ante conditionality, i.e. preliminary conditions that must be met by the project application before it can be approved. Accessibility is an exclusionary condition, which means that if the accessibility requirements are not met, the application is excluded from the approval process and thus rejected. Another important fact is that the exclusionary condition applies regardless of whether the project application is submitted by a public or a private sector institution. Despite this, it sometimes happens that the final product does not meet all the accessibility criteria. This is especially the case with construction. The promoters sometimes make excuses that the modifications for the construction accessibility cannot be made because the construction was carried out with the support from ESIF. The truth, however, is that the modification can be made but for promoters' own money, and the purpose of the construction cannot be changed. Therefore, in such cases, it is necessary to approach the governing bodies of the ESIF.

An important tool for promoting accessibility is public procurement, which is applied to contracts financed by both public and ESI funds. Act No 343/2015 Coll. on Public Procurement allows accessibility requirements to be incorporated into the procurement conditions. Although many of them are already part of generally binding rules, it is necessary to include them in procurement conditions, including compliance with the relevant standards.

The most important legislative regulations in the area of accessibility valid in Slovakia are as follows:

2.1. Physical environment

In the area of accessibility of the physical environment, the Decree of the Ministry of the Environment of the Slovak Republic No 532/2002 Collection of Laws (Coll.), is particularly important. It sets out the details on general technical requirements for construction and general technical requirements for buildings used by persons with limited mobility and orientation. Requirements relating to buildings used by persons with reduced mobility and orientation are specified particularly in Part 4 of the Decree and in the annex to the Decree.

Roads, cycling infrastructure, and their accessibility are regulated by TP 048 – Technical conditions – Design of barrier-free measures for persons with reduced mobility and orientation on roads and TP 085 – Technical conditions – Design of the cycling infrastructure.

2.2. Transport

Accessibility in the area of bus and coach transport is regulated by Regulation of the European Parliament and of the Council (EU) No 181/2011 on the rights of passengers in bus and coach transport amending Regulation (EC) No 2006/2004. The Act No 56/2012 Coll. on Road Transport as amended follows on from the Regulation.

Accessibility in the area of transport is also regulated by other EU Regulations on Passenger Rights (1107/2006 in air transport, 1371/2007 in rail transport, and 1177/2010 on travelling by sea and inland waterway). The accessibility of bus and railway stations, airports, and ports is also covered by the above-mentioned Decree No 532/2002.

2.3. Information

Accessibility of information is regulated by Act No 95/2019 Coll. on information technologies in public administration as amended.

Decree of the Office of the Deputy Prime Minister of the Slovak Republic for Investment and Informatization No 78/2020 Coll. on standards for information technologies in public administration is of particular importance as well, as it sets mandatory standards for information technology in public administration. Observing these laws guarantees, amongst other things, the accessibility of public administration information systems for people with disabilities.

Another important piece of legislation in this area is Directive (EU) 2016/2102 of the European Parliament and of the Council of 26 October 2016 on the accessibility of websites and mobile applications of public sector bodies. The provisions of the Directive were incorporated (transposed) into the above-mentioned Decree No 78/2020.

When naming legislation in the field of accessibility of information, we must not forget Act No 211/2000 Coll., as amended, on free access to information. The Act regulates the conditions, procedures, and scope of free access to information. Entities that are obligated to make information available and to comply with the provisions of the Act include municipalities, cities, and self-governing regions, and the Act guarantees access to the information available to them.

A natural person with a sensory disability is entitled to request access to information in an accessible form, in the case of a blind person in Braille, in the case of a visually impaired person in an enlarged font. Of special importance is the provision of §16 (7) enabling the applicant and the obligated person to agree on another way of making the information available. This relates mainly to information provided in the form of an accessible electronic document, which is becoming useful for more and more visually impaired people.

Every person with a disability who cares about exercising their rights should examine the life around them and draw attention to the violation of rights. It is for this very reason that it is crucial for us to navigate our way through the above-mentioned legal documents and to be able to use them if necessary.

Chapter 3 Self-advocacy or the best defence is not an attack

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Are you looking for a remedy that could help you express your views, needs, requirements and feelings clearly, convincingly and articulately? How to get rid of the fear of confrontation? How to stand your ground and not back down if the opponent's arguments are supported by "illegal weapons"? How to keep emotions in check? How to maintain your self-respect even when you are anxious? How not to slip into aggression or manipulation during a discussion? Our answer to all of these questions is simple – self-advocacy.

Effective communication, adequate self-expression, negotiation or asserting your own or your group's opinions requires the knowledge and acquisition of various communication techniques. None of us is born with these skills. Everyone must acquire them gradually in the process of socialisation and improve through appropriate training, practice, and learning from others.

Everybody needs to be able to advocate for themselves. You don’t have to imagine courtrooms and lawyers in suits. Just recollect an ordinary day in your life or everyday planning of work duties in a team, or assess yourself objectively in a partnership or the upbringing of your children. You should be able to speak, listen and debate effectively and efficiently any time, anywhere. At the same time, you must show respect to others to ensure that you are also respected. After all, you don't want your employer to put more on your shoulders than on others. You do not want to give in to the demands of your partner or have your motives misunderstood and be lied to by your children. Besides, as a visually impaired person, you can extend this list to, for example, interviews with officials on the eligibility for the required compensatory and optical device, negotiations with the town council on the need to provide pedestrian crossings with tactile paving, discussions with lecturers on the requirement to make printed or electronic materials available, or chats with long-distance bus drivers about picking you up in spite of you are travelling without a guide.

Basically, it pays off to prepare for such a discussion properly, to identify the problem, to gather as much information as possible, to familiarise yourself with the situation, to find out the possible solutions offered and required by society and by law, either national or international. Blind and partially sighted people are entitled to the same treatment as anyone else under the UN Convention on the Rights of Persons with Disabilities. However, it should not be forgotten that, in many cases, they also have some responsibilities. It is essential to carefully consider when a visual or other disability is a legitimate argument, and when it is just used as an excuse. If you are unsure whether it is technically possible to achieve the solution proposed or requested by the other party, approach an expert or institution. In Slovakia, the following institutions can support you in the matters of discrimination; Slovak Disability Council, the Slovak Blind and Partially Sighted Union, the Office of the Commissioner for Persons with Disabilities or the Slovak National Centre for Human Rights.

All for one and one for all. This is how we could sum up another aspect of self-defence. This is because it is also possible to influence the attitudes of decision-making authorities on behalf of a group of people. You can also use the communication skills discussed below as a representative and advocate for the rights of those who find themselves in a similar situation. An example could be the promotion of legislative changes in which an individual also stands for the needs and requirements of others. Suppose an individual was refused entry to a restaurant with a guide dog. In that case, others with the same compensatory aid can stand up for this right and fight together.

3.1. Results without peril

The rights of an individual as well as the rights of others must be respected in every interaction. Finding a solution is often (although not always) about looking for a compromise. If you insist that there is only your solution, you risk failure if it proves wrong. If you inadequately enforce your ideas when planning project activities, and this results in overwhelming all of your colleagues but you with work, you can claim a one-time victory. It is, however, likely that no one will count on you in the future. Be prepared to take responsibility for your words and actions. Do not lose sight of the fact that your attitudes, needs and feelings are as important as the other party's

attitudes, needs and feelings. Effective collaborative behaviour leaves everyone feeling good, and no one feeling threatened.

Identifying your strengths and weaknesses will help you make the right decision about what form of communication to use in any situation. Choose a personal meeting without hesitation if you can communicate equally effectively verbally and non-verbally. This means that in addition to clear and assertive formulations, you can also use eye language, facial expressions, appropriate gestures or estimate the proper distance between yourself and other people etc. Collect dated records of all other conversations you have already had on the issue or request for them to be sent to you in an accessible format to make your preparation as useful as possible. Don't be thrown if everything doesn't go according to your plans. The other party has also planned for the debate, and so it's important to leave some room for improvisation and spontaneous action.

Face to face communication gives you the best opportunity to explain your opinion sufficiently. You can repeat your view several times (if the partner moves away from the topic), react immediately to any criticism, quickly recognise and effectively avoid manipulation. At the same time, you can continuously ensure that you understand correctly not only what the other party is saying (be aware of second-guessing their thoughts), but also what they are doing. Make use of the so-called “I” statement, if you can't read emotions (the conversation can often be interspersed with silence, while a tone of voice or constant fidgeting may suggest tension). It is a non-confrontational and non-blaming statement.

How do I formulate such a statement?

- Name your feeling: "I feel awkward", "I don't like", "I'm uncomfortable with",
- Describe specific behaviour: "You are walking around", "you are typing whilst we are talking", "you are looking for things in the drawer",
- Describe your feelings: "Because then", "because of that",
- Suggest a solution: "I would politely ask you to," "I suggest we",

In practice, this could look like this: "I feel uncomfortable with you walking around the room during our conversation because it gives me the impression that you are not concentrating sufficiently. Would you be able to sit down, please? We could talk the whole thing over in peace."

A significant advantage of such a statement is that your partner will understand that you have a good overview of the situation despite your impaired or missing eyesight.

At this point, we would also like to state that the technique of using the "I" statement is always appropriate when you are in it for yourself, i.e. when you defend your own interests, present your own views and emotions. In this case, it is not appropriate to generalise and hide behind a group. It is not what "visually impaired people think". It is what you who has an opinion, who needs something, who is dissatisfied or who requires a different solution.

Despite deep-rooted traditions in society and upbringing, you have several rights that, if you remember them, will greatly liberate you—for example, the right to say no. Always consider which of the requirements of the other party you can do independently and with which you need help, taking into account the limitations resulting from your visual impairment. Think about whether you know where to ask for help. If you are unable to answer these questions immediately, ask the other party to give you time to think, or try to find another solution together. Remember, your opponent can also say "no", it is not your right alone.

Other rights you can exercise, without fear of reducing your value in the eyes of others, are the right to make mistakes, the right not to know, the right not to understand or to make illogical decisions.

Another stereotype typical of our region relates to what a "decent" person should be like. Modesty is deemed a virtue, and therefore, praise should always be rejected. Do not diminish your merits and efforts. Accept credit when it is deserved and enjoy the feeling of joy.

During face to face and telephone conversation, we recommend that you take notes (it is necessary to agree on the form ahead of the meeting) and make a summary of these after the meeting. – simply send an email to the other party in which you summarise what you have agreed on, who is handling what and the deadlines for actions. This will help avoid misinterpretation or disagreement, and you will both be able to return to the notes at any time.

A telephone call is an excellent choice if you are verbally proficient. However, mastering non-verbal communication requires practice. This form of communication requires an immediate response, and it does not leave you as much time to think about individual answers as a letter or an email. It would help if you did not underestimate preparation in this case either – be sure to keep a record of everything you have done in the matter so far, when and with whom you talked about it, and do not forget the written summary after the phone call.

Use concise, straightforward language to summarise the main subject points in the first two sentences of your letter or email. Provide exact details and specify the solution you are proposing. Include your reasoning if necessary. Do not give the other party room to decide when to respond to your message arbitrarily. Set a realistic deadline for an answer (unless it is official communication, where the legislation sets the response time).

3.2. Aggressiveness, passivity and assertiveness

These are automatic responses to stress in any situation that requires dexterous communication. This could be whilst asking the children to do their homework or when proving that, despite your visual impairment, you are a suitable candidate for a position at a job interview. In this sub-chapter, we will describe the basic features of these responses.

Anger, hostility, intimidation, bullying, shouting, threats, swearing, punishment or humiliation are clear signals for everyone. But did you know that, even when a colleague puts a pile of papers on your desk in your absence and silently expects you to process them, may be a sign of aggression? Or when someone looks you straight in the eye during an interview, asks you questions that unsettle you whilst at the same time avoids direct answers? Or when someone constantly flatters you, gives compliments that they do not mean, while only taking and never giving. Even a person who at first seems nice and altruistic, a person who would do the first and last for you, would give you everything or even takes things on for you, without you asking them, might be an aggressor. In return, they automatically expect you to repay these things – after all, the principle of reciprocity applies – so you feel obliged to reciprocate under the pressure of society, your upbringing or your conscience despite your misgivings. Be careful also with an unusually educated person who, without hesitation (and usually without invitation), starts giving a full lecture on a very specialised topic, talks about it as a matter of course, and is shocked to hear that you know nothing about it, thus showing contempt for your limitations.

A person who resorts to aggressive behaviour denies the rights of others. According to them, only their own needs, requirements, and emotions are important and valuable. They do not hesitate to use any means to get what they want.

You might be perceived as passive, if you are convinced that the needs of others always take precedence, that they know better and therefore have the right, even the obligation, to decide on a solution or if you find it difficult to speak up and explain your position. The characteristics of this type of behaviour are retreating, self-denial, the use of apologetic phrases, inappropriate acceptance of guilt, the use of submissive expressions. In non-verbal communication this might show as tilted gaze, speaking almost in whispers, etc. Be very careful about these manifestations. You deny your rights, and you have practically paved the way for others to use you.
Of course, this is only if you are not the one using them. There is such a thing as a timid manipulator. Typically, this is a woman. An inconspicuous, insecure, fragile and vulnerable woman who needs a knight – a protector. Her opinions or any criticism are always explained by her husband or by a colleague from work; she usually stands in the background; she answers direct questions with a stutter or with silence. She claims that she cannot tolerate conflicts, but she evokes them very subtly.
But attack (aggression) and escape (passivity) will not provide you with such effective tools for cultivated discussion, argumentation, and negotiation as assertiveness will (Latin asercio, or English to assert = claim, demand). This behaviour includes the ability to openly and peacefully express one's feelings, opinions and needs, to listen to what the other party is trying to convey, to agree, to disagree, to ask for, but also, to criticise. This is done without enforcing one’s rights by force, violence or deception. An assertive person avoids hasty evaluations or quick and superficial conclusions. They do not assert themselves at the expense of others, because they are aware that others have the same rights that should be respected. They can ask for help and cooperation.

3.3. How to do it?

In addition to the skills outlined above, we recommend learning at least the following three:

- The technique of a broken gramophone record: it can successfully be used, for example, in situations where you are exposed to insinuations and undermining of your self-confidence, when the other party intentionally confuses you with pseudo-rational or irrelevant arguments, or when you run the risk of your rights being infringed. Its principle is to persistently and calmly repeat what you want to

achieve. To a partner who wants to assert himself against you with his "no", you will demonstrate that you can stand your ground and resist all their manipulations.

- The technique of acceptable compromise: Does the partner have different objectives? Is he an equal opponent? The subject of the discussion is setting a delivery date for a document or an agreement of the quid pro quo type? Look for a compromise that does not affect the self-esteem of either party.
- The open door technique: it is best to respond calmly to criticism, not to deny it, or not to respond with retaliation. Try to soberly consider whether there can be at least a pinch of truth in the statement made. After a while, the partner finds out that you can accept criticism and gradually loses energy to look for further reservations.

3.4. It will be as I want

Undoubtedly, each of you has met someone at least once in your life with whom it's, to put it politely, challenging to get along. They are intelligent and rude, they insult, humiliate, but mainly intimidate people around them. They will almost always succeed in achieving their goal with this behaviour. Anyone who does not fulfil their wishes is quicky accused of absolute egoism, even inhumanity. They are convinced that they know everything, they are more intelligent, more experienced and more ingenious. They believe that it is only natural that their principles should be adopted by everyone without exception – at home, at work, anywhere. They consider feelings and emotions to be a sign of weakness.

Tell us, how many of the above features did you need to be able to expose an aggressor? Did the term dictator also come to your mind? How about a manipulator? Manipulators are not nearly as rare as it might seem. A man or a woman, they are a true master of, thousands of faces. The choice depends on the specific situation, the people involved, the time, the intention…

The form of terror described above can be discerned at first glance without much effort. But it may come as a surprise to you that there are people who do not use such obvious weapons to control others. Instead, they do it very covertly and subtly. And maybe, they do this with you.

One of the most dangerous masks is the mask of an admirable manipulator, a smiling, friendly and talkative person who builds relationships quickly and whom you

would like to resemble. They will easily win your heart and quietly start to control you. Anyone can be a manipulator, you will find them among charming, educated, altruistic, even timid people (you will find some evidence if you turn the page and read the passage on aggression carefully again). You are now sure to ask how not to suspect everyone.

Isabelle Nazare-Aga lists thirty characteristics to help you with such identification. If you identify at least ten of them, you are dealing with a manipulator.

Expose the manipulator!

- They make other people feel guilty, in the name of professional conscience, family ties, friendship, love, etc.
- They unload their responsibilities onto others or dismiss their responsibilities.
- They do not communicate their requests, needs, feelings or opinions clearly.
- They often respond vaguely.
- They change their opinions, behaviours, or feelings, depending on the person or situation.
- They cite all kinds of logical reasons to disguise their requests.
- They make others believe that they must be perfect, never change their minds, always know everything, and immediately respond to requests and questions.
- They cast into doubt the qualities, skills and personalities of other people. They criticise without appearing to do so, devalue and judge.
- They have their messages communicated by other people or via intermediaries (telephone instead of face-to-face, written notes).
- They create suspicion and stir up ill feeling; they divide to conquer.
- They know how to put themselves into the position of a victim to gain sympathy (e.g. exaggerated illness, overloaded at work, etc.).
- They ignore requests (even if they claim the opposite).
- They use the moral principles of others (e.g. notions of friendship, mercy, humanity, etc.) to satisfy their needs.
- They make veiled threats or openly resort to blackmail.
- They abruptly change the topic in mid-conversation.
- They avoid or get out of discussions and meetings.
- They rely on the ignorance of others while vaunting their superiority.
- They lie.

- They make false statements to discover the truth, twist and interpret facts to suit themselves.
- They are self-centred.
- They can be jealous (even of their partners or spouses).
- They cannot take criticism and deny facts.
- They do not take into account the rights, needs and desires of others.
- They often wait until the last minute to ask, order or have others do something.
- Their words appear logical and consistent, while their attitudes, actions or lifestyle are totally opposite.
- They use flattery to seduce us, give gifts or suddenly start waiting on us hand and foot.
- They generate a state of discomfort or of not being free.
- They are excellent at meeting their own goals but at the expense of others.
- They make us do things that we would probably not have done of our own free will.
- They are always the focus of conversation among people who know them, even if they are not present.

Don't worry; not all of us are manipulators. Naturally, you have found one, two, three or maybe four of these characteristics in your behaviour. There is a big difference between "doing" and "being". Everyone sometimes envies someone, deceives them, wants them to feel sympathy over a small thing, but this does not mean that they are a manipulator. We have provided this list only so that you can identify the imminent danger in a timely and safe manner and respond adequately to it.

3.5. How not to be uncomfortable

First of all, don’t think for a minute that you will change the manipulator with patient and kind approach, or that you will be able to establish a real and honest relationship with them. You won't. If you have no choice (for example, if they are your colleague and you cannot decide on their presence or absence), learn to live side by side with them and communicate with them in a way that does not end up hurting you. Our tip is to master the techniques of counter-manipulation.

For example, you can respond to a manipulator as if you were utterly indifferent to their efforts. Use the same words when communicating, but give them a precise meaning, do not play with them. Focus so that you don’t reveal that you must first digest their words and remarks before you can respond. Try to answer promptly, without any signs of irritation, use irony without hesitation. If you can't suppress the wave of emotions so quickly, ask questions. The manipulator only gradually reveals their opinions and wishes. You always have the opportunity to ask questions and thus gain time to calm down and prepare the next strategy. We realise that it takes a lot of patience, but it pays off. Only with practice will you gain more confidence and act less emotionally. The manipulator still keeps the last word and their supremacy (although you answer to them logically and at a reasonable distance). Still, when they notice resistance to attacks, they subconsciously begin to disengage from you. And they will find another prey on which to gorge.

Isabelle Nazare-Aga has some invaluable tips on this:

- Stamp out any addiction system as soon as possible: if you've been an adult for a long time, but your mother has not noticed (perhaps because of your visual impairment) and requires you to report your every move, account for all your actions, explain your motives, change your plans according to her wishes, and telephone her daily to "put her mind at ease," and it upsets you, and even depresses you, you should gradually break off such a ritual. For example, first, make up an excuse that you forgot due to private or work duties, turn on the answering machine, etc. It takes time to break free from such influence – at first, call every other day, then once every four, then only at the weekend, once a week, once a fortnight.
- Do not trust the manipulator with your personal affairs: by openly talking about your private matters, faults and problems, you open the door wide to the manipulator and put weapons in their hands that will be aimed at you at some point. The solution is relatively simple – don't tell them the whole truth. It is not hypocrisy, it is a strategy.
- Do not respond to a vague request: whether it’s verbal or non-verbal. For example, suppose you get the question "Are you free on Tuesday night?". In that case, the appropriate response is "Why?", even if their intention is immediately apparent. They need to be forced to reveal all the facts to you (what, where, when, with whom) so that you are free to decide whether or not to help them. The same

behaviour can be recommended in the case of non-verbal communication. If a colleague sends you an email without an accompanying text from her boss, in which she entrusts her with a task, you will immediately understand that she wants you to do it for her. However, you can pretend to have missed the email to indicate that she should to show you some respect and ask you directly.

- Note everything: in negotiations, discussions, meetings at work or in any agreement. It is useful to create a record or minutes directly in the presence of the manipulator. You will take the wind out of their sails if they start distracting you, making excuses or pointing out that you did not understand something correctly.
- Don't act as a messenger for the manipulator: it is always better, more appropriate and more comfortable for everyone to be responsible for their actions. This is especially true when it comes to criticising people or the system. Instead of "Just tell him yourself", take the diplomatic path. "When I see him, I'll tell him you want to talk to him."
- Connect with others: it is not for nothing, saying that there is strength in unity. The manipulator will have less reach on you and fewer opportunities to cause disagreements in the team. At the same time, you will protect those who do not dare to speak out about their fear.
- Answer the flattery carefully: this is a well thought out strategy on the part of the manipulator with which they want to get you on their side. Respond to them as to compliments, smile and thank them briefly. Most importantly, do not question your own merits.

If this "martial art" seems to contradict what we said above, we can only commend you for reading with understanding. Communicating with a manipulator most definitely requires assertiveness to be grasped differently, to protect yourself and to protect your interests in a different way. This is the reason why we have devoted so much space to the topic of manipulation and the opportunities of not succumbing to it, in this chapter.

3.6. Change, but stay true to yourself

At first glance, simple and logical principles, right? You wouldn't believe it, but they will get under your skin before you know it. And the promised reward is worth the effort! Judge for yourself: the development of healthy self-esteem and independence,

the ability to be yourself in all circumstances, the power to take responsibility for your behaviour, deepening interpersonal relationships, the right atmosphere for effective collaboration, conflict prevention if they do occur, the ability to resolve them effectively. Just start at the beginning and continue until the very end.

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List of technical terms

Self-defence
Aggressive behaviour
Passive behaviour
Assertive behaviour
Communication skills
Manipulation
Counter-manipulation

Chapter 4 Accessibility of Environment

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4.1 General overview of accessibility needs

When your vision is severely impaired, you lose the overview of surroundings that sighted people have. Therefore, a blind or severely visually impaired person depend on predictability, order and systematics is in all aspects of daily life, both indoors and outdoors.

Blind people typically rely on sensory information from the tip of a long cane combined with auditory information.

Unexpected obstacles can make access difficult or impossible for this group: cracked and uneven floor surface results in constant snagging of the cane; objects and clutter on the floor can also hinder progress; objects which protrude at above waist height will not be detected by the cane resulting in a collision.

Visually impaired people have some vision and use different strategies to orient themselves but are still not be able to detect very close or looming objects, or irregularities at floor level.

4.2 Transport

What are the transportation challenges for visually impaired?

Visually impaired use different strategies for transportation. Some use a sighted friend, relative or professional as a guide, which involves holding onto someone's arm. Others use a long, white cane to identify and avoid obstacles or elevation changes, still others use a guide dog. Some use special optical or electronic aids, and some use no aid at all.

The choice of transportation aid depends on the extent and nature of their visual impairment, personal preferences, lighting, and familiarity with the area.

Many factors are being put to play in order to travel independently. People with visual impairments use whatever vision they have, auditory and tactile information, and any gathered knowledge of an area to keep track of their location and make travel decisions.

4.2.1 Sighted Guide

At one time or another, most people who are visually impaired will make use of the sighted guide technique, in which a person with sight serves as a guide to a person who is visually impaired. It is important to note that the guide should offer his or her

elbow or arm for the visually impaired person to hold onto – not the other way around, to ensure that it is the visually impaired person who decides the speed, and that he/she can feel the guiding persons movements.

4.2.2 Long white cane

For blind and severely visually impaired people, a long white cane is often used as a mobility device. The cane can be used in different ways, and the usage requires a lot of training. The most common technique for blind, is to extend the cane and swing it back and forth across the body in rhythm with the steps to provide information about the environment directly in front of them, such as elevation changes or obstacles. In another technique, often used by people with low vision, the cane is held diagonally across the body, with the tip above the ground. They employ the cane occasionally to check object or sidewalk surface, when they are unsure about what they are seeing.

4.2.3 Guide dog

Guide dogs are carefully trained service animals who have learned to help visually impaired persons in their daily life, including when using public transportation and

moving in the streets. The dogs are trained to respond to the commands of its handler, such as right, left and forward. The guide dog will guide the handler around obstacles and stop at curbs or stairs. However, the handler must know the way to the destination and must also make decisions about the proper time to begin a street crossing. Guide dogs move in response to directions from their handlers and are trained to disobey commands to avoid danger.

4.2.4 Orientation and mobility training

Visually impaired have the right to receive orientation and mobility training, provided by a specialist.

Orientation is the ability to understand where one is located in space and mobility refers to being able to travel through that space safely. The goal of most orientation and mobility training is to prepare a person who is visually impaired to travel in a variety of environments, both familiar and unfamiliar, and to assess new intersections and travel new routes. It is important to note that orientation training and assistance is not provided for every route that a person who is visually impaired needs to travel. Rather, the training aims to teach the visually impaired person a strategy for managing different situations that will sooner or later occur when using public transportation.

4.2.5 Stations and stops

For a visual impaired person to be able to travel independently, stations and stops need to be accessible.

- Station/stop markers, benches and shelters should be easy to find and contrast with their surroundings.
- Signage must be large and with good contrast

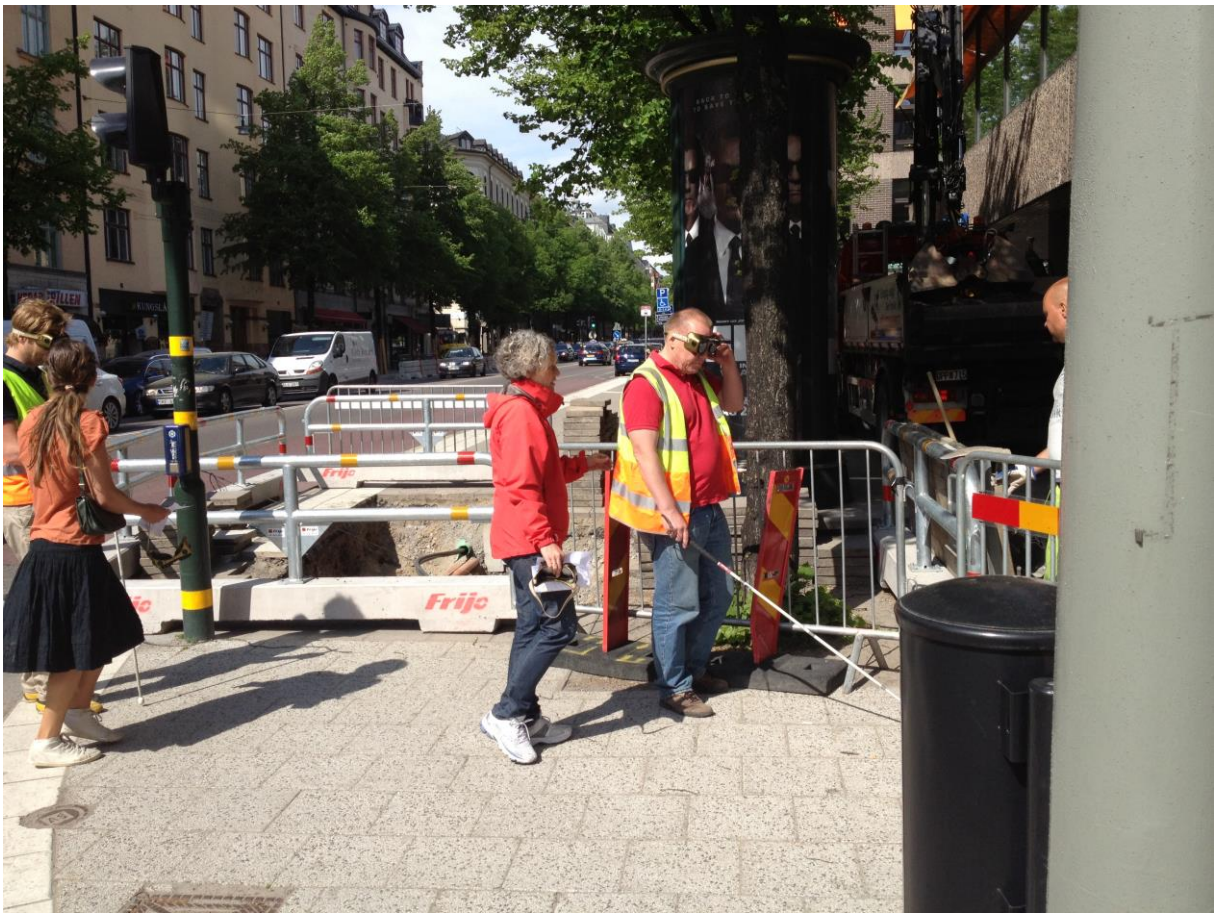
Next stops and other journey information must be provided in audio. Raised bus stops and even surfaces make boarding easier.

4.3 Public areas

How should public areas be designed to be accessible to help visually impaired/the blind carry out the complicated task of orientation?

For a person with a visual impairment, public areas, where many different activities are happening at the same time, can be hard to orient.

A person with a visual impairment experiences that the surroundings - right down to the smallest detail - change from day to day, which can be experienced as very challenging and often as frightening or dissuasive.



Excavations, scaffolding, bicycles, which are placed on all leads and edges of the pavement, which are locked to lampposts or railings, signs and café tables, which are displayed to entice customers to, etc., are all elements of the changed pattern, especially for the blind and partially sighted, who are relatively novices in terms of mobility, make moving outdoors difficult. To move safely, bearing markers and identification marks are used, e.g., the paving stone in the sidewalk, cobblestone driveways, the sound of the jukebox in the cafe as well as a sense of how far down a sidewalk one has to go to find the corner, bus stop or basement descent to the kiosk. Obstacles, unexpected setups, a pile of parked bikes, etc. break the rhythm and

pattern that the blind pedestrian navigates and can knock that person completely off course.

4.3.1 Pedestrian and non-pedestrian spaces

For orientation, independence and safety reasons, the separation between pedestrian and non-pedestrian spaces must be clearly marked, both visually and tactile. The visual marking is often high contrasting colours, while the tactile markings can vary depending on the surrounding surface.

The most efficient way to mark the difference between the street and the pavement is by difference in height. For wheelchair users, people with baby strollers or suitcases on wheels as well as for service vehicles, curb ramps are often created, but this may make it hard for visually impaired to understand where the pavement stops, and the stress starts.

4.3.2 Intersections and pedestrian crossings

Accessibility for people with a visual impairment can be a major challenge in places where driving traffic has to be crossed. It can be difficult for the blind or partially sighted to find directly across the opposite side of the road and not accidentally end up in the middle of the intersection. The engine noise of a passing car can obscure

the sound of a car driving behind, and cyclists are rarely heard. If there are no other pedestrians nearby, the visually impaired pedestrian is completely left to his or her own senses. To ensure good accessibility and safety for the blind and partially sighted, it is therefore of great importance that road junctions and regulated crossings are planned and arranged so that it is clear where and how the road can be crossed safely.

4.3.3 Street crossings

Techniques and cues used in crossing streets are diverse and vary by the type of location and by the individual and his or her level of vision and preferred mobility strategy. Visually impaired people often travel to unfamiliar areas and intersections and they depend on gathering information from available sources on the way in order to be able to move safely.

Once blind pedestrians are familiar with an intersection, they do not usually need to analyse the intersection and traffic control system at length every time. However, they still may need to listen long enough to determine that they are at the correct location and that the signal is functioning as usual. Pedestrians who are blind will still

need to detect the street, align to cross, identify the interval where pedestrians are allowed to walk, and maintain alignment while crossing. Accessible Pedestrian Signals (APS) are useful to assist with the task of identifying the ”walk” interval at familiar and unfamiliar locations. An Accessible Pedestrian Signal (APS) is a pedestrian push button that communicates when to cross the street in a non-visual manner, such as audible tones, speech messages, or vibrating surfaces.

4.3.4 The Stockholm model

One example of a solution to this cross-disability challenge is the so called “Stockholm Model”, a solution that meets the needs of people with visual as well as motor impairments. In a pedestrian crossing using this model, flat surfaces for rolling assistive technology are used separately, with tactile surfaces such as paving stones next to them. The tactile part functions as a natural guideway for the visually impaired.

A ramp between street level and walkway on one side of the post and retained edge for orientation on the other side of the post is an elegant solution.

The Stockholm model consists of:

- Concrete slabs, so-called ballast slabs, with black and white, coarse-grained structure.
- White, smooth concrete slabs that contrast with the street's black asphalt.
- Signal pole or pole with road sign that marks a pedestrian crossing.
- A level-adjusted ramp for people with rolling aids.
- White, wide lines that mark the pedestrian crossing on the asphalt.

People with visual impairments who come walking follow either the curb or the inner edge towards, for example, the house facade with its white cane. Most people with visual impairments have some form of visual acuity, which means that the street's contrast markings at the pedestrian crossing facilitate orientation (for example, the white paving stones that mark the direction of the pedestrian crossing). For people who use tactility for orientation, it is the change in the material on the pavement and the sharp curb that marks the transition from the walkway to the car road.

A main idea with the design of the Stockholm model is that people with visual impairment should always be met by an edge when they reach the end of the sidewalk. The edge acts as a warning signal that you now come out on the street where cars are driving. Therefore, the ramps for people with rolling aids are slightly retracted, i.e., there is a little outside the walking direction. The ramp must always meet a ramp on the other side of the crossing. For many people with rolling aids, the ramp is indispensable, which makes road operation and maintenance necessary for the ramp to be usable during different weather conditions. The clever thing is that the ramp is also used by smaller snow removal vehicles.

4.3.5 Guiding lines

A guiding line is a coherent tactile coating strip that differs significantly from its adjacent surroundings in contrasting color, height and surface structure.
When guiding lines are laid out and integrated correctly in the environment, it is of great help to the blind and partially sighted. A good and useful guiding line with integrated attention fields involves both the senses of hearing, hearing and sight. It must be possible to follow the guiding line using the residual sight, the white cane and tactility through the sole of the shoe. If there is a sound difference when touching the guide line and the surrounding coating with the white stick, an extra helping dimension is given.

Always keep in mind that guiding lines may cause a barrier for people with motor impairments, so they need to be applied in a way that benefits both groups.

4.4 Buildings

How do the visually impaired/the blind enter and orient themselves in buildings? How should rooms be designed?

4.4.1 Colour contrast

Colour contrast is an important component for persons who are visually impaired. Being able to distinguish objects from another is often very important to be able to orient in a physical space. A building can be logically laid out, include proper use of signage, provide good lighting but still cause disorientation if the colour contrasting is too low.

Therefore, remember to always include colour contrast, which can be used very effectively for many purposes such as:

- To draw attention to signage
- To define a route or direction – guiding lines
- To define areas

Colour contrasting items are also a very effective means in defining spaces. A colour contrast of 70% is generally recommended to clearly define items such as:

- A dark door frame, against a light door and a light wall.
- A light floor colour with a dark perimeter against a light-coloured wall.
- Handrails that colour contrast with the surrounding wall colour.
- Stairs need to have a colour-contrasted start and ending.
- Furniture that is colour contrasted with the floor and walls assists in locating furniture.

4.4.2 Tactile surfaces

Detectable floor surfaces are very useful accessibility design elements, as they will alert the visually impaired person to a hazard ahead. They have a texture that can be felt under foot or detected by a person using a long cane. These can be used for orientation or warning in many different situations. The texture can be built in or

applied, but often works best when naturally integrated into the design, rather than being constructed and adding specific markings made only for visually impaired.

Always keep in mind that tactility may cause a barrier for people with motor impairments, so they need to be applied in a way that benefits both groups.

4.4.3 Stairs and handrails

Stairs pose a potential danger to blind and partially sighted and falling accidents often occur on stairs. This is why it is so important to make sure that stairs are marked correctly and always have handrails.

You must always add colour contrast or materials of a different texture to the lip of every step to make sure people can determine the end of each new stair. Those with partial sight will see the change in color, while blind people can feel the different textures with their feet or stick.

You must also ensure that the stairs are constructed with consistent stair height, to help visually impaired individuals navigate stairways. Stairs must also, as a minimum, be clearly marked with attention areas both before and after the stairs, such as protuding buds or mats in a different texture.

Handrails are mandatory, must be placed on both sides of the stairways and should be continuous all the way down; if they aren’t continuous, they have to run on enough at either end to help users still find their way to the top/bottom. Please also ensure, that handrails have rounded ends or attach to walls or posts at the top/bottom of the stairway.

4.4.4 Signs

Signage must consistently located at some height and distance from the door to which it defines. As a general rule, all letters should be raised, tactile and in colour contrast to the background. The signs themselves should also be colour contrasted with the surrounding wall surface and the sign lettering.

You should use braille in signage which identifies rooms or spaces such as auditoriums, cafeterias, washrooms and floor numbers, and both inside as well as outside elevators.

4.5 Acoustics and lighting

What are the acoustic and lighting needs of the visually impaired/the blind?

4.5.1 Acoustics

Blind and visually impaired people often use their auditory sense to orient themselves in a space. Therefore, the sound environment can assist in providing orientation clues. A visually impaired person can use reflected sound to determine a room size, the presence of corridors and proximity of walls or other structural barriers.

High levels of ambient sound or high levels of reflective sound can make auditory orientation impossible. Here is your auditory check list for designing and building space:

- Well-defined, acoustically alive spaces are easier for people who are visually impaired to navigate safely. Remember that physical objects such as escalators, fountains, and elevators can create useful sounds for orientation. Sound reflections are frequently a good source of auditory cues.
- Carpets, acoustic tiles and furniture reduce sound reflectance.
- Invasive noise sources may mask sounds intended to provide directional cues, such as ventilation ducts or air-conditioning units.

4.5.2 Adequate lighting

Ensuring adequate lighting may be your most important attention point to organise the physical space for the blind and visually impaired. It is true, that the lighting needs of persons who are blind or visually impaired naturally vary according to particular eye conditions. One level of light might work well for a person with glaucoma and be too low for someone with macular degeneration. In addition, glare

can be a significant issue for those with many types of eye conditions such as glaucoma, cataract and macular degeneration. Therefore, issues such as the direction of light and its reflection on shiny surface need to be taken into consideration, and carefully tested with users. The use of variable lighting controls, indirect lighting and window shades can mitigate issues caused by glare.

4.6 Legislation and regulations

What rules are there for the accessibility of the built environment in terms of the visually impaired/the blind?

The basic legislative document governing the accessibility of the physical environment is the Decree No 532/2002 Coll. of the Ministry of the Environment of the Slovak Republic, which sets out the details on general technical requirements for construction and general technical requirements for buildings used by persons with limited mobility and orientation.

Requirements relating to buildings used by persons with limited mobility and orientation are specifically outlined in Section 4 of the decree and in the annex to the decree. The introduction to this section lists buildings to which the requirements apply. The subject part of the decree consists of three sections.

Section 1 addresses the provisions for access, local roads, and public areas. Section 2 deals with a design of residential housing and other residential properties, special purpose flats, special purpose family homes, and buildings with protected workplaces. Section 3 focuses on a design of non-residential buildings and civil engineering constructions in an area dedicated for public use. General technical requirements governing the use of buildings by persons with limited mobility and orientation are contained in the annex to the decree.

The annex is divided into three parts. The first part, Communications, sets out requirements for surface treatment, height difference, staircases, ramps, pavements, crossings, platforms, entrances to buildings, and lifts.

The second part, Internal Spaces, deals with requirements on windows, doors, medical equipment, handling areas, and information equipment.

The third part is called Public Areas and describes requirements on car parks and parking areas, public phone boxes, post-boxes, and cash machines.

Another regulation is TP 048 – Technical conditions – Design of barrier-free measures for persons with limited mobility and orientation on roads. The Technical

conditions elaborate on the content of Decree 532/2002 Coll., especially in the area of road accessibility.

Although TP 085 – Technical conditions – Design of the cycling infrastructure primarily deals with cycling transport, it also deals with accessible solutions for situations where pedestrian and cycling infrastructures abut or cross each other.

Transport is another significant part of the physical environment. Regulation of the European Parliament and of the Council (EU) No 181/2011 concerning the rights of passengers in bus and coach transport and amending Regulation (EC) No 2006/2004 is important in this context.

Among other requirements, this Regulation states, disabled persons and persons with reduced mobility, whether caused by disability, age or any other factor, should have opportunities for using bus and coach services that are comparable to those of other citizens. Act No 56/2012 Coll. on Road Transport as amended is related to the above-mentioned EU regulation.

In addition, there are further EU regulations on Passenger Rights for other means of transport (1107/2006 for air travel, 1371/2007 for rail travel, and 1177/2010 on travelling by sea and inland waterway).

4.7 Environmental barriers

Which physical barriers do the blind and partially sighted encounter most frequently? How can these barriers be addressed?

The main environmental barriers encountered by visually impaired people are of course very individual. It depends among other things on the level of sight loss, training and if the environment is known or not. But in general, safe mobility and orientation are the barriers most often claimed to be a problem by visually impaired people.

Examples of common accessibility problems:

- lack of contrast marking, especially in level differences, steps or stairs
- lack of warning marking

- objects that are hard to perceive (like glass walls or doors, low hanging objects, bicycles etc on the pavement)
- lack of handrails
- poor lighting
- poor sound environment
- poor design of orienting signage

Large open spaces which must be crossed, and disorientating sounds can make the built environment a very confusing place for blind or visually impaired travellers.

Signs and signals that are purely visual, for example street names, pelican crossings (with flashing yellow light) and hazard warnings are often impossible to grasp for the visually impaired person.

Summary

When ensuring accessibility for visually impaired in the physical environment, some parts are extra important to consider:

- Safety: transparent glass walls, hanging objects etc need to be well marked to avoid accidents
- Color contrast for orientation of people with low vision
- Tactility for orientation of people who are blind (make sure not to unintentionally cause trouble for people using wheelchairs or walkers)
- Audio cues for orientation of hearing people with visual impairments

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Chapter 5 Accessibility of information

5.1. A general overview of the importance of digital accessibility for people with visual impairment

In general, digital accessibility means that documents and applications can be used even if the user has a disability or impairment. In a document, they are able to perceive all the information presented, understand it, grasp its structure and intentionally search through it. The concept is similar for applications as well, i.e. it's important for the users to be able to perceive all the controls of the application, to understand their meaning and to be capable of navigating and intentionally placing focus on them.

Examples:

- A user reads a document via a Braille display and A SCREEN READER, AS THEY CANNOT READ AND NAVIGATE IT THE USUAL WAY BECAUSE OF THEIR SEVERE VISUAL IMPAIRMENT. The user can bring up a list of all chapters in the document and instantly move to any of them and start reading it, including tabular data as long as it's structured in a way that's understandable to the user.
- A user controls an internet banking app via assistive software for speech recognition, as they access their computer with voice because of their motor impairment. The user has the option of bringing up a combo box of banking service providers and choosing their specific bank among them.

In both examples above, the users can succeed as long as an accessible environment is created for them - a document is structured in an accessible way, and an app has an accessible user interface. It is relatively simple to get the information across to users with specific needs in the digital world when considering accessibility guidelines, whereas implementing measures for enhanced accessibility in the physical realm usually takes longer and is more complicated.

Examples:

- If an ebook is not yet properly structured and equipped with all the accessibility mechanisms, such as textual descriptions of photographs, it can be edited and modified to support the accessibility guidelines.
- A printed book has to be narrated into audio or digitized via optical character recognition (OCR) systems.

As long as a suitable strategy is used, services primarily offered in the physical environment can also be provided in a digital form, which enables them to gain the benefits of the digital world. E. g. a user with specific needs can purchase their groceries online entirely independently and in a way that conforms to their needs whereas they would have to rely on a personal assistant in the physical environment, who would help them with their shopping and fully adjust the process to their needs. Under ideal circumstances, the creator of an accessible document or application in the digital realm does not conform his or her creation to a given user or user group with specific needs, but rather to anyone who needs to access the information in an alternative way, whether they might be unable to control the computer traditionally - via a mouse and keyboard - or to visually read the information displayed on screen. The versatility and overlap of digital content accessibility guidelines, specifically web content accessibility guidelines, is thus so important and significant for the sole reason that they aid everyone who needs them.

5.2. How users with visual impairment use the web/ apps/ docs

A crucial aid to a visually impaired user is assistive technology (screen reader or magnifier), which focuses the user's awareness to a point in the document or app where an important event occurs and helps them to navigate around the screen. The user has to know how to control their computer or mobile device using the given assistive technology (AT), or even the AT itself, but at the same time the document or app in question also needs to provide the AT with everything that's necessary in order to make it accessible. This typically includes following the published accessibility standards and guidelines. If the capabilities of the user, of the content being made accessible or of the AT in use are hindered in any way, the result may not turn out as expected. AT can be one of the built-in features of the computer or mobile device, where it's enough to simply turn it on, or an external app that needs to be installed separately.

If the user is still able to perceive some visual information from the screen within the constraints of their impairment, they can use a screen magnifier:

- It magnifies either the entire screen or a specific part that is focused.
- The user adjusts the magnification parameters according to their impairment.
- The user determines the focus as needed, usually by moving the mouse cursor.
- The focus can either follow the control currently active on the screen which the user is supposed to interact with, or the cursor.
- Colors are filtered according to the user's preferences so as to display the result with sufficient contrast and in a comprehensive way.
- Optionally, the user can also have the focused text read using voice synthesis.
- https://www.youtube.com/watch?v=EEN79RRvKqE

If the user is not capable of perceiving the visual information from the screen in any meaningful way because of their impairment, they use a screen reader:

- It follows the active element on the screen and describes its type, state and contents via voice synthesis or a Braille display.
- It keeps monitoring the events in the background in order to determine whether anything has appeared on the screen that requires the user's immediate attention, and subsequently notifies the user via voice synthesis or a Braille display whenever that is the case.
- It simplifies the task of controlling the device for the user, as a blind user does not usually use the mouse or gestures to directly work with the touch interface.
- It helps in navigating the on-screen contents and its structure.
- https://www.youtube.com/watch?v=dEbl5jvLKGQ

It's necessary to realize that the larger the magnification used, the smaller the area of the screen that can be focused and seen, and thus the greater the need for the magnifier's aid in order to navigate the contents of the document or the interface of the application. When a screen reader is in use, the focus is limited to the message currently being spoken or Brailled, where the Braille display can usually display only around 40 characters at once on average. Also, there is no way for a screen reader user to use the mouse for navigation efficiently. They navigate through the on-screen elements of the interface that is currently displayed in the foreground (entire screen, application window or document area) sequentially line by line, from left to right, top to bottom. Obviously, this way of navigation is tedious, and if the user is not interested in reading e.g. an entire article from the top, it's even undesirable to have to move over elements that are not relevant or important at the moment. For this reason, screen readers provide additional complementary commands:

- Skipping a group of elements that are irrelevant for the situation at hand - such as skipping over menu items.
- Sorting elements into logical groups which correspond to areas of a certain kind - e.g. offering a list of menus, article areas etc. The user thus gains a rough idea about how the app's interface is built, such as where to move their attention when they want to invoke a command from a menu.
- Narrowing the contents of the reviewed area down only into elements of a certain type - e.g. creating a list of all links, headings, etc. Such content is much more concise, and in the case of headings, the user essentially receives a heading outline summarizing the content, which helps with orientation significantly. The user can browse such a filtered list and choose which of the elements they wish to jump to.
- Searching for or bookmarking an element with certain contents or meaning to quickly refocus it later - e.g. bookmarking the button which brings up the menu, which makes it possible to focus it from anywhere. This method is utilized especially for frequently used apps and documents whose structure is very familiar to the user.
- https://www.youtube.com/watch?v=Q1gHxM1nP00

5.3. Assistive technologies (an overview, practical examples)

There are many different kinds of assistive technologies with diverse applications, including both specialized hardware devices and software solutions, covering the needs of users with varying disabilities and impairments.

As has already been mentioned, assistive software may come in the form of external third party applications that have to be installed separately in order to make a previously inaccessible operating system or another environment more accessible. These include commercial screen readers (such as Jaws for Windows or Window-Eyes, which is no longer being sold and developed) or screen magnifiers (Zoomtext) for the Windows operating system, or the Mobile Speak screen reader for Symbian powered smartphones, which was later rebranded as the Nokia Screen Reader. For many decades, this used to be the only viable approach to making operating systems accessible to the visually impaired on the software side. More recently, however, operating system manufacturers started including native built-in solutions in their products that provide more or less efficient screen reading capabilities to visually impaired users free of charge. These include the Narrator screen reader on

Windows, VoiceOver on all major Apple platforms (macOS, iOS, TVOs, WatchOS and even the homePod smart speaker) or the TalkBack screen reader on Google Android. All of the above major platforms also include a built-in screen magnifier. This was only made possible thanks to the OS manufacturers building the necessary accessibility layers directly into their systems, which assistive applications can subsequently utilize.

Even third parties have started offering free screen reading solutions, such as the NVDA (Non-Visual Desktop Access) screen reader for Windows, Orca for Linux or Jeshuo Screen Reader International (originally called Commentary Screen Reader) for Android. Commercial alternatives also still exist, especially the mentioned Jaws for Windows which has a very long history, powerful features, large user base and strong marketing, but also commercial screen readers for Android such as the Slovak Corvus screen reader or the Czech BigLauncher which is aimed especially at partially sighted or elderly users and makes the Android environment larger in size, more legible and easier to control in general because it attempts to free the display from useless clutter. Another product which is slightly similar to BigLauncher is the Czech BlindShell, which is actually a combination of compatible hardware, Android version and a screen reader and alternative launcher chosen and configured to work seamlessly together to provide an easier to understand experience for less technically inclined or beginner users.
Assistive hardware devices for the visually impaired include Braille displays (such as the Freedom Scientific Focus series, Alva or Orbit Reader displays), special tactile keyboards with Braille labels for the individual letters, the Pacmate device which is essentially a Braille display embedded with a netbook computer running Windows, but also hardware magnifiers and smaller devices such as color recognizers, light detectors, item locators and labelers and OCR readers of physical books and documents. More recently, with the advances in AI development and application, these specialized hardware solutions have been replaced, or at least complemented, with dedicated smartphone apps such as Voice Dream Reader (which can read existing ebooks and digital documents) and Voice Dream Scanner which can OCR a physical document, Microsoft Seeing AI or Envision AI which offer multiple features at once (including OCR, color recognition, light detection, scene and object recognition…), specialized navigation apps such as BlindSquare, Where Am I?,

Lazarillo or Right-Hear which use GPS to retrieve the user's location and provide information with emphasis on what's important for a visually impaired user (such as descriptions of crossings, nearby points of interest and also turn by turn navigation), or the Cash Reader app which recognizes bills in dozens of global currencies, etc.

Assistive technology for the hearing-impaired includes not only the expectable hardware hearing aids but also doorbells, alarm clocks or phones which replace sound cues with vibrations or flashing lights. Many of these devices are already being offered in the form of wearables such as smart wristbands. Software-wise, there exists a large array of apps which provide sign language interpretation or live transcriptions and captioning for public events, conferences and lectures, but more recently also movie shows and theater performances. Sometimes, these apps work together with a human operator who actually writes these captions, either live (being broadcast over the internet) or in advance, other times entirely automated and independent AI solutions have been invented that try to increase the productivity and efficiency of the captioning process and to eliminate its tediousness and time constraints to a certain degree by generating them autonomously. AI solutions have also been implemented that try to automatically recognize common background noises such as doorbells, ringing phones, sirens, fire alarms, animal noises or loud shouting and alert the user if such a sound has been recognized. An example of this implementation can be encountered in the most recent versions of the iOS and iPadOS operating systems for the mobile devices by Apple. General commercial products (Apple airPods) have also been utilized as semi-reliable hearing aids by using the microphone of the paired phone as a relay which transmits the background audio directly to the user's earphones, using machine learning to try to distinguish nearby voices and emphasize them, eliminating background noise (such as crowds or a busy street) at the same time.

AT for users with mobility impairments include various mice, track balls, switch controllers and other pointing devices which are larger than average, more ergonomic to use and easier to control. More recently, technologies that enable controlling a device with the movement of the user's eyes have also been introduced, and research prototypes have already appeared that attempt to enable control by directly scanning the user's brain wave patterns. Again, even operating systems

themselves provide native tools to a certain extent that allow the user to simplify the touch or pointing controls of the interface, sometimes involving assistance with the actual touch gestures the device expects. Voice control and voice dictation software is also very commonly used, including products like Dragon Naturally Speaking (global) or Speechtech Megaword and Newton Dictate (Eastern Europe). These applications are general purpose commercial products that have also been recognized and marketed as successful and efficient assistive technologies.

5.4. Web Content Accessibility Guidelines

The Web Content Accessibility Guidelines (WCAG) methodology, first developed by the World Wide Web Consortium in the 1990's and steadily evolving until present, is generally regarded as the most commonly used, most complete and most universal set of accessibility rules to be followed in web development. Most jurisdictions base their local legal rules on this guide, which effectively makes it the more or less officially acknowledged accessibility standard worldwide.

5.4.1. Principles

The four guiding principles of WCAG 2.0 say that Web content must be Perceivable, Operable, Understandable and Robust (POUR) in order to be accessible to people with disabilities. Perceivable – Information and user interface components must be presentable to users in ways they can perceive.

5.4.2. Strengths and weaknesses

Strengths

- Robust, proven, respected and universal system
- The current structural philosophy (separation into guidelines, rules and criteria) allows it to react to new techniques and standards in the field of web development, therefore it does not become obsolete as quickly
- It addresses accessibility needs of various user groups, including the visually impaired, deaf and hard of hearing, users with motor impairments, cognitive disabilities or language comprehension issues, which in the long run benefits the general usability for any and all users of a given website as long as it implements the WCAG rules correctly

- Although it covers a relatively broad range of topics and issues, its structure as well as moving the burden of explaining deeper details to its accompanying documents rather than including them in the main document itself allows it to remain relatively concise and straightforward
- It acknowledges (and links to) other standards and best practice guides, such as the aforementioned WAI-ARIA specification, which makes it possible for an educated web developer to develop very advanced accessibility as well as to keep their websites modern, dynamic and rich at the same time
- It has been translated into multiple languages
- It has the backing, support and advocacy of the most widely trusted authority of the web, i.e. its founder

Weaknesses

- Currently, it does not cover all modern aspects of mobile, desktop, standalone document and other forms of contemporary digital accessibility (see below)
- The process of including a new technique or standard in the methodology takes a very long time as it needs to be reviewed and approved thoroughly before it can undergo global adoption
- It does not provide very many practical, user-centered, everyday examples of the actual issues that a given type of user would encounter on the website if it failed to meet a given criterion (without diving deeper into the structure of its accompanying suite of documents)
- Mere compliance with WCAG alone is not a reliable, all-covering way of ensuring complete and sufficient accessibility; because of its core approach which is to provide general guidelines rather than strict, dogmatic rules to follow, a website can meet many of the WCAG criteria but still be completely inaccessible in other regards. Thus, more complex accessibility audits and user testing are still required in order to ensure accessibility as well as practical usability
- WCAG itself is not the accessibility law in major global jurisdictions such as the US or the EU, i.e. it does not provide any mandatory legal options of enforcing accessibility or sanctioning the lack thereof

5.4.3. WCAG “ecosystem

WCAG is accompanied with complementary documents (such as “Understanding WCAG”, “How to Meet WCAG” and “WCAG Techniques”) which explain the individual rules in practical context, as well as other methodologies such as UAAG (User Agent Accessibility Guidelines, which addresses the way software such as web browsers and assistive technology should present the accessibility information to the users) and ATAG (Authoring Tool Accessibility Guidelines, which addresses how

content editors and development environments should implement the features for creating accessible content in their frontend). Currently, WCAG is in the process of being revised and expanded to include document, mobile, desktop and other contemporary forms of digital accessibility requirements.

Another accessibility standard, which is still very young but growing and constantly developing rapidly, already very closely related to WCAG and widely used on actual websites, is WAI-ARIA (Web Accessibility Initiative - Accessible Rich Internet Applications). WAI is a working sub-group of the W3C which has been concerned with exploring accessibility issues and standardizing the requirements and measures to resolve them since the very early days of WCAG. Although WAI-ARIA is still a work in progress, the 1.0 version of the specification has already been approved for general public use, and many web browsers and assistive technologies already recognize and implement it. This standard introduces a quite extensive set of the specific accessibility attributes mentioned above, which should be used in web content and other relevant areas by the developers to convey the more advanced information about non-standard controls (such as graphical buttons, widgets, animations, menus, grids or the so called modal popup windows) that can't otherwise be expressed semantically using plain HTML or JavaScript. Just like proper HTML semantics and even knowing how to apply the individual rules of WCAG correctly, though, even ARIA markup has to be done correctly in order to actually provide useful additional information, rather than coming up with something with good intentions which actually results in introducing more accessibility issues in the end. If ARIA attributes are implemented properly, they provide the assistive technologies with rich information about the element's name, role, state and value, just as if a standard element (such as a button) native to the operating system was being used instead of a custom non-standard implementation.

5.5. Barriers removal

Barrier identification

Barriers can generally be revealed by simply using the website or application in the usual way, ideally with the support of an assistive technology such as a screen

reader. We choose such use cases that correspond to the characteristics of the web or app in question, and correspond to its intended goal.

However, with this way of testing, certain important aspects may be missed completely, if only for the simple reason that they are entirely inaccessible.

Therefore, it's more suitable to have more specific testing requirements in the form of a list of use cases which should be completed and where it's possible to determine how the process should work with assistive technologies and what barriers may be encountered.

When performing the use cases, the following rules should be followed:

1. Have two testing environments, with different web browsers and assistive technologies (screen readers). The use cases should be performed in both configurations in order to distinguish true barriers from issues caused by the specific configuration in use.
2. To understand which part is the website (or app window) template and which is the contents of the specific page (or dialogue window) in question, open several different parts of the interface, compare them to each other and identify navigational elements, search fields and other common mechanisms.
3. Before starting the actual testing, you should know what formal and informal standards there are, what common elements and widgets should look like structurally, and how they should behave and be controlled. For this, extensive knowledge of how the used screen reader operates is mandatory.
4. Learn about the principles of the Web Content Accessibility Guidelines methodology and learn to think within the scope of the rules that it presents.
5. Try to become somewhat aware of how to write documents and develop apps in the usual editors in order to know which means can be used to remove the barriers.
6. Notice positive accessibility aspects as well, and learn to appreciate them.

Ability to describe the barrier

The report for every single barrier should include information about the current state and about the required state in order to eliminate it. For indicating the severity of the barrier, it's advisable to specify several levels of priority, ideally 3 of them. The state description should specify where exactly the barrier occurs and how its current presentation and behavior differ from the usual state. The usual state, meaning an optimal accessible solution, should be described as the state to achieve.

Example:

The link that leads to the main page is read as “graphic.png” by the assistive technology. Something like “main page” is more suitable. If the link is implemented as a logo, it should have the banner role.

When asked for a verbal assessment of the document or application’s accessibility, if communicating in person, there is the benefit of being able to demonstrate the behavior of the assistive technologies and specific aspects of accessibility directly in practice. Such a demonstration can sometimes mean more than several paragraphs of text.

Recommendation on how to remove the barrier

Of course, the barrier should be properly described so as to make obvious what presents issues to the users. However, designing a working solution is even more important and also complicated. To make the solution to the barrier as efficient as possible, it’s advisable to learn how specific accessibility issues are usually resolved in the development environment or editor at hand - for instance, to know that a heading in Microsoft Word is created by using one of the predefined styles or alternatively by setting the outline level. On web pages, the same issue is resolved by semantically marking the headings as actual headings, i.e. using the native HTML h1 to h6 elements according to the heading’s level, or by using the “role” and “aria-level” accessibility attributes.

This knowledge is not easy to learn, as it’s a complex topic which is most often understood just by professionals in the field of accessibility. However, giving up on learning about this topic entirely is not desirable either. In the end, it’s crucial to word the designed solution clearly, knowing that the other party who requests our feedback probably knows nothing about assistive technologies and has only vague knowledge of such features of their editor or development environment which have a major impact on accessibility.

Real-life examples

- When a user without disabilities wants to read an article, they simply focus their sight on an area that they find graphically interesting and start reading. The surrounding elements on the page are filtered out subconsciously as they are not the current point of the user's interest. On the other hand, a blind user has to use the command to skip to the main content area of the web page which contains an article. If they read the page from the beginning, they would first have to listen to the information about the website title and a list of the main navigational links. However, the user already knows these and does not need them in this case.
- When filling out a form where there is a text field for the city and a combo box for the country, a mouse user first focuses and clicks the City field. They fill it out and then move the cursor to the list of countries and expand it by clicking it. They point to the required country and confirm the selection with another click. They understand the controls and the meaning and type of the individual elements by their graphical appearance and from the respective labels in their immediate vicinity. Instead, a blind user gradually moves from one form field to the other with the respective commands and receives spoken information about the element's type, its label and its contents or the highlighted value. If the text field for the city is described, they fill the field out simply by typing, which the screen reader assists with by reading back the typed characters. When moving to the next field, the country combo box is narrated. The user knows that the required country in the list has to be chosen with the arrow keys, where the screen reader gradually narrates every list item as it's being highlighted with the arrows.

The examples described above do actually work in practice, as long as the accessibility guidelines are met. Thus, the following applies:

- If the main content area of the article is not properly marked up, the user cannot quickly jump directly to it with the respective command, and they have no other option but to sequentially move through all the elements preceding the actual article, even if at a very high speed. They could have used the full-text search feature to find the name of the article if they know it, but access to the information provided is already less comfortable and more complicated.
- If the City text field and Country combo box are not implemented as proper form fields, it will be difficult for the user to even find them at all when browsing the form the way they are used to, as they will not be included in the list of all form fields and the screen reader wouldn't probably even be able to notify the user that the currently focused element is a text field or a combo box. Keyboard focusability is also crucial, especially for combo boxes - many web page elements are often unreachable with the keyboard at all. The more

common occurrence, however, is that the form fields are implemented properly, but lack proper programmatic associations with their textual labels. Thus, the user does have the capability to focus the text field or combo box, but they are missing the information, for instance, about what kind of data to fill into the text field. The labels can often be determined by reading the entire form sequentially in detail, but access to the information provided is already less comfortable and more complicated.

A major barrier for blind users is information that's presented in a different form other than text. Screen readers can simply forward textual information to the voice synthesis or render them on a Braille display. If a graphical element occurs, however, and its purpose is not just decorative, it must have its corresponding text alternative, so that there is something to speak or Braille. These text alternatives can help even those users who have enough vision to use screen magnification, but not enough to understand the purpose of the graphic. Even though the AT can guess the textual descriptions of images via OCR in some cases, these may not be understandable enough - for instance, the difference between a machine-generated description of "right arrow" and a manually added description of "next chapter" demonstrates such contexts where it's impossible to successfully determine the purpose of the image via programmatic techniques.

There is another group of users with visual impairments that can't be neglected, who do not commonly use assistive technologies (magnifiers or screen readers), but do appreciate certain accessibility standards. There are several orders of magnitude more of such users rather than AT users. These non-AT users do not work with documents and applications in a significantly different way than able-bodied users, yet they may still need interface modifications:

- They need to have significant contrast in lighting and colors between the foreground and the background - e.g. using a font whose color is different enough from the background color or image. This is appreciated by users with a color perception impairment.
- They need to have the possibility to increase the text size using the features of the browser, reader or the operating system of the device itself, without the layout becoming distorted and incomprehensive.

- They need the document or app to behave in such a way that the layout and purpose of the elements makes sense, even with different sizes of the viewport (visible area) - so called responsive design.

5.6. Legislation and Standards related to the accessibility of information

5.6.1. The Development of legislation on information accessibility

The question of making electronic information accessible on public administration websites was first mentioned in the Slovak Republic in the **National Programme for the Development of Living Conditions for Citizens with Disabilities in All Areas of Life**, which was approved by Resolution No 590 of the Slovak Government from 27 June 2001. Subsequent to this, a report regarding the implementation of this programme for the year 2004 and tasks for the year 2005, was approved by Resolution No 692/2005 of the Slovak Government. It contained the following duty: "Legislate an obligation to design and maintain websites in accordance with EU regulations so that they are accessible to persons with disabilities. Impose this obligation on central and local government authorities as well as on state and public institutions."

Based on this resolution, Act No 275 of 20 April 2006 on Information Systems in Public Administration was passed. This Act, through Decree No 1706/M-2006, brought to Slovakia the first legal norm defining mandatory requirements for website accessibility. In addition to the mandatory requirements, the decree also contained some international rules from the Web Content Accessibility Guidelines 1.0. It also provided some design principles for accessible websites in accordance with Blind Friendly Web's Documentation on principles of accessibility of websites for users with severe visual impairment. (1)

Another legal norm substituting Decree No 1706/M_2006 is Decree No MF/013261/2008-132 of the Ministry of Finance of the Slovak Republic from 2008, which stated the mandatory obligations in paragraph 14 'Accessibility of websites' and specified them further in Annex No 1. The last comprehensive legal norm, valid before the present situation, was Decree No 55/2014 Coll. of the Ministry of Finance of the Slovak Republic on Standards for Public Administration Information Systems.

In relation to accessibility, the changes implemented in this decree focused on "proactive harmonisation with the planned EU directive on web accessibility and forecasted compliance with the AA level of the international standard for accessibility WCAG 2.0." (2)

5.6.2. Legislation on information accessibility in Slovakia – current situation

In terms of accessibility of public administration websites and mobile applications, the currently valid legal platform in Slovakia is **Act No 95/2019 Coll. on Information Technology in Public Administration** as amended (3). **Decree of the Office of the Deputy Prime Minister of the Slovak Republic for Investment and Informatization No 78/2020 Coll**. on Standards for Information Technology in public administration (4), is derived from this. The Decree sets mandatory standards for information technology in public administration. Observing these laws guarantees, amongst other things, the accessibility of public administration information systems for people with disabilities. The provisions of the **Directive of the European Parliament and of the Council (EU) 2016/2102 of 26 October 2016 on the accessibility of websites and mobile applications of public sector bodies** (5) were transposed into the above-mentioned act and the relevant decree. In terms of accessibility standards, Decree No 78/2020 Coll. determines compliance with A and AA level of the international document **(Web Content Accessibility Guidelines – WCAG 2.1** (6)). Apart from this, the decree also contains a mandatory declaration on websites/mobile applications accessibility with specific points which must always be stated in the Declaration (7).

Act No 211/2000 Coll. as amended on free access to information regulates the conditions, procedure, and scope of free access to information. Entities that are obliged to make information available and to comply with the provisions of the Act include municipalities, cities, and self-governing regions, and the act guarantees access to the information available to them. A natural person with a sensory disability is entitled to request access to information in an accessible form, in the case of a blind person in Braille, in the case of a visually impaired person in an enlarged font. Of special importance is the provision of §16 par. 7 enabling the applicant and the obliged person to agree on another way of making the information available. This

relates mainly to information provided in the form of an accessible electronic document, which is becoming useful for more and more visually impaired people.

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