



# Mobilamp

*How a product design can facilitate the everyday life  
of urban nomads*



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*Course name:* Innovation through Business, Engineering and Design - Specialization in Design  
*Course code:* 5DI74E  
*Institution:* Linnaeus University  
*Semester:* 22VT  
*Submission date:* 24-08-2022

## **Acknowledgements**

I would like to thank my tutors Miguel Salinas and Yan Ki Lee for their support and valuable guidance and advice during the seminars and tutoring sessions. The valuable input has greatly supported me in the process of my master thesis and broadened my view on the topic. I also thank my classmates for their helpful comments and support during the seminars and the project process.

Special thanks also go to the two interviewees Emma and Alina, who sacrificed their valuable time and allowed me to get an insight into their nomadic life. The active input and feedback during the design process was also especially helpful.

Lastly, a big thank you goes out to my friends and family who not only actively supported me in my design process, but also provided emotional support.

## **Abstract**

Due to various societal changes such as globalization, urbanization and connectivity, new lifestyles, such as that of urban nomads, are becoming more common and relevant. Therefore, this study observes and analyzes this target group from a critical and multidisciplinary perspective. Urban nomads can be defined as a collective group of people who live and work in urban areas. They do not reside permanently in one place but move frequently within urban locations. Minimalism as part of low-consumption lifestyles and the concept of mobility, which form the core of the urban nomads' mindset, are examined in detail.

The focus of the research is the relationship of urban nomads to material possessions and their meaning. Based on this, the thesis aims to generate criteria and requirements for a product design from the perspective of design, which meets the needs of urban nomads and simplifies their everyday life. Through a people-centered approach and the collaborative application of different methods, the urban nomads are placed in the focus of the innovation process and are actively involved in the process.

The thesis results in the development of a transportable and multifunctional lamp (Mobilamp), which is realized in the form of a prototype based on the generated criteria from the research. The product design is considered as an example and analyzes in which way needs can be satisfied and through which usage situations the daily life of urban nomads can be facilitated. The aspect of sustainability in the consumption behavior of the target group is also critically analyzed and evaluated through the product.

**Keywords:** mobility, minimalism, urban nomads, product design, co-design

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# **1. Introduction**

## **1.1 Background**

There have been various changes in recent decades that have significantly influenced and transformed society. These include, for instance, globalization, urbanization, and connectivity. The blending and exchange within different cultures and the worldwide connectivity through digital technologies has brought both opportunities and challenges (Gatterer et al. 2020). These include, on the one hand, positive aspects such as a generally higher standard of living and international relations and trade, and, on the other hand, negative aspects such as increased environmental pollution due to mass production and disposal (Bussian et al. 2019). Urbanization represents another significant change. According to Giseke (2021) it is assumed that 2.5 billion people will live in cities in 2050. This enormous amount of people also confronts urban design with immense challenges and problems, such as traffic and built-up areas for housing, that must be solved. However, opportunities are also mentioned, such as better access to resources, new ways of living and working, and the trend towards a generally higher interest in sustainability, which forms the basis for social innovations (Giseke 2021).

Regarding these major societal changes, different lifestyles and forms of living can also be observed. While most of society is sedentary today, globalization and the ability to work digitally and from anywhere have made a mobile, nomadic lifestyle more popular again. Research shows that in the United States, for instance, the number of people identifying as digital nomads more than doubled from 7.3 million in 2019 to 15.5 million in 2021 (MBO Partners 2021a). The same trend is seen among people in the United States who live in vans. This has also increased significantly from 1.9 million people in 2020 to 2.6 million people in 2021 (MBO Partners 2021b). Such data shows a trend toward the mobile lifestyle and the relevance of the niche target group. However, a change in living circumstances, such as financial distress, can also be a reason for leaving a permanent home and reducing personal possessions. Nomadic life can represent either a temporary or a constant state.

Cities offer the ideal place for nomads today due to their well-developed infrastructures. Because of the various means of transportation, in cities and between cities, a high degree of local mobility is given. But also, services in cities like co-working spaces or temporary accommodation facilitate nomadic life (Holzer 2020). The focus of this paper lies therefore on the group of urban nomads.

## **1.2 Project description**

The project analyzes a specific target group, the urban nomads, and investigates through which criteria a product design can meet the needs of urban nomads and thus facilitate their

everyday life.

As background for this research low-consumption lifestyles like minimalism, and mobility are considered as a concept of life. Constant movement and reduction of material possessions form the basis of the nomadic life model. The analysis of the target group in this study is based on both primary and secondary research with a focus on people-centered design approaches, such as co-design, which focus on the collective group of urban nomads and actively involve them in the design process.

Through a comprehensive analysis of the lifestyle of urban nomads, which in addition to values, living behavior and needs also takes a close look at material possessions, criteria and demands on a product design can be established. These include convenient transportability, minimalist design and multifunctionality. Based on these research results, a product example is developed in collaboration with users and visualized and evaluated by means of a digital prototype during the design process. The product design concept is a mobile light that can be used in various ways and in different situations.

### **1.3 Personal background and motivation**

Traveling is one of my greatest passions and living in different places around the world has always fascinated and inspired me. I have lived in three different countries myself and have always found immersing myself in new cultures and new environments to be a very enriching experience. The countries I have lived in so far are Germany, Australia and (now) Sweden and although there are cultural differences (even if they are not so strong because all of them are western countries), I have found a lot of similarities. In Germany and Australia, I have lived mainly in the area of big cities (Frankfurt, Brisbane and Sydney) where many different cultures come together and where therefore a lot of cultural exchange takes place. In Sweden, I live in a smaller city, but Växjö is also a progressive and dynamic environment due to the big university, which makes it comparable to the environment of bigger cities.

I personally have never lived a nomadic life, instead I have always had a permanent home base to which I could return. Therefore, I am particularly fascinated by the idea of giving up one's own home, in the form of a fixed place of residence, and instead of holding on to a certain place, living in the present moment. This philosophy is very interesting for me, especially from a psychological perspective, and therefore in this thesis I primarily focus on people who make a conscious decision to live nomadically. I am investigating the urban nomads from an observer's perspective and aim to critically reflect on the lifestyle.

As a product designer, I am particularly interested in the physical things that nomads transport with them on their journey and the various infrastructures and services they use

in their everyday lives. My general interest lies in multifunctional and sustainable product solutions. Since urban nomads have a very limited number of possessions and minimalism is also often a reason for entering this lifestyle, my motivation for this work is to design a practical and transportable product in close contact with the target group that can improve aspects of their daily life. With a view to innovation, I am also interested in the social and environmental aspects of this lifestyle, as well as in transdisciplinary and people-centered methods as an approach for the design project.

#### **1.4 Aims and purposes**

The aim of this study is to understand the needs of urban nomads. Based on this, the further aim is to translate the results into criteria and requirements for a mobile product design. The purpose is to design a practical and transportable product that meets the minimalist requirements and that facilitates the target group's everyday life through a people-centered design approach.

#### **1.5 Scope and limitations**

The study was developed using multidisciplinary resources. The focus is on the design perspective while other fields (business, engineering, sociology etc.) serve for understanding and reinforcement. The aspect of innovation takes place in the product design process and, together with the target group analysis, provides a foundation and a basis for further future research. Since urban nomads are a rather new phenomenon and a niche target group, access to quantitative data is limited. Qualitative data was collected mainly by investigating online resources from an observer's perspective. The possibilities to get in touch with urban nomads in person were also limited due to the small target group and the geographical distance.

##### **1.5.1 Delineation of field of study**

The target group of urban nomads is studied in this thesis with a multidisciplinary approach. Existing target group research and supporting theories originate from different fields such as sociology, psychology, economy, design and future studies. The methods used for the research and the design project originate from the fields of economy and design. Although the focus of this thesis is on the perspective of design, the consideration of the different disciplines is fundamental in terms of innovation. According to Trott (2012), innovation is a process that involves newness, creativity, and discovery. The connections of the theories and

methods from the different fields, the interaction and the following generation of criteria to a product design project includes the aspects mentioned by Trott and therefore represents a project in the field of innovation.

Nomadism is not a new form of life, but it is only in recent years that research has begun to address the lifestyle of urban and digital nomads. Due to the increasing numbers of people living this lifestyle, the relevance of urban nomads as users for services and products and society in general has also increased (Hamurcu and Görevlisi 2018; George 2021). Scientific sources are thus recent and not yet depleted. A critical question that is currently being discussed is to what extent the values of urban nomads, as a new manifestation, correspond to the fundamental values of traditional nomadic populations and whether the title nomad is even accurate (Korpela 2020). From this perspective, the importance of sustainability is also relevant to this project. Thus, the work and the project will also examine how the needs of the target group can be satisfied without constraining the demands of other social groups and future generations from a social and ecological point of view (Brůhová Foltýnová et al. 2020).

### **1.5.2 Delineation of project**

The project can be assigned to the field of product design. The design project is based on a people-centered design approach that focuses on meeting the needs of the target group of urban nomads. The implementation of the product design also takes place in interaction and with the participation of representatives of the target group, using various collaborative methods.

The design project explores the aspect of material possessions that are investigated in the target group research. Furthermore, aspects of human needs and the demands of minimalism and mobility are integrated into the design process. In addition, a look at the market of mobile and functional product solutions is conducted in order to get an overview of the already existing product range. The project focuses on the criteria through which a product can meet the needs of urban nomads and facilitate areas of their everyday life. As an example, a product design in the form of a mobile lamp is being developed.

### **1.6 Research questions**

RQ1: What requirements should a product meet in order to fulfill the needs of urban nomads?

RQ2: How can a product design facilitate their everyday life?

## 2. Theoretical Framework

### 2.1 Theory of human needs

Various theories about human needs and their categorization and classification exist. The theories originate from the fields of psychology and economy and often show an interface between the fields, for instance they are applied in consumer psychology (Fellner and Goehmann 2020). Regarding this thesis, which focuses on a specific target group (urban nomads), human needs theories are highly relevant for the target group analysis as well as for the design project, as the fulfillment of their physical and psychological needs is in the focus. Human needs are examined for this research especially with a focus on the theory of Human Scale Development by the economist Max-Neef. The theory is characterized by the classification of needs and their distinction from satisfiers (Max-Neef 1991). To obtain a holistic picture, the theories of Maslow, Doyal and Gough and Ryan and Deci are also examined and compared with the theory of Max-Neef. The purpose of using the human needs theories for this thesis is to illuminate the ways in which needs are met. The theories also provide a basis for low-consumption theories, such as minimalism, which will be discussed in the next section of the theory chapter.

A widely used theory is Maslow's Hierarchy of Human Needs. According to his theory, human needs are graded and satisfied in sequential order (Clube and Tennant 2020). The hierarchy of needs is often depicted using a pyramid. Basic physiological needs are placed on the lowest level, which according to Maslow must be fulfilled before needs on a higher level can be satisfied (Gawel 1996).

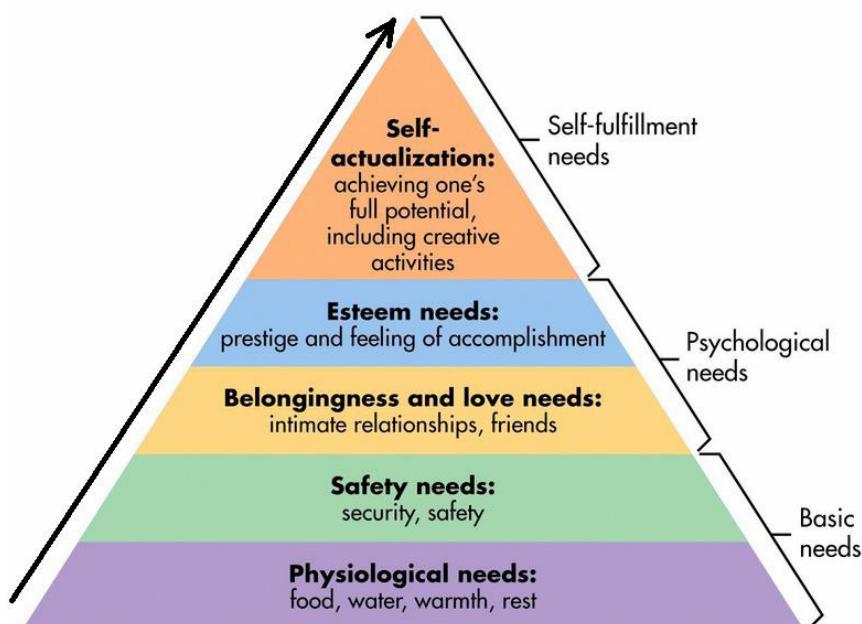


Figure 1. Maslow's hierarchy of human needs (McLeod 2018)

Fellner and Goehmann (2020) argue that there are several theoretical approaches to the fulfillment of needs, among which a distinction can be made between human need-based approaches and preference-based approaches. According to the non-consumerist perspective, consumption and the accumulation of material possessions is something that humans have learned to do, and which contributes only to a small extent to actual well-being and the fulfillment of needs. In contrast, preference-based approaches assert that what people consume corresponds to their desires and therefore also results in personal well-being (Fellner and Goehmann 2020). Max-Neef's Human Scale Development theory is part of human need-based approaches and considers human needs as few and finite. The theory is based on three pillars: fundamental human needs fulfillment (based on satisfying needs matrix), organic articulations (interrelation between nature, human and technology) and self-reliance (human has significant role in development) (Clube and Tennant 2020). In this thesis only the theory of human needs is discussed.

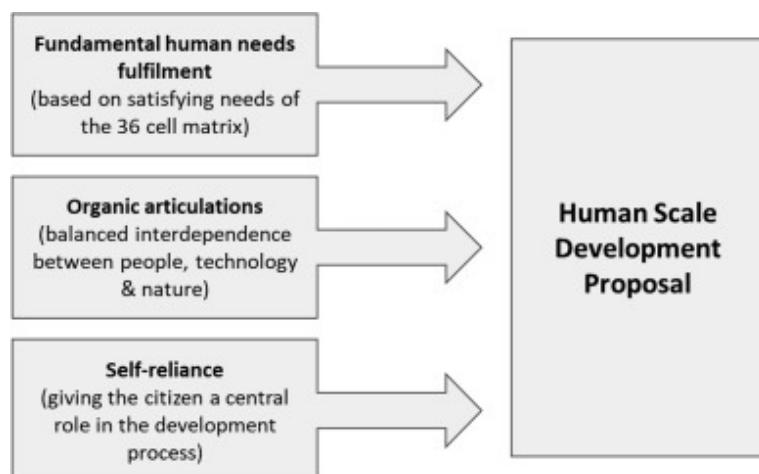


Figure 2. Human Scale Development theory by Max-Neef (Clube and Tennant 2020)

Max-Neef has classified human needs into two categories: existential and axiological needs. The needs of the two categories are interrelated, which is illustrated using a matrix that visualizes human needs as a system (Max-Neef 1991) (Appendix 1). Being, having, doing, and interacting are named as existential needs through which the axiological needs apply (Clube and Tennant 2020). The axiological needs consist of subsistence, protection, affection, understanding, participation, idleness, creation, identity, and freedom (Rauschmayer, Omann, and Frühmann 2011). Subsistence, meaning the need to survive, is the most crucial need, while the other needs are considered equally important. According to Max-Neef (1991), fundamental human needs are universal and are therefore independent of cultures and time periods.

Unlike needs, satisfiers are variable and consequently vary culturally and socially and change over time (Clube and Tennant 2020). Satisfiers refer to the ways and methods of fulfilling

needs and, unlike needs, represent a choice (Max-Neef 1991). For this reason, the two elements are distinguished in human need theory. In which way needs are satisfied depends on the individual and their personal values, abilities, and life situation (can be politically, socially, and culturally conditioned) (Rauschmayer, Omann, and Frühmann 2011). A few examples can be used to illustrate the difference between need and satisfier. For instance, food, shelter, and health are satisfiers that fulfill the need for subsistence, whereas tolerance, respect, and friendship are satisfiers that satisfy the need for affection (Max-Neef 1991). There are distinct types of satisfiers that differ in quality and have distinct characteristics (Fellner and Goehmann 2020). Max-Neef (1991) divides satisfiers into the following groups: singular satisfiers (satisfy only one need and behave neutrally toward other needs), synergic satisfiers (contribute to the satisfaction of several needs at the same time), pseudo-satisfiers (provide a false sense of satisfaction only for a brief time), inhibiting satisfiers (over satisfying one need and therefore impairing satisfying another need), violators and destroyers (destroy the possibility of satisfying a need) (Appendix 2). Satisfiers can be either material or immaterial, with synergic satisfiers usually being immaterial things, which are more ecologically sustainable (Clube and Tennant 2020).

What happens when needs are not satisfied? Max-Neef sees the insufficient fulfillment of needs as part of poverty (Clube and Tennant 2020). As a result, the quality of life is lower. At the same time, however, unmet needs are active motivators for change and represent potential for development (Rauschmayer, Omann, and Frühmann 2011).

A similar categorization of needs can be found in the theory of human needs by Doyal and Gough, who define two basic needs: health (including physical survival) and autonomy (the ability to set and achieve one's own goals). As by Max-Neef, a distinction is made between satisfiers, which are variable, and needs, which are constant. (Fellner and Goehmann 2020) Ryan and Deci's self-determination theory also takes the same approach, dividing basic needs into autonomy, competence, and relatedness (Rauschmayer, Omann, and Frühmann 2011).

## **2.2 Minimalism as part of low-consumption lifestyles**

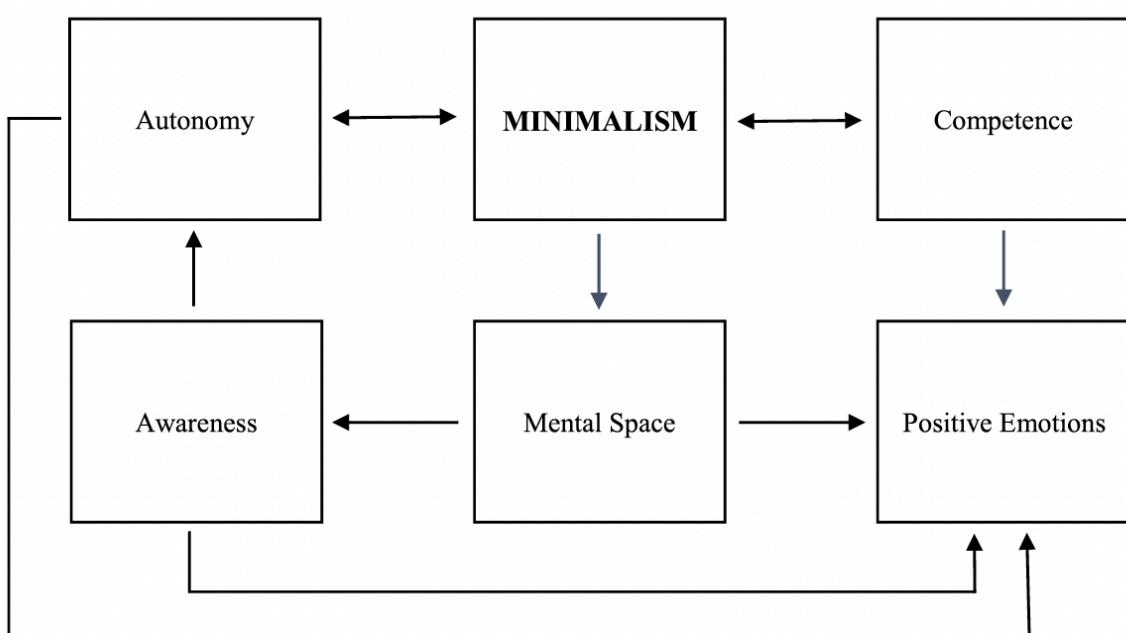
Minimalism is a theory from the field of psychology (Lloyd and Pennington 2020). The theory is contextualized to other fields, such as consumer behavior (economy), lifestyle philosophy, design, and sustainability, which are relevant for this thesis as well. The purpose of using the minimalism theory is to explain the phenomenon of the target group (urban nomads) and to clarify the motivations behind the decision to live a minimalist life with limited material possessions. Minimalism is part of low-consumption lifestyles (Lloyd and Pennington 2020) and shares some commonalities with other low-consumption philosophies, which are addressed in this chapter as well. These include voluntary simplicity, reduced consumption, and anti-consumption (Appendix 3). The theories problematize consumption and material possessions and highlight the ways in which reduction and a focus on essentials can positively contribute to the fulfillment of physical and psychological needs.

Minimalism emerged in the 1960s as a visual art style characterized by simplicity, and through this aesthetic it also influenced the fields of design and architecture (Wilson and Bellezza 2022). The authors claim that the aesthetic was characterized by clean and simple design and by a monochromatic color palette and gained a higher popularity in the 2000s. As an original art form, minimalism transformed into a movement in consumer culture. Due to globalization and the increasing living standards worldwide, global consumption has increased in recent years. As a countermovement to excessive material consumption, minimalism has thus been increasingly prevalent, especially within younger generations (millennials) (Pangarkar, Shukla, and Taylor 2021). Moreover, according to the authors, the COVID-19 pandemic, which caused an economic shock and financial insecurity, raised the general interest in being less dependent on material things.

Minimalism is a philosophy of life, based on limiting material consumption and reducing the accumulation of possessions (Matte et al. 2021). The philosophy contrasts with materialism, the desire to acquire physical items, and the excessive consumption of goods (Wilson and Bellezza 2022). Materialism is associated with higher financial burden, the lack of ecological awareness, and a lower level of individual well-being. Psychological needs are attempted to be compensated with material possessions and social comparisons, which has a negative impact on well-being (Lloyd and Pennington 2020).

On the other hand, minimalism represents a conscious decision that aims to increase the overall quality of life and individual satisfaction (Pangarkar, Shukla, and Taylor 2021). By owning fewer things and consuming little, people attempt to break free from dependence on possessions and society's expectations, thereby gaining more control over their own environment and daily life (Lloyd and Pennington 2020). According to Wilson and Bellezza (2022), mindful consumption increases one's awareness of the things one owns and acquires

and how they are used and disposed. Choices of possessions are made more thoughtfully and selectively, focusing on essential items that add value. Minimalism strives to assign a higher meaning to one's life to self-reflect and improve (Matte et al. 2021). For instance, the lifestyle can help develop skills such as managing money thoughtfully or practicing self-control. Furthermore, the lower environmental impact due to reduced consumption contributes to assigning a higher meaning to one's own life (Lloyd and Pennington 2020). In addition to consumer behavior, minimalism also influences other decisions in life. For example, minimalists focus more on activities that contribute to well-being instead of making money or are more conscious of only engaging in social relationships that add value to their lives (Wilson and Bellezza 2022).



*Figure 3. Model of minimalism and wellbeing (Lloyd and Pennington 2020)*

The aesthetic of minimalism is characterized by simplicity, plainness, and neatness. Unlike maximalist design, which is decorative, patterned, and cluttered, minimalist design has few decorations and is distinguished by neutral and monochromatic colors (Wilson and Bellezza 2022). The calm and orderly appearance of minimalist design impacts psychological well-being as well. According to Lloyd and Pennington (2020), there is a direct connection between mental and physical space. Therefore, the authors state that by having an organized home, the human psyche is calmed and clear, while a cluttered environment generates stress, anxiety, and confusion.

A low-consumption lifestyle that represents similar values as minimalism is voluntary simplicity. It is characterized by the personal decision to reduce consumption of material

goods and instead collect intangible things such as experiences that evoke satisfaction and meaning (Matte et al. 2021). Another commonality is the goal of gaining maximum control over one's life and personal possessions through reduced consumption (Wilson and Bellezza 2022). Voluntary simplicity also shares with minimalism the pursuit of self-fulfillment, meaning, and personal happiness through one's own perceptions and beliefs (Pangarkar, Shukla, and Taylor 2021). Psychological needs such as autonomy, freedom, awareness, and competence contribute to a higher level of satisfaction with one's life (Lloyd and Pennington 2020). The significant difference to minimalism is the motivation to act ecologically and socially. This is often expressed, for example, through the pursuit of self-sufficiency. In contrast to the voluntary simplicity philosophy, the ecological and social aspects are not necessarily an important part of minimalism (Wilson and Bellezza 2022). Minimalism can be a purely aesthetic choice that represents social status and belonging (Pangarkar, Shukla, and Taylor 2021).

According to Pangarkar, Shukla, and Taylor (2021), reduced consumption is a lifestyle motivated primarily by frugality and financial constraints. The authors state that as with minimalism, the aim is to consume less and improve the quality of life by acquiring only necessary items. The difference to minimalism is that reduced consumption is motivated by economic constraints caused by one's living situation and the resulting ambition to be more financially effective and to limit one's consumption behavior (Wilson and Bellezza 2022). The goal of spending less money is not necessarily part of the minimalism theory. Minimalism can be luxurious, for instance, when choosing to spend more money on fewer, selected items (Wilson and Bellezza 2022).

Lastly, the connection between minimalism and anti-consumption is examined. The anti-consumption philosophy is characterized by boycotting and avoiding certain products, brands, organizations, or countries (Lee, Ortega Egea, and García de Frutos 2020). This is motivated by idealistic intentions, such as the wish to contribute to environmental goals and social justice (Pangarkar, Shukla, and Taylor 2021). As with minimalism, certain goods are avoided, but the motivation behind them differs. While minimalism aims at not consuming things that are not necessary or have a personal added value, the goal of anti-consumption is not only to create a difference in one's life, but also to make a social contribution (Pangarkar, Shukla, and Taylor 2021).

## **2.3 Mobility**

Mobility is defined by the capability to move quickly and easily and the intention to move on from a physical place or situation (Encyclopedia Britannica n.d.). The theory originated in the field of sociology (Erickson et al. 2014) and is also receiving attention in other fields, such as future studies, work concepts, or urban studies. The use of the mobility theory in this thesis intends to elucidate the phenomenon of the target group of urban nomads by looking at different areas of mobility.

Due to diverse (societal) changes, such as climate change, globalization, urbanization, and digitalization, the concept of mobility is also transforming. The mobility sector is a growing market as an increasing number of people live, work, and consume in a more mobile way (Bussian et al. 2019). For this reason, developments in mobility are strongly driven by various consumer demands and global challenges and policies (Miskolczi et al. 2021). Developments such as urbanization increase the need for mobility services. There is a need for products that make being on the move more sustainable and efficient and minimize stress and complications (Bussian et al. 2019).

According to van Wee and Handy (2016), the reason for human movement is the intention to participate in different activities, such as education, work, and social activities. Thus, people do not move randomly, but purposefully and in regulated patterns within geographical distances (Noulas et al. 2012). Stouffer's (1940) theory of intervening opportunities states that the distance within which people move is proportional to and conditioned by the opportunities (places for activities) located within that distance. Authors van Wee and Handy (2016) share a similar view, claiming that land-use patterns are characterized by the density of activity (e.g., population size or number of jobs in an area) and by the combination of opportunities (e.g., services and businesses) in an area. The density of the space used determines the distances and accessibility to locations and thereby influences the movement behavior of people. However, in addition to the built environment, human preferences also condition movement behavior (Van Wee and Handy 2016). Since cities have a higher density of locations and activities within a small distance, mobility and the availability of mobile services are accordingly higher. Quantitative research found that cities around the world have similar mobility patterns and, consequently, these are universal, regardless of cultural differences (Noulas et al. 2012).

Urban areas provide the opportunity for high mobility due to the high density of activities and higher flexibility and freedom through the choice of many different means of transport, for both people and goods (Carsten 2020). At the same time, the considerable number of vehicles has negative impacts on the environment, which include CO<sub>2</sub> emissions, air pollution, traffic, noise pollution, and accidents (Brühová Foltýnová et al. 2020). With an increasing demand for

mobility services within cities and at the same time the challenge that these are economically and environmentally sustainable, modern technologies and services such as autonomous and electric vehicles and shared mobility are becoming more relevant (Miskolczi et al. 2021). The improved technologies are intended to use energy more efficiently while offering a better performance (Brůhová Foltýnová et al. 2020). The goal is to achieve seamless mobility and to intelligently combine and use different modes of transportation (Bussian et al. 2019). Smart services aim to help in choosing the simplest and cheapest solution to travel a distance (Carsten 2020). According to the UN Brundtland Commission, the goal of sustainable mobility is to meet the needs of people at present while providing the same economic, environmental, and social opportunities for future generations (Brůhová Foltýnová et al. 2020). To fulfill this, reducing the need to travel, for example through distance learning or remote work, is also a solution (Miskolczi et al. 2021). Sustainable urban mobility aims to enable easy access to resources and provide a high quality of life in cities, while reducing distances between distinct locations (Van Acker, Goodwin, and Witlox 2016).

Another form of mobility is lifestyle mobility, in which mobility is chosen as an individual lifestyle (Korpela 2020). The term lifestyle can be defined by the expression of social position through certain patterns of behavior (Van Acker, Goodwin, and Witlox 2016). In contrast to permanent migration, lifestyle mobility is characterized by the intention to move on, and it is common to revisit places already previously attended. In contrast to seasonal migration, lifestyle migration is not time- or season-dependent or rotational. The concept of home plays a crucial role in lifestyle mobility. Home in this lifestyle is not just one fixed place, but multiple places with which memories and daily life are associated and to which meaning is assigned. (Cohen, Duncan, and Thulemark 2015) The way of moving proceeds specifically to certain places. This is also conditioned by visas and residency requirements, which significantly determine destinations and lengths of stay. Borders and nation-states thus interrupt free floating and require structure in the lives of those who live the mobile lifestyle. In addition, there are advantages and more freedom to move through privileged citizenships. (Korpela 2020) Mobility, being part of personal identity in the lifestyle, and the transnational sense of belonging to multiple places at once can also trigger confusion and a feeling of being lost (Cohen, Duncan, and Thulemark 2015).

As a holistic concept of life, mobility concerns the field of work as well. Mobile work refers to local independence from the organization's environment (Erickson et al. 2014). Temporary and nomadic work offers a high level of mobility and flexibility. In addition to spatial mobility, mobile work also includes technological and contextual mobility (Erickson et al. 2014).

## **2.4 People-centered design approaches**

There are different theories with a people-centered design approach. These include user-centered design, participatory design, co-creation and co-design. The theories originate from the fields of design, business and marketing and position relevant stakeholders in the center of the design process or actively involve them in the design practice (Sanders and Stappers 2008). The people-centered design approaches form the theoretical foundation behind the development of the design project in this thesis. The theory is used to focus on the end users as a collective group and to involve them in the process.

Over time, the nature and intentions of design have changed significantly. If one looks at the historical development of design practices, the concept of design for people is present in the 1980s (Sanders and Stappers 2014). According to Sanders and Stappers, interdisciplinarity was just starting within the different design disciplines and people were considered primarily as customers or consumers. Users were only involved for the purpose of testing tangible products and their emotional and social needs were not explored. The authors claim that the focus was solely on how to design and not what to design. Then, in the 1990s, the term user spread to replace customer, and user-centered design shifted into focus (Sanders and Stappers 2014). User-centered design describes the philosophy of involving users in the design process and integrating their input into design decisions (Gardan 2017). With the help of various methods, such as user profiles, surveys, or customer feedback methods, users were primarily involved in product development processes. However, Sanders and Stappers (2014) argue that designers still had the role of designing for people, with the goal of meeting the needs of the end-users.

At a similar time, another human-centered design approach emerged in the 1970s. Participatory design involves users and other stakeholders in the entire research and design process (Martin and Hanington 2012). In interdisciplinary teams, designers and people with experience and expertise work together to utilize collective creativity (Sanders and Stappers 2008). Collaboration is usually activity-based and uses exploratory methods such as collages, workshops, and collaborative prototyping to generate ideas (Martin and Hanington 2012). Participants' input is then translated by designers into criteria for the service and product development processes.

According to Sanders and Stappers (2014), the mindset today has shifted from designing for people to designing with people. The emphasis is on solving both short- and long-term challenges and incorporating the needs and desires of future generations (Sanders and Stappers 2014). To address these challenges, a variety of specific design practices, such as service design, social design, and interaction design, have emerged (Sanders and Stappers 2008). A term widely used today to unite collective creativity practices is co-creation. Co-

creation and co-design have replaced the term participatory design but represent a very similar approach. Co-creation and co-design are approaches from global change and sustainability research and are linked to several fields such as service, design, knowledge, product and policy (Moser 2016).

Co-creation is a theory in which stakeholders are considered experts in their fields and by virtue of their experience, thereby taking on a crucial role in the design process from problem definition to evaluation (Aitken and Shackleton 2014). According to Vargas et al. (2022), in co-creation, all relevant stakeholders are integrated in the process and interact with each other through different activities and communication channels. Co-creation is based on the belief that all people are creative and no longer considers the user only as a passive object for research (Sanders and Stappers 2008).

Co-design functions as a tool for co-creation and provides a set of participatory tools that can be executed collectively to design material and non-material things (Sanders and Stappers 2014). Sanders and Stappers mention that the methods are carried out in interdisciplinary teams in which people take on multiple roles. For instance, end-users no longer have only the role of users, but also the role of participants. The creative initiative of the entire team is essential to the success of the co-design process (Sanders and Stappers 2008). The roles of the researcher and designer are also transformed by this practice. The authors state that the researcher serves as a facilitator of the process, and is responsible for providing tools and techniques, and encouraging and guiding people in their creative process. The professional designer, on the other hand, contributes to the execution of the process with their professional skills, such as the ability to visualize and think three-dimensionally, and is involved not only in product development processes, but also in the design of systems and environments (Sanders and Stappers 2008). The researcher and the designer can use user insights from the co-designing process in order to develop plans for improvement and strategies for innovation (Vargas et al. 2022).

The future of the importance of people-centered design practices is uncertain yet allows room for speculation. Sanders and Stappers (2014) suggest that in about 20 years, design will be a collective activity in which everyone designs. Design no longer takes place with people but is practiced directly by people. The authors argue that due to wicked problems that cannot be specifically defined and the interconnection of real and virtual life, the problem-solving processes are complex. The new task of the professional designer will be to create tools for these complex problems (Sanders and Stappers 2014).

### **3. Methodological framework**

#### **3.1 Research methods**

The following methods were applied for the research of the target group. They include the collection of primary and secondary data, as well as qualitative and quantitative research.

##### **3.1.1 Secondary research**

This type of research describes the collection, analysis, comparison, and interpretation of existing material in a particular field (Martin and Hanington 2012). In other words, material is collected that other researchers or organizations have discovered or researched. Secondary data can be both qualitative and quantitative (Bryman and Bell 2011). The materials are sources in different forms such as books, articles, scientific papers, statistics, case studies and blogs (Martin and Hanington 2012). Martin and Hanington state that secondary research has the advantage that high quality research can be done at a low cost and in a short time. On the other hand, the authors Bryman and Bell (2011) also point out the risk that the researchers have no control over the quality of the data and possibly a lack of knowledge about the collected data. Consequently, it is essential to look critically at the information collected and to review it using a wide range of sources.

In addition to primary research, in which the researcher sourced original material through fieldwork, secondary research was used as a method to research the target group and the design project. Since urban nomads are a small and specific target group that is geographically dispersed, it was more difficult to obtain primary data. Secondary research based on observations on blogs and YouTube channels, as well as scientific research was therefore an efficient method to access relevant data and information. It also formed the foundation for the development of the theoretical background and the establishment of the context of this scientific work. Likewise, the method was applied for design research to identify what things already exist in the field of (product) design and where there are possibilities for further development and improvement. For the most comprehensive picture possible, the combination and use of both primary research and secondary research is important.

##### **3.1.2 Survey**

The survey is a research method to collect primary data. It was conducted through using a questionnaire as an instrument to gather quantitative data (Martin and Hanington 2012). The advantage of using surveys is that many people in different geographical locations can

be approached (Bryman and Bell 2011). Surveys are used, for example, to confirm or disprove a hypothesis or to obtain information about a target group, such as their demographics, attitudes, needs, requirements, values, and characteristics (Giseke 2021). The questionnaire usually contains more closed questions and fewer open questions, which must be clearly formulated and laid out (Bryman and Bell 2011). Bryman and Bell explain that by using closed questions, quantitative data can be efficiently collected, compared and analyzed. The additional use of open questions, on the other hand, allows for more individualized and in-depth responses, although these are more time-consuming to analyze.

The aim of using this method in the context of the thesis is to obtain primary information about the target group of urban nomads and to relate this to the results of the secondary data research in order to achieve a holistic picture of the target group. The survey was conducted online in the form of a web survey that directed respondents to a website. It was a self-completion questionnaire in which participants answered the questions in an independent manner (Bryman and Bell 2011). Although it was an open-ended survey, the choice of communication channels allowed for selection so that members of the target group could be specifically addressed. Nine Facebook groups were selected as distribution channels, which operate as communication portals and networking platforms for remote workers and (digital) nomads in various locations around the world. The number of members in these groups ranged from 1 471 to 59 471 members per group at the time of conducting the research. Based on the number of reactions to the post, which were expressed through likes and comments, an overview can be obtained in which groups people were most interested in the survey and presumably participated (Appendix 4).

The sample size of the survey was 55 respondents. In the introduction, the aim of the survey (how design can facilitate the life of urban nomads) was communicated and a brief overview of the content of the questions was communicated. At the same time, preliminary to the start of the survey, potential respondents were asked if they live the lifestyle of an urban nomad either full or half time and regularly change their location of living and working within a year. These questions intended that only people whose lives these aspects applied would answer the survey. The first questions of the survey aimed to learn demographic data of the respondents, such as age and nationality. Following this were more closed-ended questions regarding motivations, values, and personal behaviors. At the end of the survey, three open-ended questions were asked, which were intended to obtain qualitative data.

The closed questions were analyzed in percentages at the end, providing quantitative results that can be related to the findings from the secondary research. The open questions, on the other hand, provide more diverse insights about the individuals' personal experiences and behaviors.

### **3.1.3 Semi-structured interviews**

Semi-structured interviews are a qualitative research method to collect primary data. The special feature of this method is that the interview questions are a mix of conversational and structured questions (Martin and Hanington 2012). In preparation for the interview, the researcher creates a flexible set of questions, which is used as a guide. By having the flexibility to change the order of questions and the flow of the interview, the opportunity exists during the interview to respond to the interviewee's answers and ask follow-up questions. The goal of the semi-structured interview is thereby to obtain deep and detailed answers, focusing on the individual perspective of the interviewee (Bryman and Bell 2011). Interviews can be conducted in person or remotely and either individually or in groups, always with direct contact between the interviewer and the participants (Martin and Hanington 2012). In order to analyze the qualitative data afterwards, it is essential to record and transcribe the conversation (Giseke 2021).

This interview method was chosen to gain insight into the personal lives and experiences of urban nomads. Due to the open nature of the conversation and the possibility to ask follow-up questions, contextual knowledge could be generated. By contacting the participants directly, it was possible to ensure that the interviewees correspond to the target group and that the answers and information obtained from the interviews are relevant for the research. Since the interview involved members of the target group, it was a stakeholder interview in which the interviewees had an interest in the topic of the research (Martin and Hanington 2012).

Before beginning the interview, the topic of the research was briefly explained in an introduction. This was followed by a question to clarify the participant's demographic data. Questions were subsequently asked about the nomad's daily life, for example the choice of accommodation, the motivation behind the change of life to a mobile lifestyle, the daily routine and important services and items that accompany the person on the journey. The information generated was reconciled and analyzed with the results of the secondary research.

### **3.1.4 Observations**

Observation is a qualitative research method in which relevant data is collected regarding a research question. The method involves looking closely at phenomena, people, behavior, interactions, objects, and environments and recording them systematically (Martin and Hanington 2012). The authors mention that observations can be structured, semi-structured, or casual. In the context of this thesis, only semi-structured and casual observations were used, which were guided by research questions, however, observations were conducted with an open mind to leave room for unexpected findings. Observation results are documented

using notes, drawings, and photographs (Martin and Hanington 2012). In the process of observation, researchers can take on different roles, which are differentiated by varying levels of involvement and participation. Thus, roles range from the standpoint of nonparticipation or complete observer to moderate participation and membership, to active participation and membership (Baker 2006). A general risk of the method are artificial observations, where the researcher observes only the aspects they expect and look for (Martin and Hanington 2012).

In the scope of this research, observation was applied as a method in two research areas. The first field is the target group research of urban nomads. Within this area, the type of observation can be classified as ethnographic observation, which attempts to study and understand people in their normal environment (Baker 2006). The researcher took the role of observer-as-participant, which means that not only was observation done from an external standpoint, but also that insiders were approached (Baker 2006). This was done, for example, through interviews, surveys, and conversations. Since it was generally more challenging to get into direct, personal contact with the niche target group of urban nomads, the participation possibilities were limited. Because of this, research was mainly conducted from the observation perspective, which included the investigation of blogs, videos and literature. The second area of investigation was the observation regarding the product design. This included research of the lighting market and already existing, mobile lamps from the interior, outdoor and traveling industry.

## **3.2 Design methods**

The following methods were applied in different steps of the design process. Brainstorming and mind mapping were performed collectively as part of co-design. User journey map and personas were conducted in order to generate design criteria and evaluate the usage of the product design. Prototyping was performed to find the shape and dimensions of the product and to visualize the design in detail.

### **3.2.1 Brainstorming**

Brainstorming is an individual or group activity to generate ideas, concepts, and problem solutions. Particularly as a creative group activity, the tool has the advantage of building on the ideas of others and analyzing or discussing the results collectively (Martin and Hanington 2012). Quantity is more important in brainstorming than the quality of the ideas. Therefore, it is essential to provide a non-judgmental environment and be open to unconventional ideas (Wilson 2013). Ideas can be analyzed and prioritized after the activity. Brainstorming can be performed using different forms of visualization, depending on the nature of the central question or problem. Common visualization methods are brainstorming webs (identification of a central concept), tree diagrams (hierarchical organization) and flow diagrams (visualization of a sequence of events) (Martin and Hanington 2012). In this way, thoughts can be structured and interconnected.

Brainstorming was used at the beginning of the design process during the ideation phase to generate as many product ideas as possible. Serving as a tool for co-creation, several brainstorming sessions were conducted with a variety of participants. Some of the participants were part of the target group, while others were external people who were informed about urban nomads and the research questions. The results of the brainstorming sessions were captured using quick sketches, notes, and mind maps and then discussed within the group.

### **3.2.2 Mind mapping**

Mind mapping is a tool to visually organize and contextualize information in order to understand complex processes, structures, and systems (Zahedi and Heaton 2016). Mind maps are not linear but focus on a defined topic or question around which connected information is arranged (Martin and Hanington 2012). The flexible layout allows information to be categorized and connected, thereby creating a network. Mind maps can be conducted alone or collaboratively in teams and show spontaneous thought processes (Zahedi and

Heaton 2016).

The method of mind mapping was carried out at the beginning of the design process as well. By using a mind map, the ideas generated regarding the product design from the brainstorming sessions were contextualized, organized and evaluated. Mind maps were also used to establish design criteria and organize product functions.

### **3.2.3 Persona**

The persona is a relevant tool used in design processes to meet the needs of a specific user group (Rosenzweig 2015). The method is part of user-centered design and focuses on understanding potential end-users and their needs rather than trying to design for everyone (Martin and Hanington 2012). Fictitious user profiles are created from collected information from qualitative research that represent the targeted users. „Each persona is typically represented with a photograph, name, description, and details about specific interests and relevant behaviors“ (Lidwell, Holden, and Butler 2010, 182). By looking at different behavior patterns, an impression about the persona’s lifestyle including typical activities and products can be obtained (Martin and Hanington 2012). The persona method helps to make the target audience appear more realistic to designers and product developers and ensures that their requirements are prioritized (Lidwell, Holden, and Butler 2010). Usually, the method is applied at the beginning of the design process, during the definition and ideation phase, but it can also be used at a later stage to review scenarios.

The persona method was chosen to focus the product design on specific end-users. For this purpose, three personas were created within the framework of this thesis, which are based on existing individuals who live a nomadic life and are thus part of the target group (Appendix 5). Two of the personas are based on people who were interviewed by the author and collaborated and interacted with during the design process. To create the third persona, case studies were used to observe a real-life person who lives nomadically and maintains a blog online. The information generated was then translated into a persona. To obtain a detailed picture of the life of each persona, everyone was assigned a name and age, nationality, occupation, activities, interests, frustrations, living places, workplaces and most important possessions were defined. These categories then served as prerequisites for the product design with the aim to fit as well as possible into the lives of the personas. Additionally, one of the created personas was used for mapping the user journey, to show a possible interaction between user and product.

### **3.2.4 User journey map**

The user journey map is a tool used primarily in the field of UX (user experience) design and marketing, either to improve existing services or products or to develop new products (Moon et al. 2016). Martin and Hanington (2012) point out that the map visualizes the experiences and interactions users have with a service or product and puts this into a larger context. According to the authors, to achieve a holistic picture, each step of the user journey and interactions is considered and evaluated, highlighting the essential moments. This includes a realistic representation of the user journey, which includes satisfying and fulfilling moments as well as confusion and indecision (Martin and Hanington 2012). Through this method, difficulties and problems with existing solutions can be discovered. According to Moon et al. (2016), user journey maps include actions, motivations, questions, and barriers. By highlighting touchpoints between the user and the product or service, an understanding can be gained from the user's perspective. The user journey map is ideally developed alongside other methods such as personas and scenarios to obtain a detailed result (Endmann and Keßner 2016). To create the map, data from direct contact with potential users is used to put them in context with each other and thereby target the actual needs of the users (Martin and Hanington 2012).

The method of the user journey map was used in this study to visualize and elaborate the general phases in the everyday life of an urban nomad. This was done with the help of primary and secondary data research and conducted at the beginning of the design process as a prerequisite for product design criteria. To gain a deeper insight, one of the created personas was chosen in the design process to illustrate a typical day with routines and different activities. Thereby the aim was to find out in which situations the developed product design could be an improvement or facilitation of distinct situations in their daily life. Also, the interaction with the product design could be analyzed and evaluated at the end of the design process, by integrating it into the user journey map.

### **3.2.5 Prototyping**

Prototyping as a method can be summarized as „the use of simplified and incomplete models of a design to explore ideas, elaborate requirements, refine specifications, and test functionality“ (Lidwell, Holden, and Butler 2010, 194). Produced prototypes can be created either virtually or materially with the help of different software or tools. The intentions of making prototypes vary, and so does the scope and nature of their making. On the one hand, prototypes can be fabricated toward the end of the design process to evaluate and improve the features and design of a product (Postell 2012). On the other hand, prototypes can be used during the ideation phase with the primary goal of testing and visualizing diverse ideas and

then using the models as a communication tool in interaction with different stakeholders and for presentation purposes (Bryden 2014).

For the design project of this thesis, only concept prototyping was used, aiming to explore ideas and design requirements and to implement them visually in a quick and easy way (Lidwell, Holden, and Butler 2010). In the ideation phase, rough physical prototypes were made to get a sense of dimensions and shapes. In the design refinement phase, CAD (computer animated design) software was used to visualize the design in more detail and then to display it in the context of use using renderings (Bryden 2014). The functionality of the product was not tested as part of this project.

## **4. Contextual analysis of urban nomads**

### **4.1 Definition "urban nomads"**

According to Encyclopedia Britannica (n.d.), nomadism is defined as the following: „Way of life of peoples who do not live continually in the same place but move cyclically or periodically.“ It describes therefore people who do not live sedentary in one place but move around depending on the climate and the availability of resources. The distinction from migration consists in the fact that migration aims at a permanent change of place and is not cyclic (Encyclopedia Britannica n.d.). Engebrigtsen (2017) describes nomads as people who change residence frequently and consider themselves world citizens who are at home everywhere regardless of geographic locations. Nomads are consequently also referred to as houseless or homeless, as they do not have a permanent place of residence (Gatterer et al. 2020).

The word nomadism is often equated with the term pastoralism (Fischer and Kohl 2010). Pastoralism refers to livestock farming on natural pasture lands, meaning people who periodically move around with their herds. However, Fischer and Kohl point out that the term nomadism is not only used for societies that are operating pastures, but also defines people that live as nomads in the urban area.

Urban nomads represent a specific group within nomadic societies. They are people who live and work in cities but do not permanently reside there but move between urban areas (Hamurcu and Görevlisi 2018). Their jobs are often temporary or can be performed remotely, which means that they are not permanently tied to one place (George 2021). Increasing individual mobility has also raised the number of nomads in urban areas. Furthermore, there is greater freedom of movement due to lower dependency and attachment to a physical location (Hamurcu and Görevlisi 2018).

### **4.2 Historical background of nomads**

Nomadism is a way of life and philosophy of life that has been lived since the beginning of human history. According to George (2021), humans lived as nomads for 98% of their time on earth, so a sedentary life without movement is a recent development. Historically, nomads lived first as hunter-gatherers. Ancient warrior populations also often lived a nomadic life (British Museum Blog n.d.). These included, for example, the Scythians who lived in Siberia or the Mongols who had the largest empire in history in the 12th century and were a very advanced society (George 2021). Throughout the Neolithic Revolution, as permanent settlements, agriculture, and the domestication of animals developed, the way of life of the nomads who then moved about primarily as herders also changed (George 2021). Nomadic movement was oriented around the seasons and the availability of vital resources, such as

food and water (Wilkinson, Gibson, and Widell 2013). Natural disasters and conflicts also represented reasons for moving (Engebrigtsen 2017).

According to Nail (2015), the life of nomads was characterized by the fact that they lived in harmony with nature, and neither suppressed nor oppressed it. They had an elevated level of flexibility and hence possessed the ability to adapt their way of life and habits to new climates. For this reason, their way of moving was different from the movement of sedentary peoples, who migrated in order not to have to change their way of farming and their habits. Besides the relationship with nature, the nomads' relationship with the land varied as well. Nomads did not divide the land they moved on into territories but moved across lands according to seasons and weather conditions. (Nail 2015) Due to this, nomads had a distinct relationship to the land. Nomadic people were open to new cultures and mobility was part of their political stability (George 2021). However, the sedentariness of populations also presented nomads with a threat to their mobile way of life. Territorial boundaries and borders of states limited their movement, essential for their survival, which also increased the potential for conflicts (Nail 2015). According to Wilkinson, Gibson, and Widell (2013), because of their motion, nomadic peoples lived in groups and in mobile accommodations, such as tents, and settled temporarily in places. Therefore, interaction with sedentary societies occurred primarily for trade, for which nomads entered settlements.

Since nomads could not relate to the concept of states and territories, they were seen as a threat to sedentary societies in the past (Engebrigtsen 2017). The author claims that nomadic societies were therefore treated as outcasts and forced to settle and work in a sedentary manner. An example of the oppression of nomads is that towards Sami reindeer herders. This indigenous group from northern Scandinavia was forced to live in so-called „correction camps“ in the 19th and 20th centuries, and their children were taken from them and placed in foster families. Through these actions, an attempt was made by force to change the lifestyle of the nomads and to forcibly integrate them into a sedentary society (Engebrigtsen 2017). Another example of the attempt to violently eradicate nomadic societies is the persecution of Romani during World War II and the mass sterilization of this social group in the 1970s and 1980s in some Eastern European countries (George 2021). George points out that there is a contrasting side, the romanticization of nomads in historical narratives and in art (e.g., the story of Odysseus or the painting „The Wanderer Above the Sea of Fog“). In these, wanderers were seen as people who lived the ideals of adventure, discovery, and in connection with nature.

### **4.3 Demographic background and lifestyle**

The group of urban nomads is diverse, so is their demographic background. Although they all move within urban areas, distinct groups exist within urban nomads. Unlike rural nomads who operate on pastures, urban nomads are people from Western societies (Fischer and Kohl 2010). A survey conducted by the author indicated that 83.6% of respondents who identify as urban nomads are from North America or Europe (Appendix 6). This is also confirmed by a study of the blog „A Brother Abroad“, in which the author interviewed 4000 people from different countries of origin from the digital nomad community. The study showed that 76% of digital nomads were white with European origins (Grider 2022).

The age groups represented show a higher diversity. The author's survey results demonstrate that people between the ages of 18 and 35 make up the largest percentage at 34.5%. People between the ages of 36 and 45 make up 25.5%, people in the 46 to 55 age group comprise 21.8%, and people over the age of 56 make up 18.2% (Appendix 7). Grider's (2022) survey showed that the largest percentage group is people in their 30s (47%).

Urban nomads are people who form an integral part of the global network and are in constant interaction with the sedentary population (Fischer and Kohl 2010). They pursue an alternative lifestyle to a sedentary life with a 40-hour work week and leave habits behind to live on the move (George 2021). By living a mobile life, personal and work lives become more interconnected and there are fewer fixed routines due to geographical flexibility (Lehmann, Becker, and Rudolph-Scharpf-Galerie 2005). Nomads are moving their home base and household on a regular basis, which requires sacrifices like a smaller number of materialistic possessions and a weaker connection to a sustainable community (George 2021).

According to George (2021), urban nomadism is a lifestyle choice that has become increasingly popular in recent years. This is confirmed by the results of the author's survey. When asked how long the respondents have been living a (semi-)nomadic life, 80% answered with a duration of up to 5 years with the majority choosing the time period of three to five years (43.6%). Only 20% of the respondents have been living on the move for more than five years (Appendix 8). Among other things, those results are also linked to the COVID 19 pandemic, which caused a feeling of being stuck, as well as higher unemployment rates and personal losses (George 2021). For instance, the COVID 19 pandemic was also a reason for Alina, one of the interviewees, to start a nomadic life (Appendix 17). The crisis thus also represented a time to question one's own lifestyle. However, George claims that society's perception of urban nomads is still divided. On the one hand, there are still prejudices against a non-settled life. On the other hand, the lifestyle has evolved into a kind of status symbol, focusing on romantic aspects such as the associated freedom and sense of adventure and exploration (George 2021). Advantages are likewise seen in the lifestyle in relation to careers

and the economy, as it requires flexibility and a high degree of adaptability (Fischer and Kohl 2010).

As divided as the view towards nomads is in society, there are also big differences within this group, which can be explained by the various triggers and motivations. On one side, there are urban nomads who move into a vehicle for financial reasons, to save the cost of a fixed rent or because they have lost their home (Trujillo 2021). This development exists in the United States, where more and more people have been moving into vans since the financial crisis of 2008 (Trujillo 2021). The movie „Nomadland“ also deals with this group. The characters in the movie decided to live a nomadic life due to different strokes of fate such as loss, divorce, or unemployment (Zhao 2021). Among the cast is nomad Bob Wells, who plays his own character in the movie. The nomad has founded an aid organization (HOWA) for people who have lost their homes and need help to start a mobile life in the van. According to Trujillo (2021), most of the HOWA applicants are elderly women, disabled, retired, or divorced without enough income.

On the other hand, there exist the so-called „digital nomads“, a group that works digitally and thereby independently from a specific location, which provides them with the flexibility to live in various places (Holzer 2020). According to research by Y-Kollektiv (2019), digital nomads are well-educated people from wealthy, Western countries. Digital nomads are globally connected and characterized by a hedonistic lifestyle. With the luxury of being financially independent, having a passport from a Western country, and speaking English, they benefit from globalization and travel freedoms (Gatterer et al. 2020). By pursuing digital professions, they move not only within one country but within different countries or continents and consequently do not feel they belong to a particular country or are not registered in any place (DW Documentary 2019).

#### **4.4 Living and working behavior**

Due to the constant movement of urban nomads, working and living often take place in the same location, as one aspect determines the other (Hamurcu and Görevlisi 2018). There is a blending between private and public in terms of both work and private life. The place of residence and the workplace are often located in so-called „third places“, meaning public or semi-public places (Gatterer et al. 2020).

The dwelling places of urban nomads are temporary, which weakens the attachment and dependence to a specific place. This allows more opportunity to move around freely and regardless of the time (Hamurcu and Görevlisi 2018). How often the place is changed within a year is dependent on the individual. The author's survey found that half of the nomads

responding change location more than four times a year. 25.9% stated they move once a year, while 24.1% relocate two to three times a year (Appendix 9). When asked if they regularly return to places they have already lived, the most common response was that they sometimes return (52.7%). Only 25.5% always move to new destinations, while 21.8% go back to the same places every year (Appendix 10). This phenomenon is also confirmed by Zhao (2021) who states that nomads return to places where they have already lived and worked. This is usually due to social contacts or occupation. Similarly, the choice of location and the length of stay are conditioned by bureaucratic aspects such as visas or taxes (Holzer 2020). The costs and the length of the right of residence are determining factors for the choice of the destination. According to Holzer (2020), the cost of living, the climate and the quality of infrastructures are also decisive factors. Popular destinations for digital nomads are therefore, for example, Asia, Eastern or Southern Europe or South America.

Regarding housing, there are likewise varying preferences within the group of urban nomads. The author's survey indicates that the most chosen housing options are rental apartments or Air Bnbs (61.8%) or a private vehicle (38.2%) (Appendix 11). This demonstrates the desire for one's own space and privacy while traveling. The two nomads Emma and Alina confirmed this preference of living in private accommodations during their journey (Appendix 17; Appendix 18). Survey respondents were less likely to report having lived in hotels or hostels (23.6%), shared apartments (20%), couch surfing (14.5%), or housesitting accommodations (16.4%) (Appendix 11). The most common means of travel to the next location were listed as airplane (63%) and private vehicle (53.7%) (Appendix 12). Airplanes enable people to travel long distances in a short amount of time, while a private vehicle provides maximum flexibility while traveling. Less frequently used by respondents are bus (27.8%) and train (31.5%).

Cities, as the habitat of urban nomads, offer many opportunities for co-working and networking, as well as a good technical infrastructure (Holzer 2020). According to the author's survey, 79.6% of the respondents stated that they perform digital and remote jobs. 34.7% reported working at on-site jobs while traveling (Appendix 13). The work that urban nomads choose to do is therefore often flexible, independent, and temporary or project based (Gatterer et al. 2020). This aspect was also observed during the interviews, as the two interviewees stated to be self-employed and to work remotely (Appendix 17; Appendix 18). Urban nomads thus usually rely on digital networking platforms (such as LinkedIn) and social contacts to find work. Frequently performed jobs are often creative professions such as photography or design, coding, and IT (Information Technology), project management, accounting, teaching online courses, being an author, and many more (Holzer 2020). Urban nomads are constantly looking for work and the (financial) stability is therefore lower than in a permanent position. Retirement security is achieved through a private retirement plan, as it is for the self-employed people. A big advantage for starting a nomadic life is to have professional experience and a

strong CV (Curriculum Vitae) to facilitate the search for a job (DW Documentary 2019).

According to Holzer (2020), with digital work, besides time flexibility and the possibility to determine one's own daily structure, there is also the freedom to choose one's workspace. An important prerequisite here is a reliable Internet connection. For this reason, cafés, co-working spaces, or the accommodation are often chosen as workplaces in cities (Holzer 2020). Since tax rates and regulations are different in every country, this partly also conditions the choice of location and employment (Y-Kollektiv 2019).

#### **4.5 Psychological and physical needs**

The mobile lifestyle of urban nomads affects the psychological and physical needs of the target group and confronts them with challenges in everyday life. According to the theory of Max-Neef (1991), all human beings have the same needs regardless of their origin and culture: subsistence, protection, affection, understanding, participation, idleness, identity, and freedom. Therefore, the same needs apply to urban nomads, only the significance and the choice of satisfiers differentiates the target group.

According to Engebrigtsen (2017), the most significant psychological need by which urban nomads define themselves is the aspect of freedom. Occupational and locational freedom constitutes the mobile lifestyle as such and is therefore more prominent than for sedentary individuals. Closely linked to freedom is the aspect of independence, which enables urban nomads to decide on daily routines, time management and location autonomously (Holzer 2020). The digital nomad Alina mentioned the aspect of having the freedom to travel as the motivating reason to take on a nomadic lifestyle in the interview with the author as well (Appendix 17). Physical and psychological mobility represents satisfiers for the fulfillment of this need. In contrast to freedom, which dominates as a need among the target group, is the need for security and stability. Urban nomads, for instance, often face uncertainties regarding future security, financial stability, and social security. The lack of routine and structure also contributes to this insecurity (DW Documentary 2019).

Balancing freedom, security, and stability as needs, urban nomads often encounter difficulties and challenges in their everyday lives. In the author's survey, financial insecurity (36.5%), lack of structure and routine (42.3%), and general insecurity (42.3%) were mentioned by participants as frequent difficulties in their daily lives (Appendix 14). Also, one of the most mentioned difficulties was the aspect of loneliness (40.4%). The constant change of location means that close confidants such as family and friends must be left behind, which can cause a feeling of loneliness for urban nomads (Holzer 2020). That is why there is a strong need for social relationships and a solid community among the target group (Zhao 2021).

Alongside the psychological needs, there are also specific physical needs that require fulfillment. The universal need for subsistence, which for instance is satisfied by shelter, work, and food (Max-Neef 1991), is also present among urban nomads. The requirements for these satisfiers, however, differ from those of the sedentary population. To be adapted to life on the move, accommodations must be either temporarily accessible (e.g., Airbnb's) or inherently mobile (e.g., vehicle) (Lehmann, Becker, and Rudolph-Scharpf-Galerie 2005). Similar demands exist for the location of work. When urban nomads perform remote jobs, workplaces in urban spaces (e.g., cafés or co-working spaces) that meet personal requirements are needed (Holzer 2020). The nomad Emma also mentioned the importance of having a good WIFI connection in her temporary accommodations in the interview, which is essential for her graphic design work (Appendix 18). For on-site workplaces, seasonal and temporary jobs are preferred in order not to be permanently tied to one location (Gatterer et al. 2020). Similarly, physical satisfiers include savings to ensure financial security, as well as visas and residence permits for destinations to enable movement (Holzer 2020). Personal possessions with practical or sentimental value that satisfy various needs are chosen on a personal and individual basis (Hennig 2015). However, these also need to be compatible with the mobile lifestyle and be easy to transport.

#### **4.6 Motivators and values**

There are several reasons that motivate people towards a nomadic life. These include personal and individualistic reasons as well as reasons that influence society or the environment. Motivators that drive to nomadism can be either a personal choice or a necessity. The motivators are linked to the personal values of the target group.

In the author's survey, respondents cited the aspect of travel as the most common motivator (72.7%) (Appendix 15). The two interviewees mentioned the aspect of traveling as their motivator for taking on a nomadic lifestyle as well (Appendix 17; Appendix 18). The motivation to travel and discover the world reflects the romantic ideals of the nomad, which embodies freedom and independence (Engebrigtsen 2017). Also among the individualistic motivators are the desire for adventure, fun, and variety (Gatterer et al. 2020). The want for a change was named by 49.1% as a motivator in the survey (Appendix 15). The latter is often triggered by frustration with the previous life situation and the feeling of being trapped in it. This includes, for example, unhappiness with the old job and the resulting lack of time for personally important things (Trujillo 2021). The reason of leaving the old, sedentary life was named as a motivator by 52.7% of the respondents in the author's survey.

The need for change may be out of necessity in addition to being a purely personal decision. 20% of respondents in the survey named financial need as a reason for the step into a

nomadic life (Appendix 15). Trujillo (2021) confirms this aspect, citing examples such as job loss, high rents, or divorce as reasons to give up sedentary life and move into a van. Health reasons such as mental illness, drug addiction, or trauma can also be related to financial instability and homelessness. Zhao (2021) draws attention to the aspect of personal loss as a motivating factor in her film *Nomadland*. Strokes of fate such as the death of a loved one, dealing with grief, and searching for answers are motivations to change the life they know.

Societal or environmental reasons are also among the motivators for a nomadic life. The nomadic lifestyle requires materialistic possessions to be significantly reduced to carry them with them on the journey (George 2021). About half of the survey participants (49.1%) stated the goal of living a more minimalist lifestyle as a motivator to live nomadically (Appendix 15). Alina, a nomad that has been interviewed, reported that she has lived as a minimalist for some time before she chose to live a mobile life. Therefore being a minimalist and reducing her possessions was already a first step for her to become a nomad (Appendix 17). The minimalist lifestyle has positive ecological impacts due to the associated reduction in physical consumption. According to Trujillo (2021), living in a vehicle also reduces the carbon footprint because, for instance, less space means that less energy must be used for heating and electricity. However, the importance of a low carbon footprint depends on the extent to which the individual considers this to be personally important. The way of traveling is of crucial importance since nomads move around a lot. Due to many flights and transports, a high amount of CO<sub>2</sub> is emitted. To live in an environmentally friendly way, urban nomads therefore often choose more environmentally friendly transportation alternatives and travel at a slower pace (Holzer 2020).

Despite their pioneering role in society, urban nomads have less influence than might be expected (Gatterer et al. 2020). The authors argue although the target group is innovative, flexible, and independent and often has a larger influence through social networks, urban nomads are often only moderately socially or politically engaged, which means that the influence on the overall society of the small target group is low. The flexible and temporary working and living behavior of urban nomads nevertheless influences their surroundings and infrastructures and is also relevant for the economy (Fischer and Kohl 2010). Cities need to be designed for temporary living, jobs need to be flexible and remote, and new communities emerge.

The values of urban nomads are diverse, however, there are some shared characteristics that people in this target group exhibit. According to George (2021), urban nomads are characterized by an open and curious mindset, and therefore they are open to adventure and discovery. Furthermore, they are often individualistic people to whom freedom is particularly important, what is generally more prominent in western societies (DW Documentary 2019). The lifestyle of the target group tends to be hedonistic, and experiences and variety are seen

as enriching. On the other hand, possessions, luxury, conventions, and traditions are not as important (Gatterer et al. 2020). The step into a nomadic life requires courage and is rebellious compared to a traditional, sedentary lifestyle (Y Collective 2019). Urban nomads appreciate the opportunities of globalization and international connectivity, which is why cities are the ideal environment for them. Global cities, where diverse cultures are intermingled, have great similarities to each other worldwide, making it easier for urban nomads to move around (Gatterer et al. 2020). The desire for community and social connections also exists within the target group. However, the connection to a sustainable community is often weaker and more complicated due to local disconnectedness (George 2021).

#### **4.7 Possessions**

Living in motion implies a reduction of material possessions and imposes certain requirements on the goods that are selected and carried along (George 2021). According to Hamurcu and Görevlisi (2018), the portability and practicality of the items are crucial. This demands characteristic of the products such as durability, light weight, compressibility, and small dimensions (British Museum 2017). According to Lockhart (n.d.), purchases are considered more carefully and often the choice is made to borrow rather than buy.

When looking at traditional and historical nomadic populations, a similar behavior regarding possessions can be observed. For example, collapsible and portable products are historically mentioned, as well as the choice of durable and lighter materials, such as textile, felt and wood (British Museum Blog n.d.). As an example of a traditional nomadic population, which still exists, Mongolian nomads and their possessions can be examined. Mongolian nomads traditionally live as herders and move around out of necessity within different seasons to sustain their herds and themselves (Bianquis and Williot 2019). The nomads' traditional flexible shelters gers (also known as yurts) consist of several separate pieces and layers (wool, poles, and fabric), which can be packed as a compact bundle for transportation (Kelly 2017). To facilitate transportation, material possessions are limited to essential items. These include manufactured goods such as clothing, shoes and blankets, tools, cooking utensils, tableware, and containers for storage (Bianquis and Williot 2019). The interior furnishings of gers are also limited to a minimum, which usually include a stove, beds, a dresser, and small stools (Kelly 2017). Kelly mentions that in recent years, technologies such as the mobile phone and LED panels have also become more common in the steppe, simplifying some aspects of daily life. Likewise, motorcycles or cars are increasingly used for transportation, expanding the nomads' range of movement and time efficiency (Bergen 2018).



*Figure 4. Possessions of Mongolian nomads (References, Figures)*

Both the desire to consume things on demand and on a temporary basis, and the behavior of leaving non-essential items behind before moving to the next location represent a commonality between Mongolian and urban nomads (Kelly 2017). According to Gatterer et al. (2020), owning many possessions, as well as luxury items, plays a very minor role. By living in urban areas, urban nomads have access to numerous services that allow things to be borrowed and used temporarily. This aspect differentiates the lifestyle of urban nomads from rural nomads, as the rural nomads do not have access to these types of services but must always carry everything they need with them (Kelly 2017). However, the requirement for items to be easily transportable and quickly packable is the same for all nomads.

The choice of possessions is unique to each individual and is based on the individual's daily activities. According to Henning (2015), the selected items have either utilitarian or sentimental value. The interviewees Alina and Emma mentioned the importance of multifunctional and practical items (Appendix 17; Appendix 18). To obtain an overview of the most common items, participants in the author's survey were asked to name the most essential material items they carry with them on their journey (Appendix 16). To get an idea of the relevance of different areas of everyday life, the items can be assigned to distinct categories related to the various human needs. The categories chosen by the author, to each of which several items can be assigned, are sleeping, eating, health and hygiene, work, documents, leisure, community and social contacts, transportation and navigation, equipment, and safety and security.

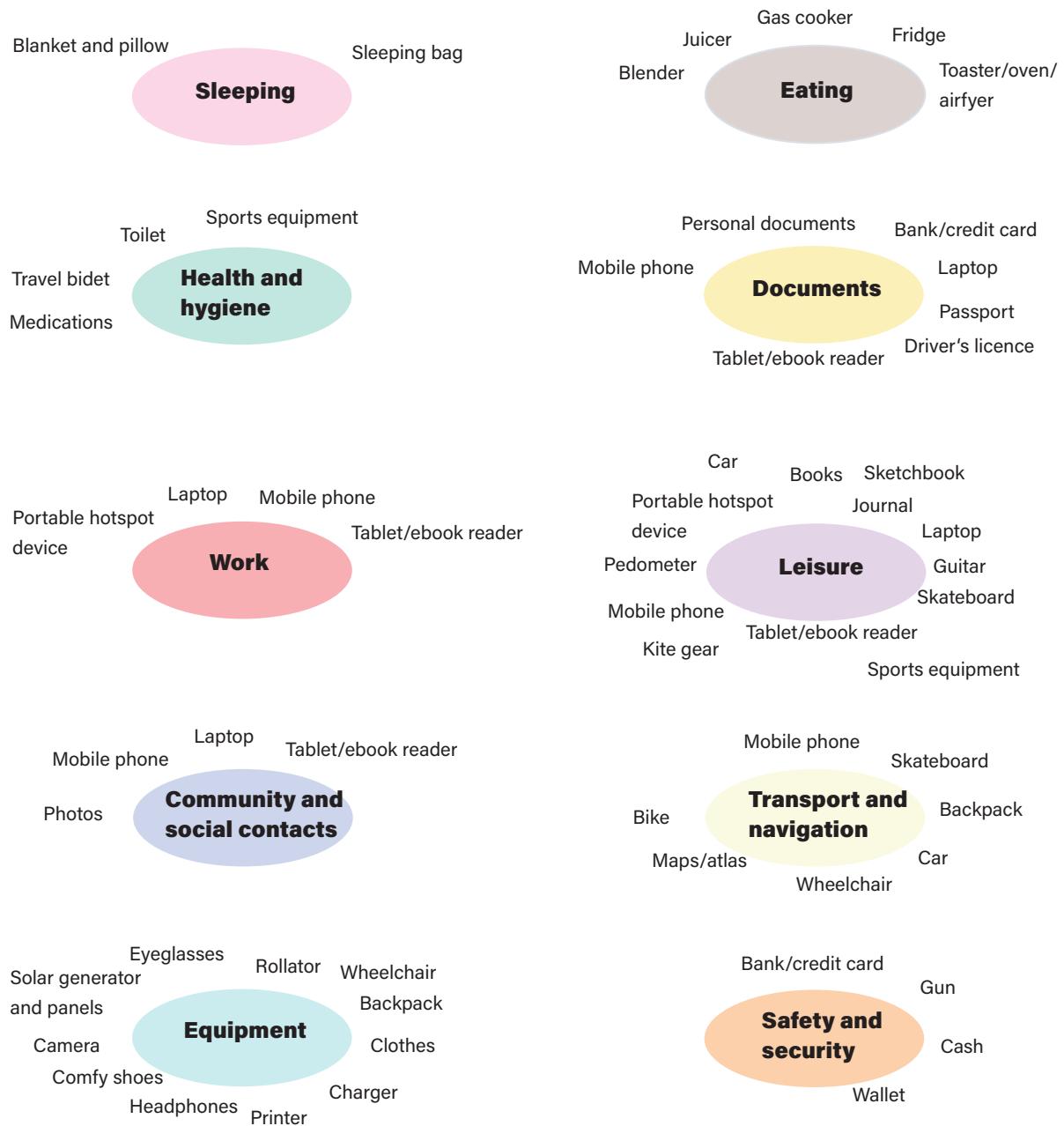


Figure 5. Nomad possessions assigned to categories (author)

Some possessions can be categorized in more than one way, and the categories with the most items are leisure and equipment. The goods that were mentioned by far the most were laptop and mobile phone. These technological products help to fulfill multiple needs and can be used in a variety of ways, such as working, interacting with social contacts, storing documents digitally, and navigating. Also repeatedly named were clothing and comfortable shoes, documents such as passport or credit card, backpack, vehicle, bicycle, and camera (Appendix 16). The results of the survey confirm that the choice of physical items is individual and depends on personal everyday life and the environment.

According to Williams (2021), the minimalist lifestyle is intricately linked to the consumption behavior of modern nomads. The aspect that material goods are only consumed if they are used regularly and add value (Wilson and Bellezza 2022) overlaps with the values of the target group. Due to the aspect of constant movement, mindful consumption, and the element of having control over one's possessions and surroundings are essential. The author's survey also revealed that for 49.1% of the respondents, a more minimalistic life was a motivating reason for choosing a nomadic lifestyle (Appendix 15).



*Figure 6. Minimum luggage and van dwelling (References, Figures)*

## 5. Design project “Mobilamp”

### 5.1 Product design criteria

The different stages that urban nomads pass through in their everyday lives can be illustrated by means of a user journey map. The starting point is always the situation in which the decision is made to leave the sedentary life and live nomadically. The different stages that take place in the life of urban nomads, moving, arriving and establishing, are circular and repetitive. Moving describes the period in which the nomad travels from one place to another, is navigating and transporting their luggage. The arriving phase describes the general settling-in process, the period of orientation, exploration and finding (work and accommodation). This is followed by the period of establishing, in which the nomad already finds their way around and develops a routine, establishes social contacts and finally prepares for the next destination. The goal is for the product design to fit into all phases of the user journey.

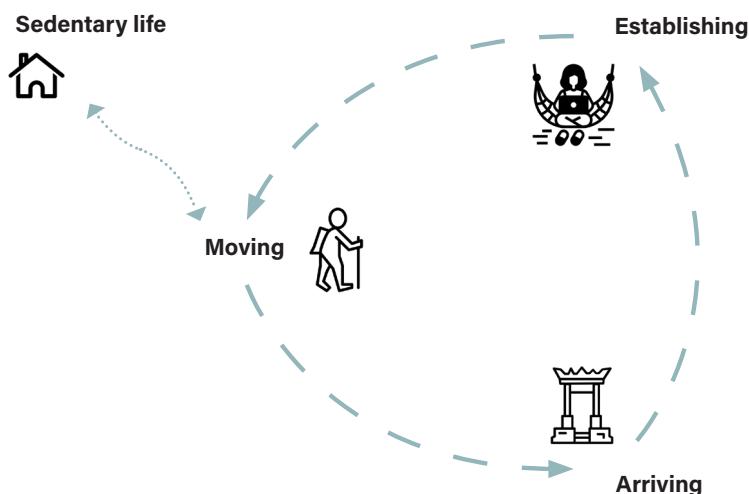


Figure 7. User journey map of stages in urban nomads everyday life (author)

To have a more accurate idea of potential users in mind during the design process, three personas (Marina, Emily and Armando) were created based on real people (Appendix 5). By defining their life and work situation, as well as activities and frustrations in everyday life, the persona method could be used to generate the criteria for a product design. The aim of the design is therefore also to facilitate the everyday life of these specific personas.

Based on the target group analysis of urban nomads, including the user journey map and the personas, and under consideration of the theories of minimalism and mobility, several criteria for a product design project can be defined. To visually structure the most important aspects of the research, the method of mind mapping was applied. As a next step,

intersections between the different key points and categories were found and a prioritization was made in exchange with representatives of the target group (people from the interviews). Particularly important aspects were underlined in color and were then captured as criteria for a transportable product design. The criteria to the design itself are, small dimensions, transportability, multifunctionality, flexibility, light weight, practicality and a calm and simple appearance. The most crucial values to be satisfied by the design are autonomy and freedom, values that were also highlighted as the most important in the target group research. The criteria mentioned are directly related to the concept of mobility, which, as the dominant life concept of urban nomads, represents the most important factor.

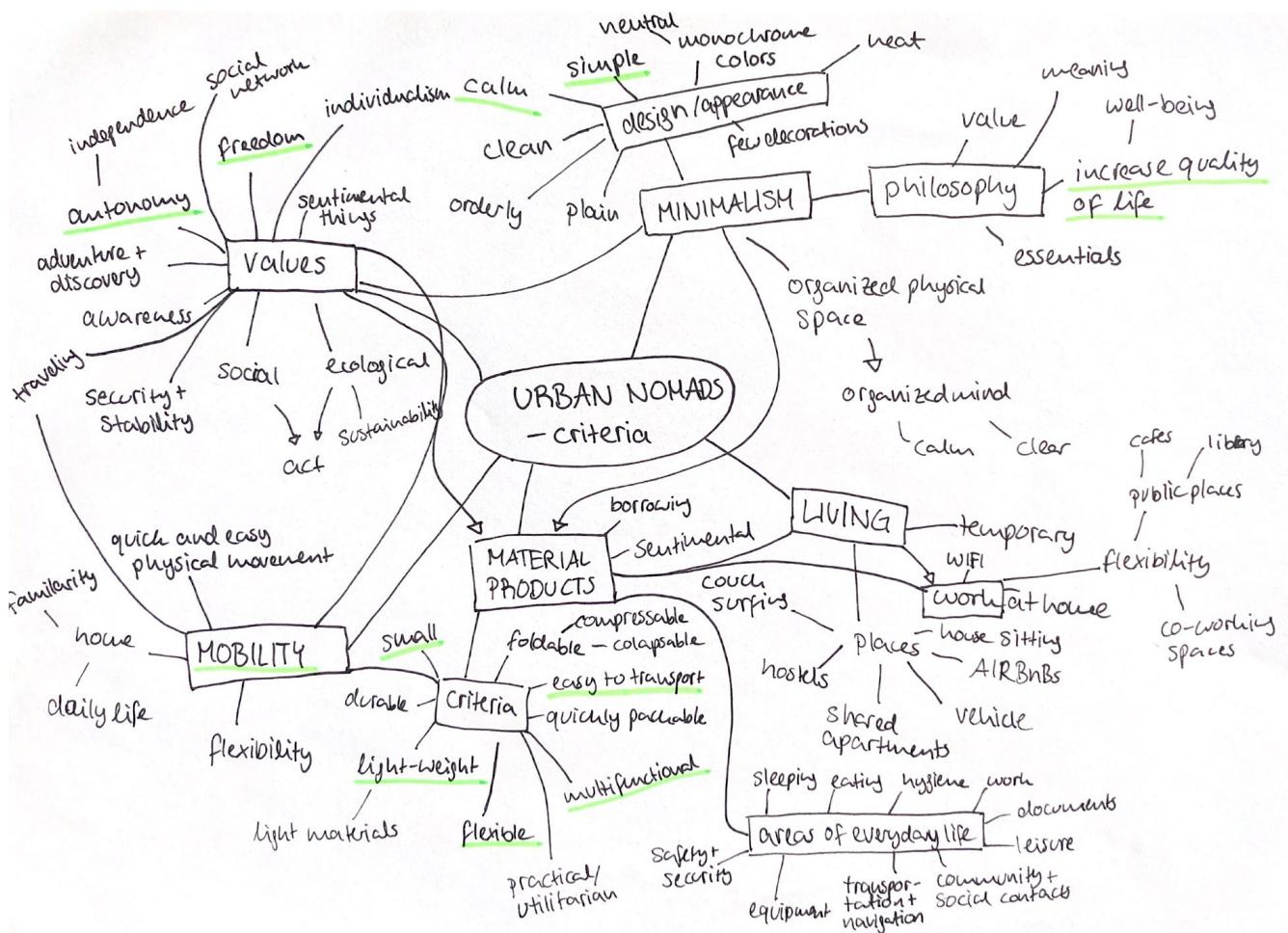


Figure 8. Mind map for criteria definition (author)

Consequently, the demand on the product design process is to create something that does not restrict the mobility of urban nomads, but rather supports their motion and integrates into it without negative effects. Furthermore, the aim of the design is to improve the quality of life of the target group through both practical and, if possible, psychological benefits.

## 5.2 Ideation

After defining the criteria, the next step was to use brainstorming as a tool to generate as many product ideas as possible. Several brainstorming sessions were conducted with different people and in different forms. The ideas generated were then recorded using bullet points and visualized in mind maps. They can be divided into the categories travel-friendly furniture, storage, work products and multifunctional items. Based on this, a series of rough sketches were produced to quickly visualize the ideas.

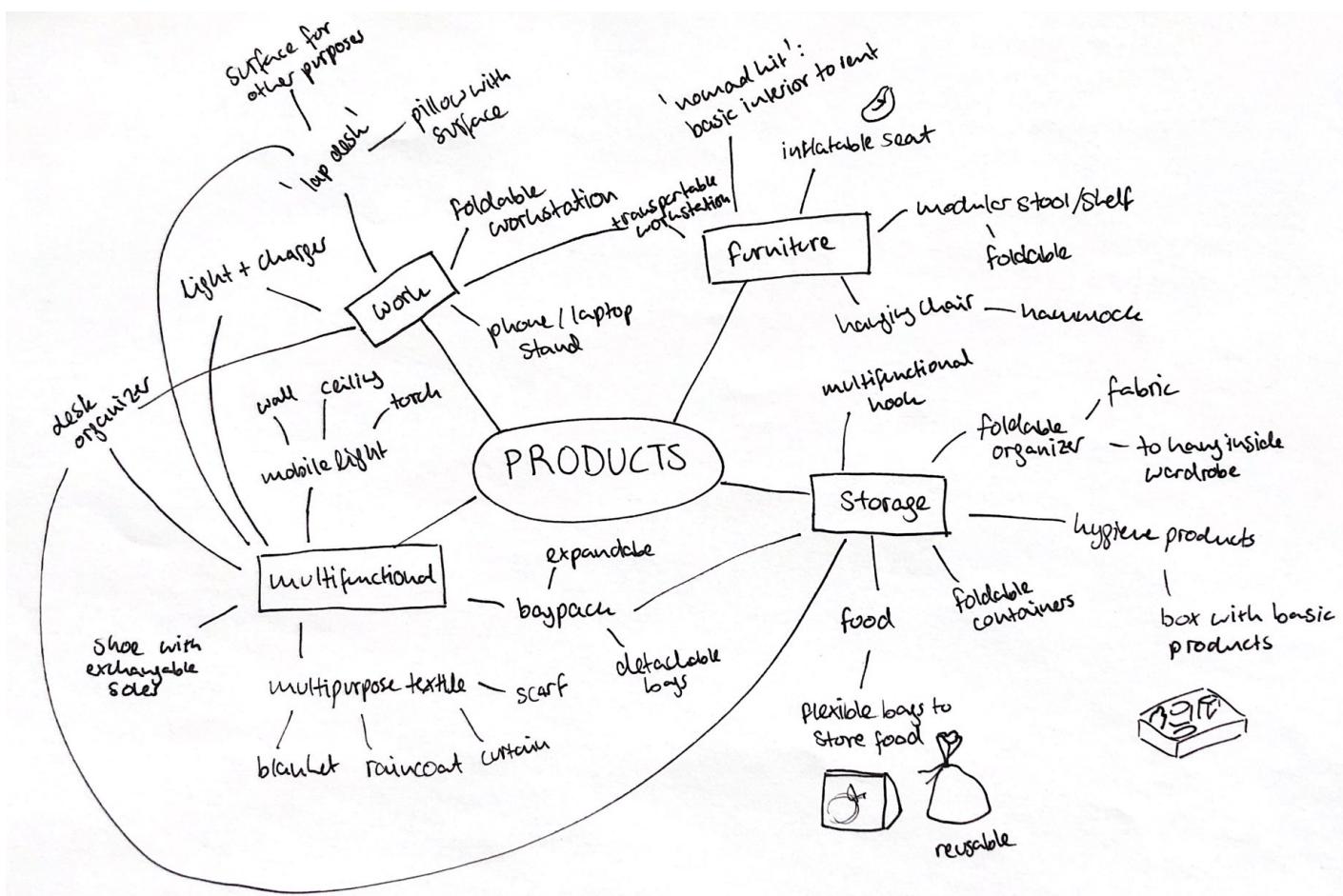


Figure 9. Brainstorming for product ideas (author)

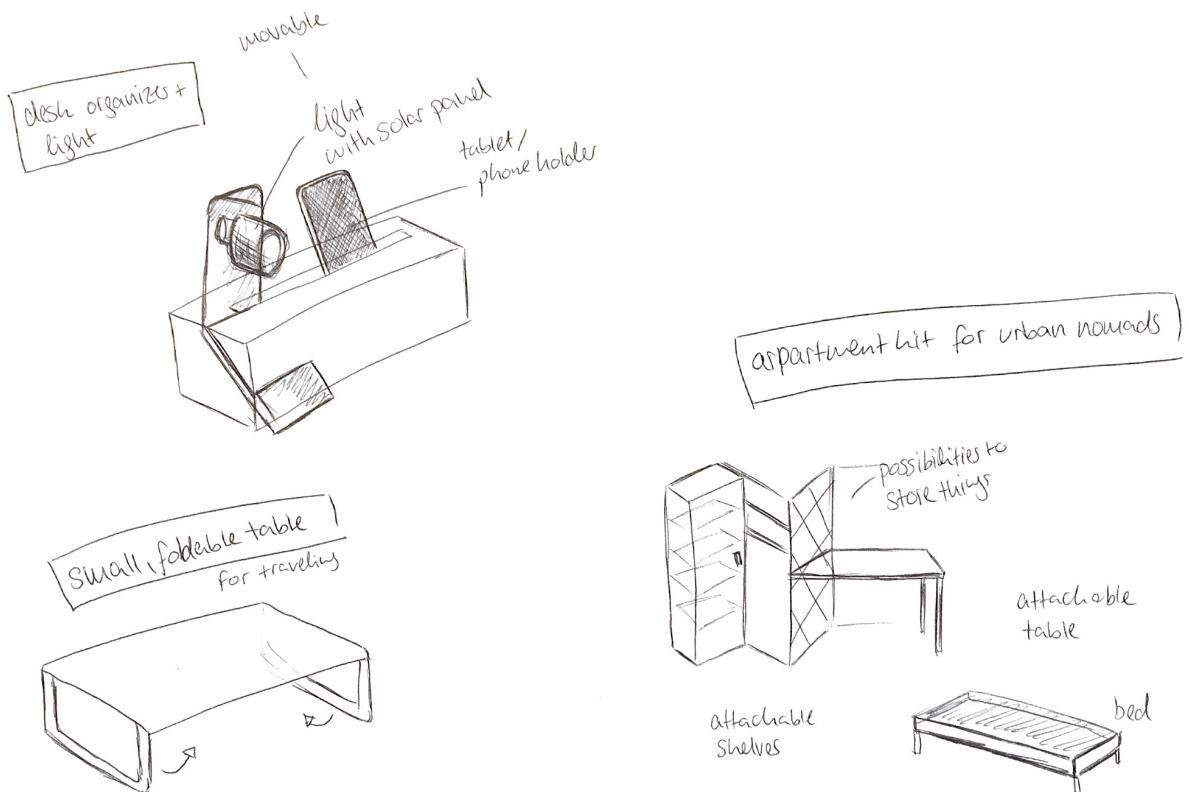


Figure 10. Product sketches (author)

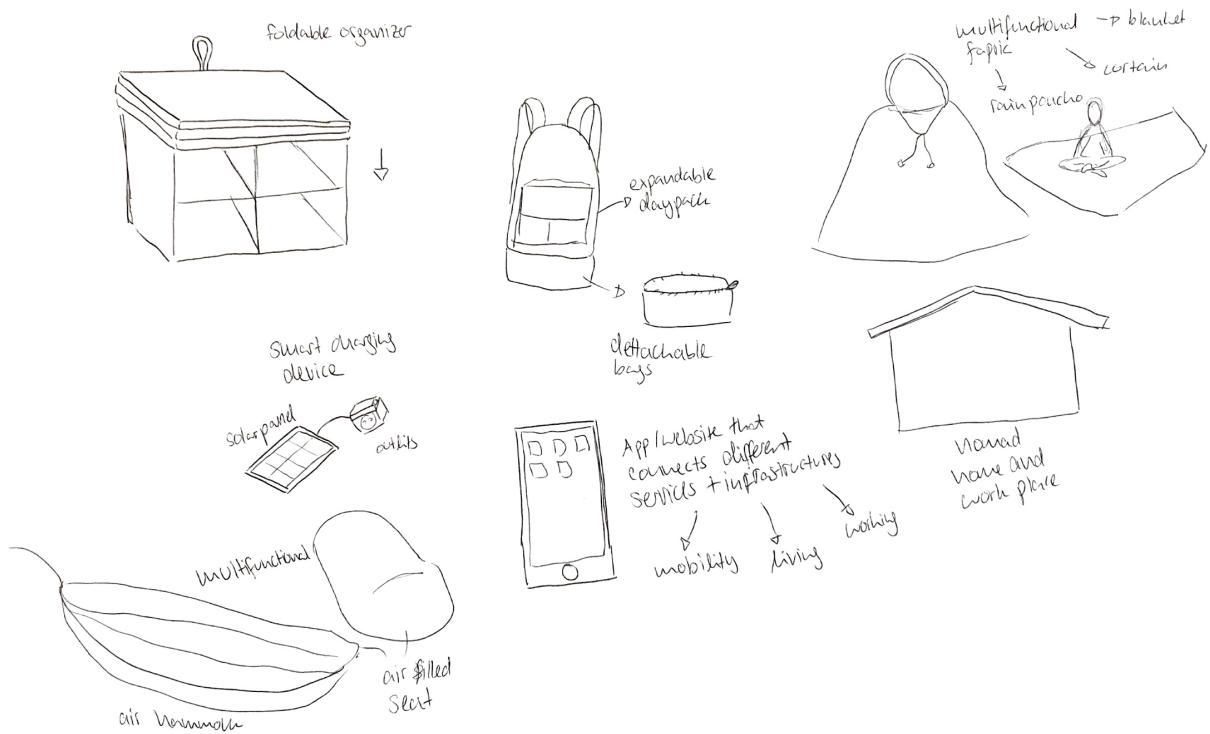


Figure 11. Product sketches (author)

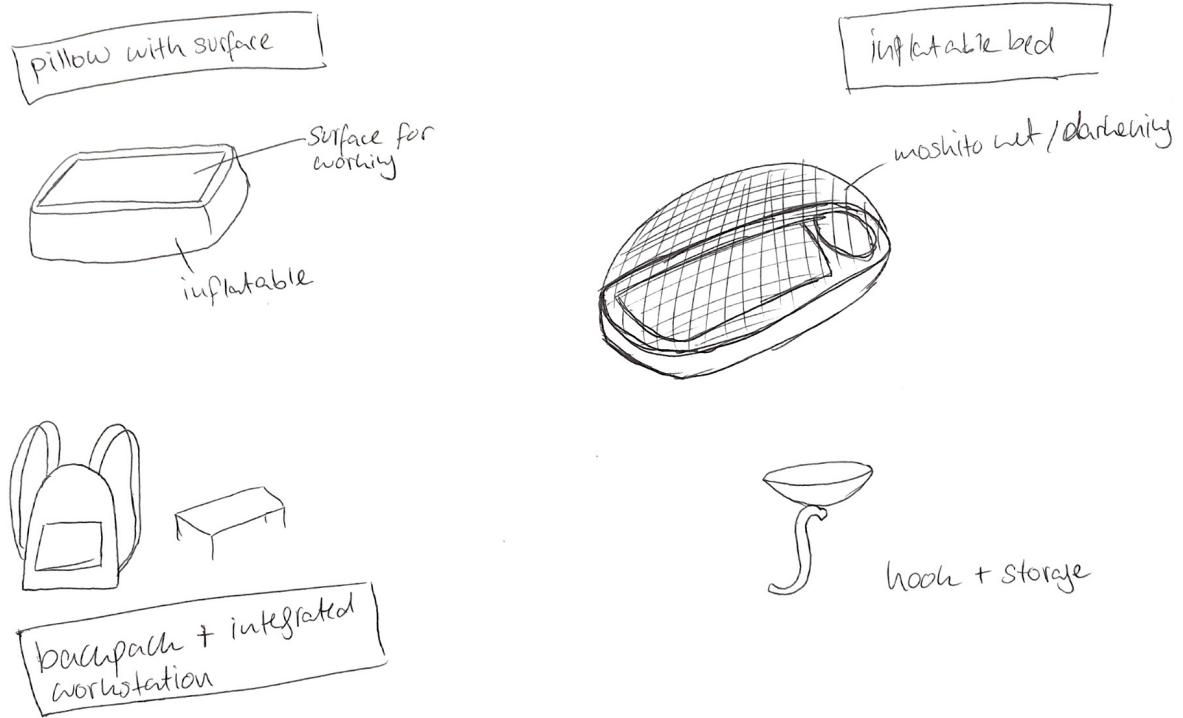


Figure 12. Product sketches (author)

In order to select a product idea to be further developed, the sketches were critically reflected upon and evaluated in consideration of the criteria. For this process, the two interviewees were also involved and asked, for example, what product they would potentially use and how it could be improved. The nomad Alina, for instance, was enthusiastic about the idea of a mobile lamp and explained this with two usage situations in which the lamp would be beneficial for her. First, for better lighting when she participates in video calls, as there is no suitable light in her current accommodation, and she is therefore very poorly lit on the screen. Second, she mentioned needing a light for reading in the evening, which she could mount on the wall (Appendix 17). A mobile lamp meets several physical and psychological needs of urban nomads. Since it would be a small and lightweight product, it is practical to transport, thus fulfilling the criteria of mobility. Some of the other product ideas, would have significantly larger dimensions. Likewise, in addition to the practical use of the light for leisure and work activities, psychological needs such as freedom and security are also satisfied by a mobile light. This also motivated for the decision to pursue the idea of a lamp. Based on this evaluation and feedback, the idea of a mobile light, which can be used in multiple ways, was selected at the end of the ideation phase, which will be further developed during the design process.

### 5.3 Lamp market observations

As a next step, the lighting market was observed with a focus on transportable lamps for indoor and outdoor use. By using market observation as a research method, deeper insights into the already existing product range, with a focus on different functions and features, can be obtained.

A close look was particularly taken at products from the travel industry, since lamps from this sector already fulfill similar criteria, such as a small packing size, transportability and light weight. The results of the research show that lamps from the travel sector are usually chargeable, wireless models, which allows users to be independent of power sources. Also often observed is that a hanging option is integrated into the product, which enables the lamp to be hung, for example, with a carabiner in a tent, camper van or in nature. Moreover, the possibility of standing the lamp like a lantern is usually given, which adds a double functionality to the existing products. Another interesting observation was foldable lamps that offer a small packing size. As materials, plastic is predominant in the travel market, which has the advantage of being robust and light weight. The aesthetics of the lamps of this segment mainly expresses this durability and functionality.

The market observation also examined wireless and multifunctional lamps for the home use in closer detail. In this market segment, mainly items were observed that already feature a minimalist appearance, with a clear and simple design language. It can be observed that mobile and wireless product solutions are also demanded in this market. For instance, various products exist with a handle that allows the product to be easily transported or hung. Also, the possibility to fix the lamp to the wall by sticking could be observed. The choice of materials in the home segment is versatile, mainly plastic, metal and glass are being used.

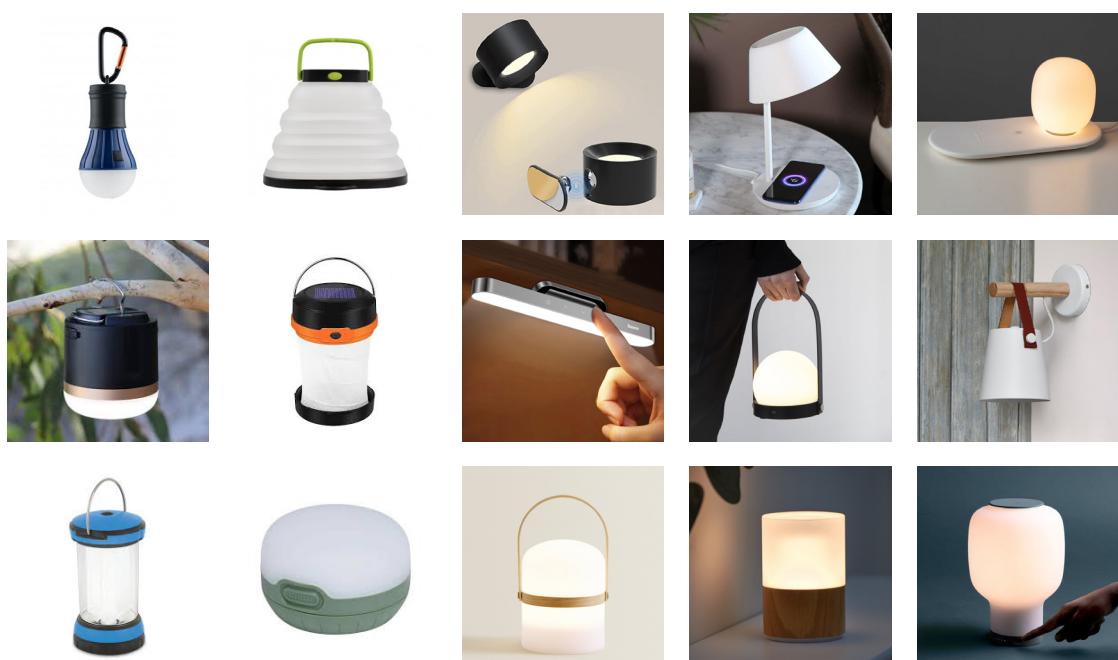


Figure 13. Mobile travel lamps and wireless interior lamps (References, Figures)

## 5.4 Prototyping and sketching

Based on the findings regarding minimalist aesthetics and functionality from the lamps market observations, various sketches for a mobile lamp were made. These illustrate different ideas regarding the form as well as thoughts on details of functions. These include, for instance, how to attach the lamp to the wall or to objects, how to charge the lamp, initial ideas regarding dimensions, and thoughts on how the lamp can be transported.

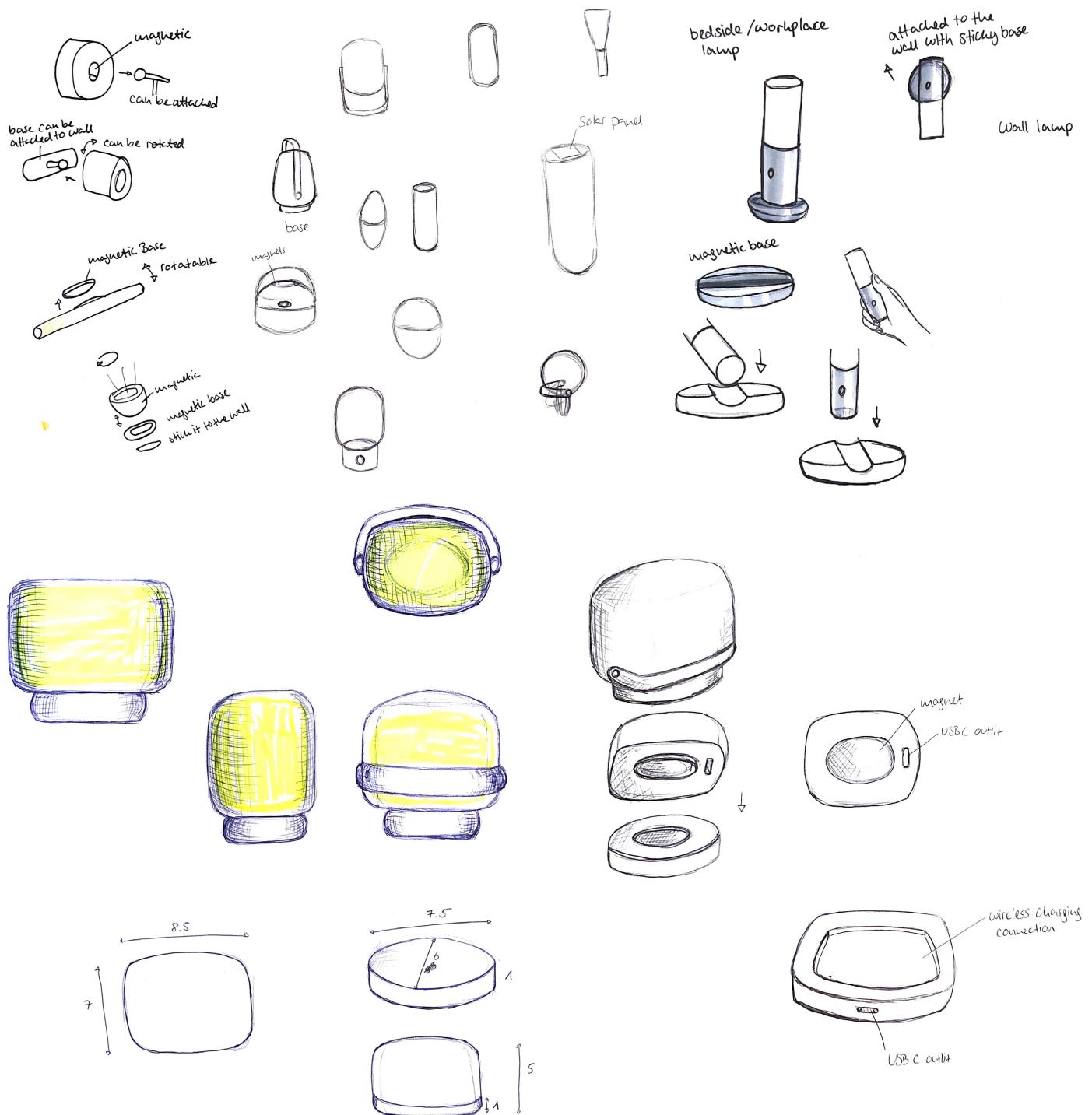


Figure 14. Sketches for shape finding, details and functions, and measurements (author)

In the process of finding the shape, various quick prototypes were made from paper to test out different shape options based on the sketches. Additionally, different sizes were tested in the same way, with the aim of determining the optimal dimensions so that the lamp would be large enough to provide enough light, but small enough to take up little space in the Nomad's luggage. The paper models were made in original dimensions to get a physical feel for the size and shape.



*Figure 15. Paper Models (author)*

At the end of the design process, a CAD model and technical drawings (Appendix 19; Appendix 20) were created in SolidWorks to demonstrate the exact shape, scale and design details. Through renderings, the different uses, as a standing lamp, wall lamp, ceiling lamp or lantern, can be visualized. The renderings also show the product in different settings and usage situations which are typical for urban nomads, such as inside the apartment, the van or on the go.

## 5.5 Design details and functions

Following the research and the inspiration gained from the market observations, the design concept "Mobilamp" was elaborated in closer detail. Mobilamp is a compact light that can be easily transported in limited luggage due to its small size and light weight.

The luminaire consists of two separate parts, one is the lamp body and the other is the base. The luminaire body has a simple, symmetrical basic shape with rounded corners and slightly curved sides, in accordance with the minimalist aesthetic. It is made of translucent plexiglass, in which the light source is located. On one side of the lamp, placed in the bottom center, there is a round button for switching on the light. This allows the adjustment of the brightness of the lamp by three levels to provide distinct lighting intensities for different usage situations and atmospheres. At the sides, a flexible band made of smooth rubber is attached to the light body with pins. The band can be moved 180° and can also be used as a carrying handle or hanging device. On the flat bottom of the light body there is a slightly protruding magnetic contact surface. This can be used both to attach the Mobilamp magnetically to metal surfaces and to charge the lamp wirelessly at the base.

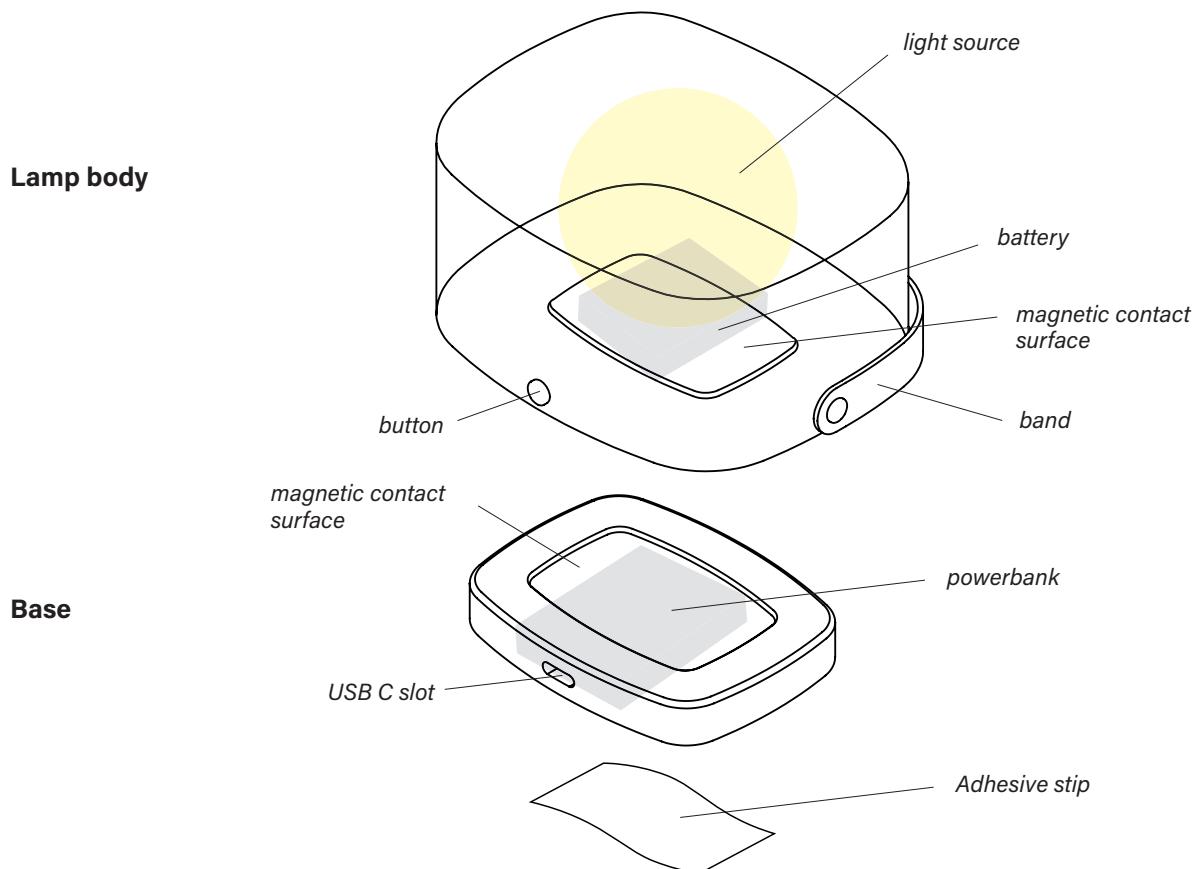
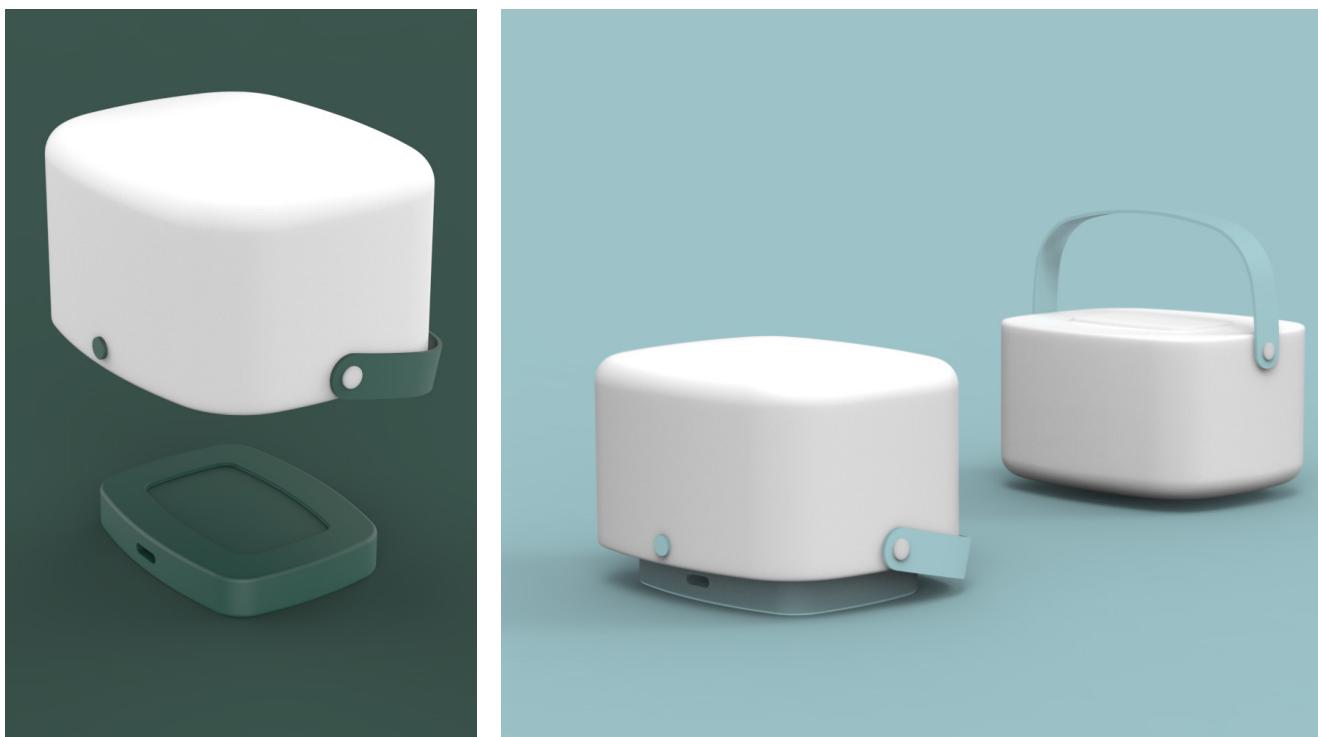


Figure 16. Construction and features of the Mobilamp (author)

The base has the same basic shape as the lamp body but is a little smaller. It is made of hard bioplastic. On the surface there is a recess in which the contact surface of the lamp fits precisely. This allows the luminaire to be positioned appropriately on the base and is firmly connected to the base by the magnetic connection. In this way, the lamp cannot fall off the base when standing or be attached to the wall or ceiling without falling. Inside the base there is a rechargeable power bank, through which the battery in the lamp can be charged magnetically and wirelessly on contact. This enables convenient use. The power bank in the base can be charged through a USB C port located on the side.



*Figure 17. Renderings of the Mobilamp (author)*

The multifunctional lamp can be used in several ways: as a standing lamp, wall lamp, ceiling lamp or as a lantern to carry. Therefore, for instance, it provides light as a desk lamp during video calls or for reading at night as a bedside table lamp, when the nomad cannot find a suitable light source in the rented accommodation. Through a reusable adhesive strip that can be attached to the bottom of the base, it is possible to mount the lamp on various surfaces, on the wall, on furniture or on the ceiling. This allows the Mobilamp to provide light exactly where it is needed, for example, for cooking in the kitchen when there is not enough light, or in front of the bathroom mirror. The magnetic contact surface also allows the lamp to adhere directly to metal surfaces, such as the outside of a vehicle, to provide light at night. Finally, the Mobilamp can also be held as a lantern on the carrying handle and thus provide light while walking.

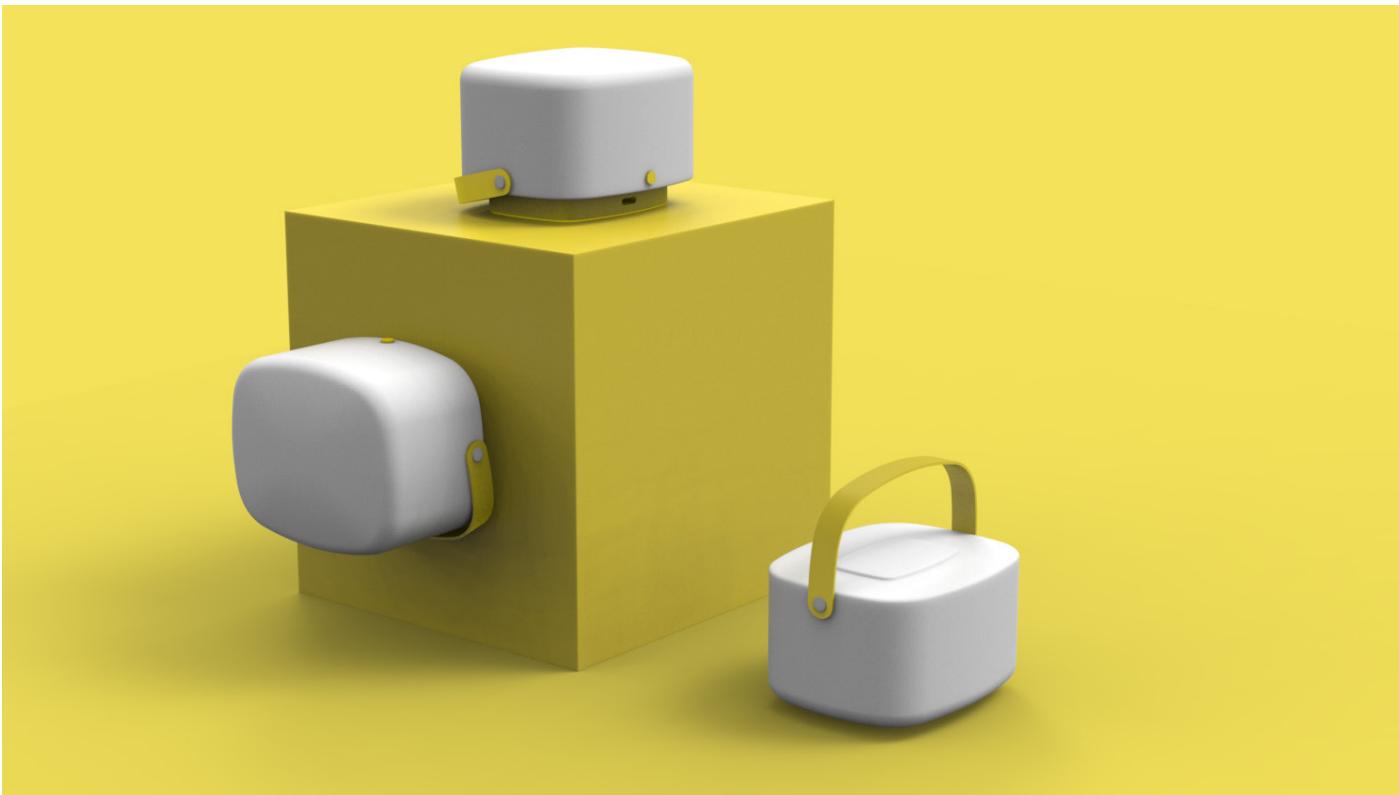


Figure 18. Rendering Mobilamp (author)

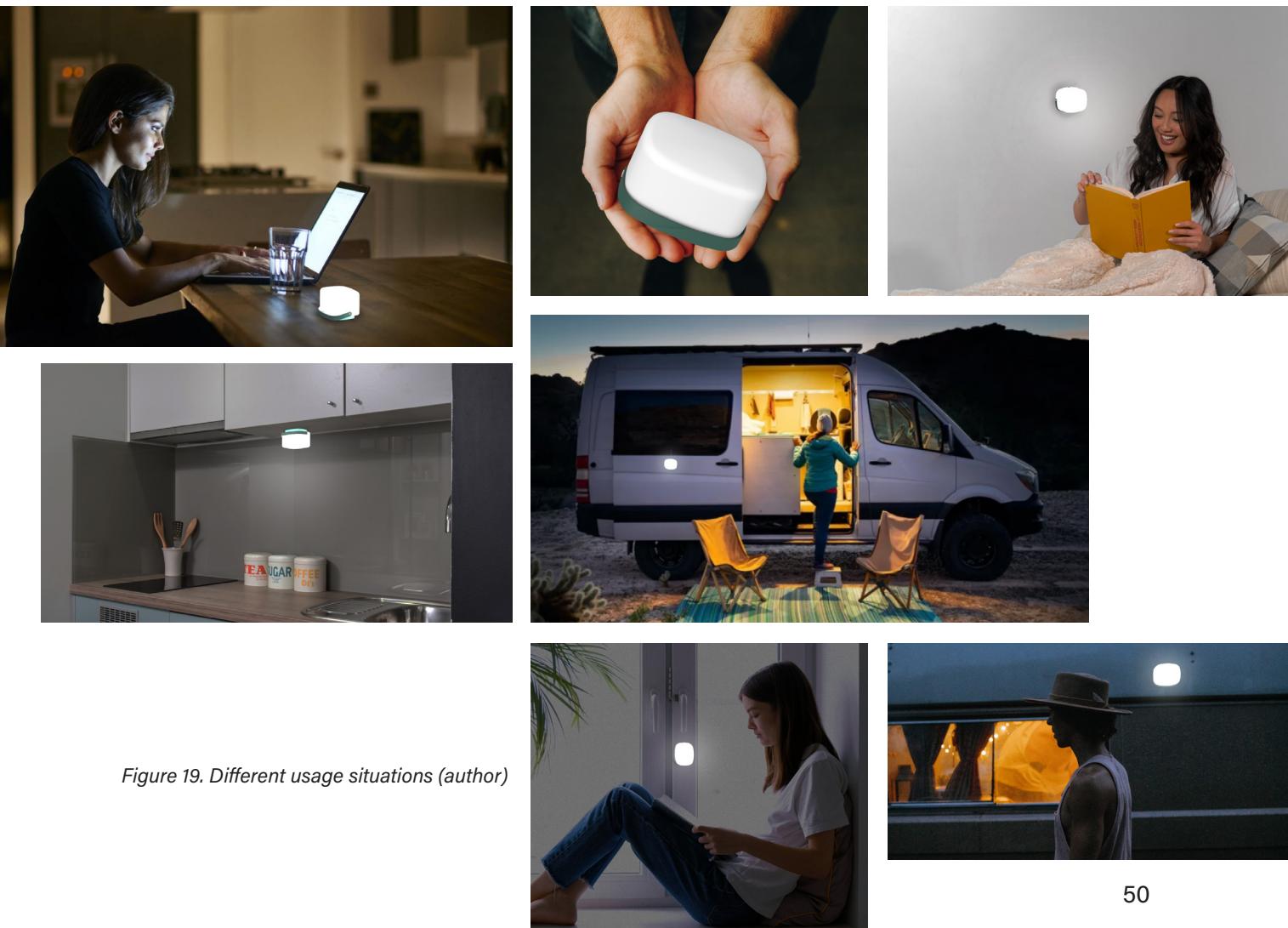


Figure 19. Different usage situations (author)

In order to evaluate the use of the Mobilamp, the user journey map method was applied to illustrate the situations in which the product is used, based on an exemplary day in the everyday life of the persona „Marina“ (Appendix 5). The user journey map shows the use of the Mobilamp in the evening while working, while swimming in the pool and finally for reading before going to bed.

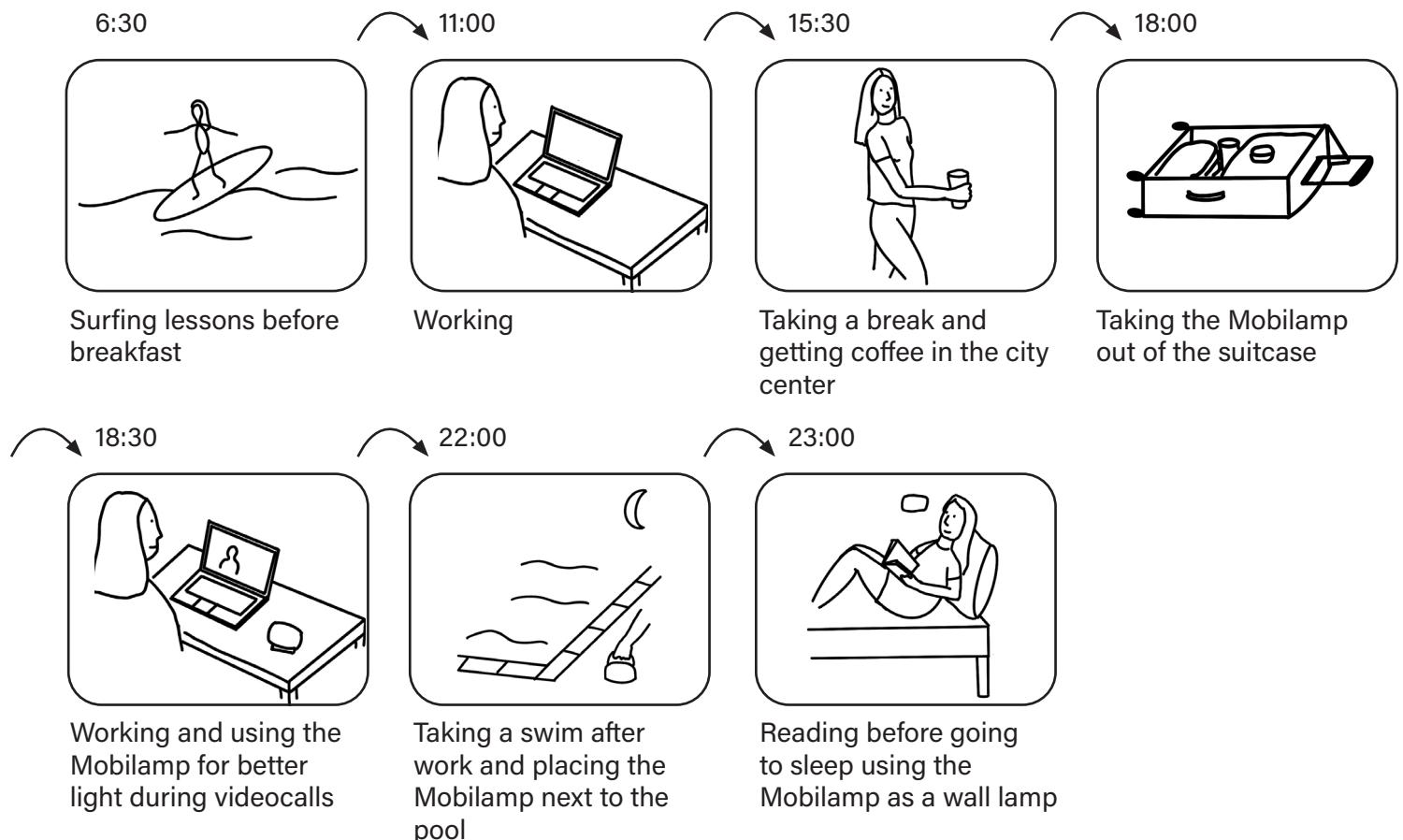


Figure 20. User journey map: interaction with product (author)

## 5.6 Critical evaluation of the design project

In the ideation phase of the design process, other designers and people interested in the target group of modern nomads were integrated into the execution of various collaborative methods. Among the modern nomads, due to the geographical distance to representatives of the target group, only well digitally connected nomads could be actively involved in the co-design process. Direct communication with non-digitally connected nomads was not possible in the context of this work. In view of this, the co-design process can be further developed in the future by conducting methods such as brainstorming, mind mapping and focus groups

with participants on site. In this way, ideas and comments can be better addressed and discussed. Also, the production of a physical and functional prototype of the Mobilamp could be valuable for testing different usage situations and subsequent evaluation and improvement of the design.

The aim of the Mobilamp is to simplify various everyday situations by providing an additional light source. In addition, the lamp, through its transportability and the possibility to mount it on the wall, should provide light in many places, whether in the accommodation, in the van or on the go. Light is something that everyone needs, no matter what culture or social background the person comes from. Lighting can not only facilitate different everyday situations, such as working, reading, cooking, etc., but also provide a sense of security in the dark, which is especially relevant for people living alone. By selecting a few possessions with personal value, the mobile lamp would also be assigned emotional meaning for urban nomads. The product accompanies people in different places and during various activities and experiences on their journey, thus creating an emotional bond and attachment.

Mobilamp addresses people who make a conscious choice to live a nomadic life. The minimalist aesthetics of the lamp and the ability to charge it wirelessly also make it appealing to people who have a fascination with minimalist design and technology. Plastic was chosen as the exterior material for the Mobilamp for two reasons. One reason is that it is a lightweight and durable material. If the lamp body were made of glass, for example, the lamp would not only be heavier, but also more sensitive and could break more easily, which would be especially unhandy for traveling. The second reason is that plastic is an inexpensive material, making the Mobilamp financially affordable for as large a group of people as possible, and thus makes it socially inclusive. Although plastic is generally not a particularly sustainable material, the mentioned functional and financial benefits of this material are key factors in choosing this material. In addition, the goal is to use bioplastic made from natural waste products, rather than conventional mineral oil-based plastic, and thereby be as sustainable as possible. In addition, it is generally more sustainable to purchase the Mobilamp and transport it with you on your trip and use it for a long time, rather than buying a lamp at each new home that can't be transported and then must be left at that location.

As mentioned earlier, the Mobilamp aims to be as affordable as possible. The integration of the magnetic charging function including powerbank and battery, which make up the technology of the product, will probably position the Mobilamp in a mid-price segment. For a later production of the lamp, some speculations can be raised. The company must meet both the aesthetic, minimalist requirements, and have the aspect of sustainability incorporated in its company philosophy and product range. Therefore, for example, a global company such as IKEA would be an option, as it has both manifested democratic design in its corporate philosophy and is represented worldwide with many stores, so that urban nomads easily can

purchase the product. Another option would be the company MUJI, which is also distributed globally and whose product range already features the minimalist aesthetic. Likewise, the placement of the product in a global company from the travel industry would be imaginable, which also meets the aesthetic demands of Mobilamp as a lifestyle product.

## 6. Conclusion

The project focuses on the target group of urban nomads and identifies their needs. For this purpose, the minimalism theory and the mobility theory, which have a significant influence on the lifestyle of urban nomads, are examined in more detail. Through both secondary (scientific literature and observations) and primary research (survey and interviews), it can be proven that the two theories form the core of the lifestyle. The aspect of travel and the associated geographical flexibility and freedom are, according to the target group analysis, the most significant motivators to enter a nomadic life. Minimalism, on the other hand, is an active motivator for only half of the nomads, according to the author's survey; however, living without many material possessions is unavoidable to ensure a high level of mobility. The fewer things nomads carry with them on their journey, the more flexible they are in terms of location. The two theories are therefore mutually interdependent.

If the number of things that are transported along is limited, they are assigned more importance at the same time. When researching which objects are particularly important to nomads and what characteristics they possess, a look is also taken at historical and traditional nomadic populations, such as rural nomads in Mongolia. It can be observed that the requirements for the products, despite the different environments, show parallels between the urban and the rural nomads. Lightweight, multifunctional, functional, and easy-to-transport products are selected that meet both the physical and psychological needs of urban nomads. These include the universal basic needs defined by economist Max-Neef, among which freedom and autonomy are the most important needs for nomads. These aspects respond to the research question raised at the beginning of the thesis, which requirements a product must fulfill in order to satisfy the needs of the urban nomads.

To answer the second research question, how a product design can facilitate the everyday life of urban nomads, a look at the people-centered design approach during the design process is taken. Based on conversations with urban nomads (interviewees), the creation of personas, the user journey map and the making of prototypes and renderings, usage scenarios are analyzed and evaluated by means of a specific product example. The Mobilamp, a multifunctional and easy to transport lamp, is the result of the generated criteria and the design process. Based on this product, concrete usage situations in everyday life and in the environment of urban nomads can be simulated and analyzed. In the case of the Mobilamp, for instance, specific work and leisure activities are facilitated by a mobile light. Lighting in unfamiliar surroundings can also contribute to a sense of security, whereby the Mobilamp serves as a satisfier for several needs mentioned by Max-Neef. Although the design project involves a material product, the Mobilamp demonstrates that psychological needs such as safety can also be met with products. In addition, by being carried along, possessions are assigned a higher personal meaning and the individual items convey a sense of familiarity in new environments.

## **6.1 Personal reflections**

With the urban nomads I chose a small but growing group in society that fascinated me personally. Although the urban nomads were difficult for me to access locally, I was able to gain a deeper insight into their daily lives and values through different research methods and from an observer's perspective. To what extent urban nomads are integrated into local life, culture, and society, or whether they primarily live a life parallel to locals in their own communities, is something I cannot assess firsthand based on my research. Field work could provide deeper insights in this regard for future research.

As a product designer, my interest and expertise lie primarily in the development of multifunctional and sustainable product solutions. For this reason, I was particularly interested in looking at material things in the minimalist lives of urban nomads. An important insight was that by reducing possessions, individual items are assigned a higher value and meaning and are only owned if they improve the quality of life in some way. Thus, their way of consuming is conscious and reduced and therefore has positive environmental impacts in terms of sustainability. Over-consumption represents one of the biggest environmental burdens today, making low-consumption lifestyles a sustainable alternative. The goal of my exemplary design project is therefore to fit exactly into this mindset. Even if the way urban nomads consume is sustainable, the many journeys that come along with high mobility can be seen critically. Thus, one finding was that the lifestyle itself is not always environmentally sustainable. Also related to the social and economic impact on site, it can be stated that through the temporary stay and the often digital work, no stable contribution to the local economic situation and the associated standard of living is made.

After doing extensive research on urban nomads and my already existing enthusiasm for travel, I could personally also imagine taking on the challenge of living as a nomad and minimalist for a time. I would do this mainly for field research purposes, to practically experience my theoretically acquired knowledge for myself.

The application of different design methods represents a process with which I am experienced as a designer. During the design process, methods such as brainstorming, mind mapping and prototyping are applied collectively. This provides an innovative and people-centered approach to the design process that can be deepened in future work by collaborating directly with urban nomads on site. A significant step for the future of the design project and the evaluation of the Mobilamp product design is to further deepen co-design practices and to produce a physical prototype to observe it in real usage situations. These insights can then be used to refine the product.

As already mentioned, the thesis provides a strong basis for future research and projects. Due to its interdisciplinary nature, the content of the study is not only relevant for designers but

can also be a helpful foundation for other fields such as economy, urban and spatial planning, sociology and psychology.

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# Appendix

Appendix 1: Max-Neef's matrix of human needs (Max-Neef 1991)

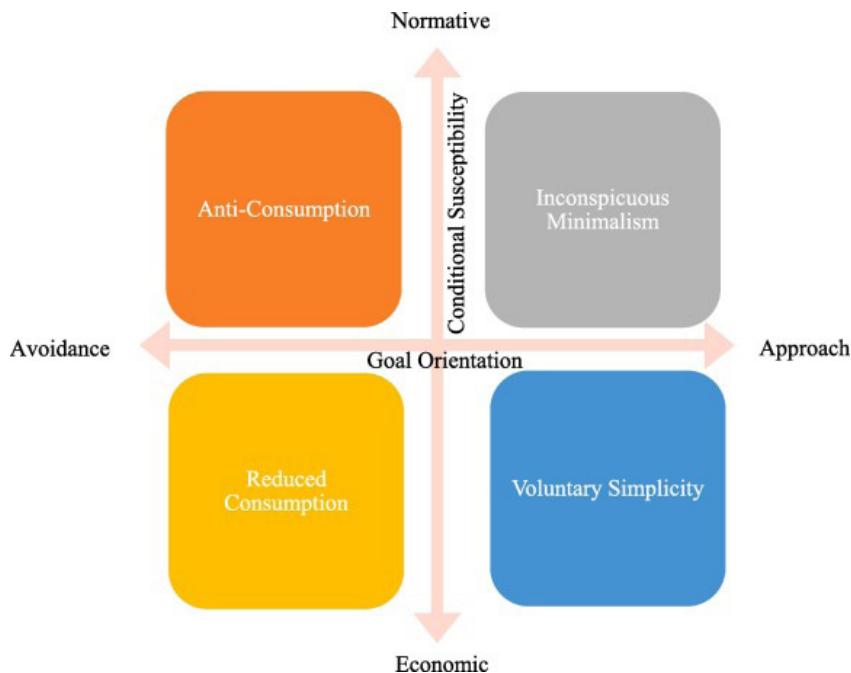
Needs according to existential categories \\ Needs according to axiological categories	BEING	HAVING	DOING	INTERACTING
<b>SUBSISTENCE</b>	1/ Physical health, mental health, equilibrium, sense of humor, adaptability	2/ Food, shelter, work	3/ Feed, procreate, rest, work	4/ Living environment, social setting
<b>PROTECTION</b>	5/ Care, adaptability, autonomy, equilibrium, solidarity	6/ Insurance systems, savings, social security, health systems, rights, family, work	7/ Cooperate, prevent, plan, take care of, cure, help	8/ Living space, social environment, dwelling
<b>AFFECTION</b>	9/ Self-esteem, solidarity, respect, tolerance, generosity, receptiveness, passion, determination, sensuality, sense of humor	10/ Friendships, family, partnerships, relationships with nature	11/ Make love, caress, express emotions, share, take care of, cultivate, appreciate	12/ Privacy, intimacy, home, space of togetherness
<b>UNDERSTANDING</b>	13/ Critical conscience, receptiveness, curiosity, astonishment, discipline, intuition, rationality	14/ Literature, teachers, method, educational policies, communication policies	15/ Investigate, study, experiment, educate, analyze, meditate	16/ Settings of formative interaction, schools, universities, academies, groups, communities, family
<b>PARTICIPATION</b>	17/ Adaptability, receptiveness, solidarity, willingness, determination, dedication, respect, passion, sense of humor	18/ Rights, responsibilities, duties, privileges, work	19/ Become affiliated, cooperate, propose, share, dissent, obey, interact, agree on, express opinions	20/ Settings of participative interaction, parties, associations, churches, communities, neighborhoods, family
<b>IDLENESS</b>	21/ Curiosity, receptiveness, imagination, recklessness, sense of humor, tranquility, sensuality	22/ Games, spectacles, clubs, parties, peace of mind	23/ Daydream, brood, dream, recall old times, give waiā to fantasies, remember, relax, have fun, play	24/ Privacy, intimacy, spaces of closeness, free time, surroundings, landscapes.
<b>CREATION</b>	25/ Passion, determination, intuition, imagination, boldness, rationality, autonomy	26/ Abilities, skills, method, work	27/ Work, invent, build, design, compose, interpret	28/ Productive and feedback settings, workshops, cultural groups, audiences, spaces for expression, temporal freedom
<b>IDENTITY</b>	29/ Sense of belonging, consistency, differentiation, self-esteem, assertiveness	30/ Symbols, language, religion, habits, customs, reference groups, sexuality, values, norms, historical memory, work	31/ Commit oneself, integrate oneself, confront, decide on, get to know oneself, recognize oneself, actualize oneself, grow	32/ Social rhythms, everyday settings, settings which one belongs to, maturation stages
<b>FREEDOM</b>	33/ Autonomy, self-esteem, determination, passion, assertiveness, openness, boldness, rebelliousness, tolerance	34/ Equal rights	35/ Dissent, choose, be different from, run risks, develop awareness, commit oneself, disobey	36/ Temporal/spatial plasticity

## Appendix 2: Satisfiers according to Max-Neef (Rauschmayer, Omann, and Frühmann 2011)

Synergetic satisfiers	Are those satisfiers, which, by the way in which they satisfy a given need, stimulate and contribute to the simultaneous satisfaction of other needs.
Violating or destructive satisfiers	Are those imposed arbitrarily and are likely to prevent a second need being fulfilled.
Singular satisfiers	Are those which aim at the satisfaction of a single need, and are therefore neutral with regard to the satisfaction of other needs.
Pseudo-satisfiers	Are elements which stimulate a false sensation of satisfying a given need.
Inhibiting satisfiers	Are those characterized from oversatisfying a need which might eventually cause difficulty in the satisfaction of other needs.
Economic goods and/or commodities	Are objects related to particular conditions in time and history, but represent only one type of satisfiers among a vast range.

Source: Max-Neef 1990.

## Appendix 3: Low-consumption lifestyles (Pangarkar, Shukla, and Taylor 2021)



Appendix 4: Overview of the distribution channels of the survey (author)

<b>Facebook group name</b>	<b>Reactions</b>	<b>Number of members</b>
Campfire: Remote Workers, Nomads & World Citizens	4 likes, 12 comments	6 327
Digital Nomads Spain	3 likes	16 099
Free BLM – Nomads of North America	3 likes	8 257
Digital Nomads	1 like	23.469
Digital Nomads Bali		17 749
Malta Digital Nomads & Entrepreneurs Community		1 471
Tenerife Remote Workers & Digital Nomads		19 779
Nomadbase – The Digital Nomad Community		59 471
Canggu Entrepreneurs & Digital Nomads		4 308

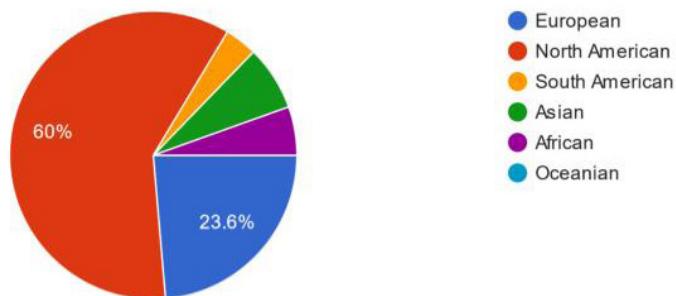
Appendix 5: Personas (author)

	<b>Marina</b>	<b>Emily</b>	<b>Armando</b>
<b>Age</b>	36	29	45
<b>Nationality</b>	Romania	Canada	Italy
<b>Occupation</b>	Project manager for consultancy firm, self-employed	Graphic and web designer, freelancer	Videographer, freelancer
<b>Activities</b>	Traveling, surfing, yoga, workouts, coffee	Biking, yoga, learning spanish, traveling	Traveling, reading, taking walks
<b>Interests</b>	Minimalism, health, fitness, multi-purpose objects	Design, concerts	Food, movies, photography
<b>Frustrations</b>	Mass products, poor lighting	Taxes, bad WIFI, uncomfortable work places	Bad weather, financial insecurity, boredom
<b>Living places</b>	Van, hostels, private guest rooms	AirBnBs, Hostels	Van
<b>Work places</b>	Private accomodation	Private accomodation, co-working spaces	Van
<b>Most important possessions</b>	Transportable coffee cup, travel towel, foldable hat	Yoga mat, laptop, portable workstation	Phone, tablet, WIFI device, stove, coffee maker

## Appendix 6: Nationality of urban nomads (author's survey)

What is your nationality?

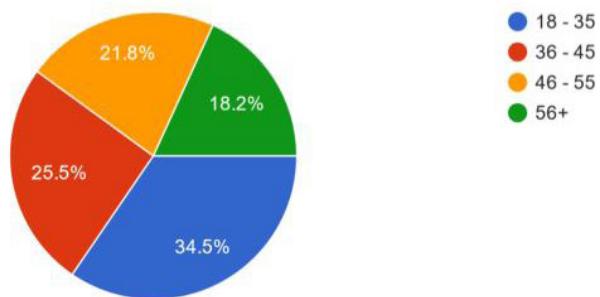
55 responses



## Appendix 7: Age of urban nomads (author's survey)

How old are you?

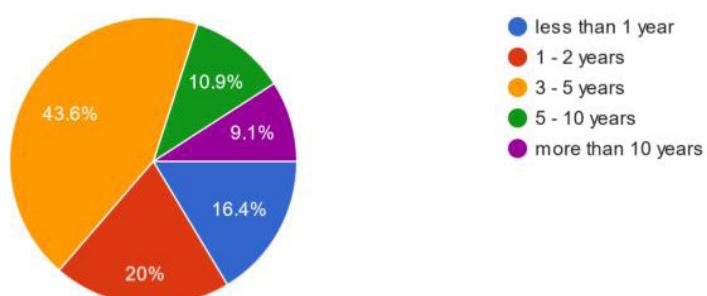
55 responses



## Appendix 8: Time of nomadic life (author's survey)

For how long have you been living a (half) nomadic lifestyle?

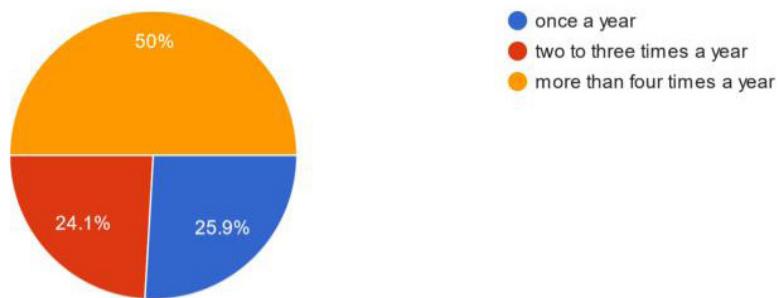
55 responses



## Appendix 9: Number of moves within a year (author's survey)

How often do you move within a year?

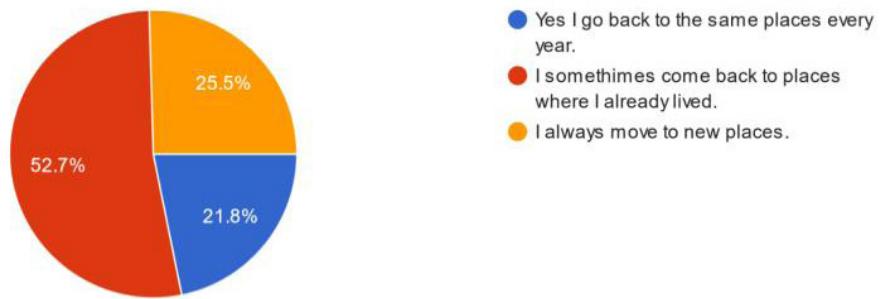
54 responses



## Appendix 10: Returning to previous places of residence (author's survey)

Are you regularly coming back to places where you already lived?

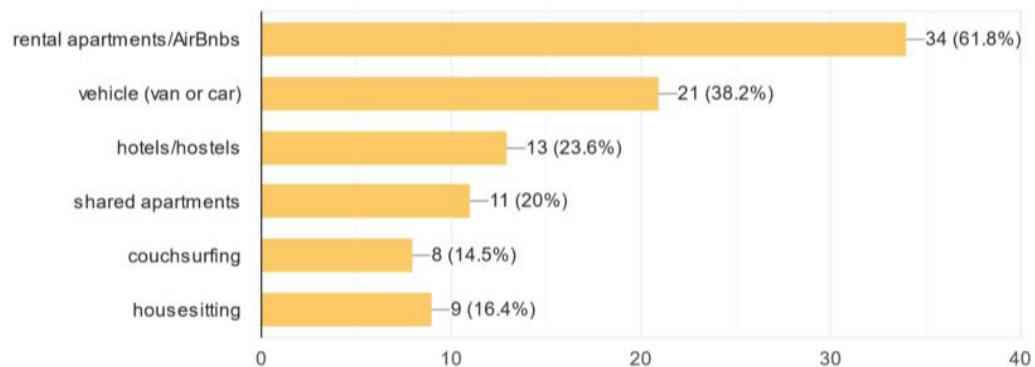
55 responses



## Appendix 11: Places of residence (author's survey)

Where do you usually live during your journey?

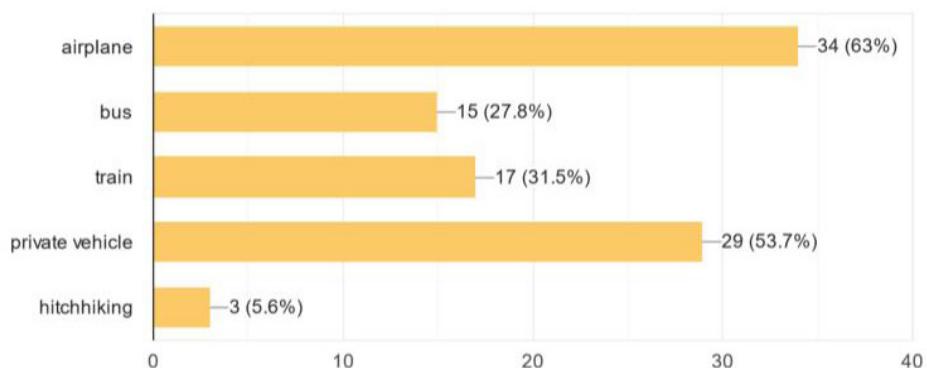
55 responses



## Appendix 12: Means of traveling (author's survey)

How do you usually travel to the next place?

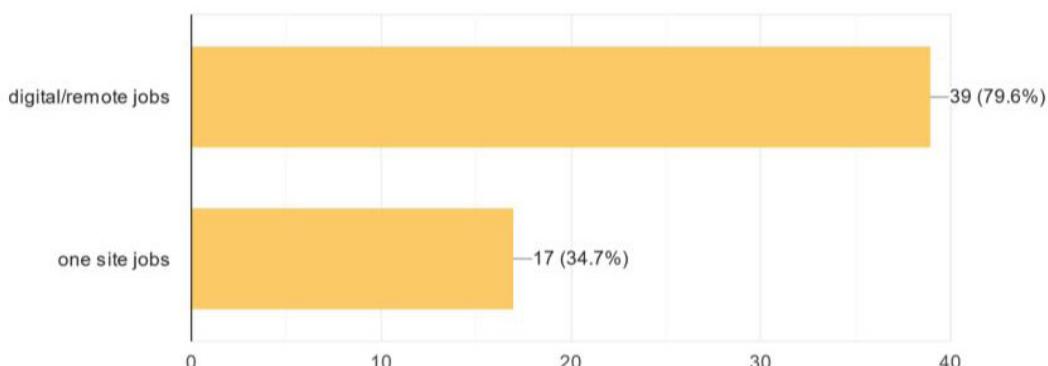
54 responses



## Appendix 13: Type of work (author's survey)

What jobs do you work in on your journey?

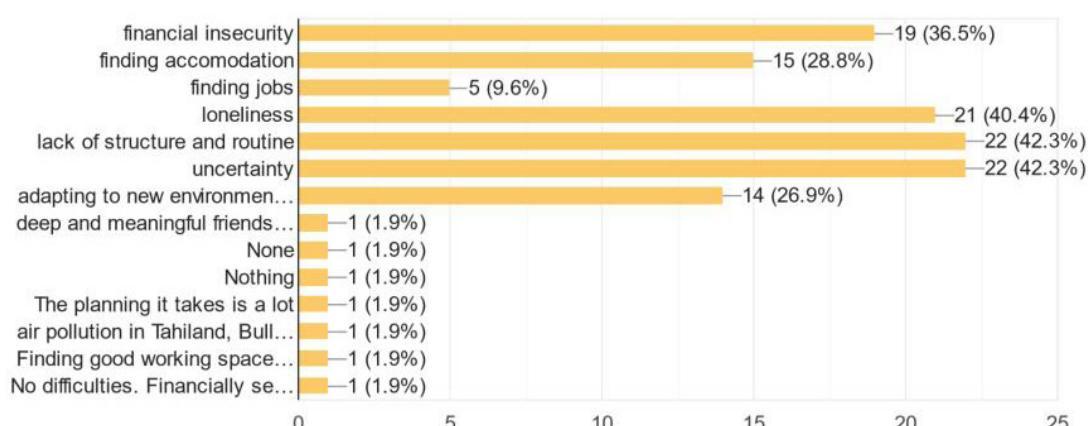
49 responses



## Appendix 14: Difficulties (author's survey)

What difficulties did you experience on your way?

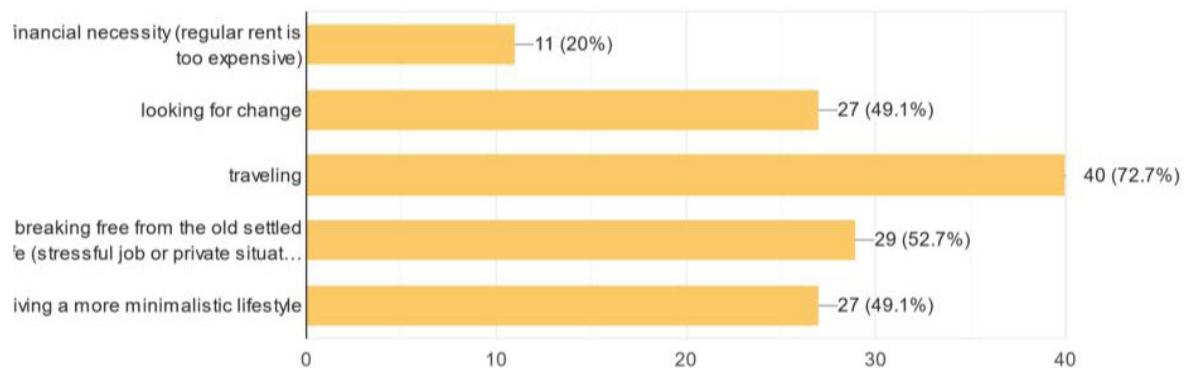
52 responses



## Appendix 15: Motivators (author's survey)

Why did you take on a nomadic lifestyle?

55 responses



## Appendix 16: Most important physical possessions (author's survey)

Item	Quantity
Laptop	25
Mobile phone	19
Clothes	7
Bank/ credit card	3
Charger	2
Skateboard	1
Backpack	4
Water bottle	3
Pedometer	1
Car	3
Camera	4
Guitar	1
Rollator	1
Wheelchair	1
Solar generator and panels	2
Fridge	2
Gas cooker	1
Maps/ atlas	2
Gun	2
Comfy shoes	3
Tablet/ eBook reader	2
Juicer	1
Blender	1
Printer	1
Photos	2
Blanket and pillow	1
Bike	3
Headphones	1
Travel bidet	1
Sleeping bag	1
Passport	2
Driver's license	1
Cash	1
Eyeglasses	1
Medications	1
Kite gear	1
Toilet	1
Books	1
Sketchbook	1
Wallet	1
Sports equipment	1
Portable hotspot device	2
Personal documents	1
Toaster/ oven/ air fryer	1
Journal	1

## Appendix 17: Interview with urban nomad Alina (author)

Sophie Diers 0:00

I have a few questions prepared. So I'm just going to start but just talk when you feel like it. So the first question is, how old are you and where are you from?

Alina 0:19

I'm 36 years old. I was born in 1986. It's Chernobyl year. Born in Bucharest, Romania, and I lived there for 33 years.

Sophie Diers 0:37

Okay. And then why did you decide to take on a nomadic lifestyle?

Alina 0:46

I always loved traveling. Always, always loved traveling and when they make started, I knew that I couldn't stay inside the house, that I need my freedom to travel, whatever. And so again, being a nomad and I started in Romania, I stayed for a while in Brasov. Which is in Transylvania. It's in the mountains. So I started there because I wanted to have more outdoor space. I'm very active by some I like being outdoors, I like hiking. And when pandemic started, I realized that I need to change my lifestyle a lot, too, my needs by that time, I was already a minimalist for like two years. So before I started to be a nomad, my lifestyle changed the way that I began being minimalist, so I threw away a lot of stuff that I didn't need. I didn't buy extra stuff that didn't need and just kept everything to a bare minimum so that I could have flexibility when moving from one place to another.

Sophie Diers 2:00

Okay, and that's super interesting because I was also writing a lot about minimalism, actually, because it's closely connected.

Alina 2:08

It goes hand in hand. You don't meet nomads with lots of stuff.

Sophie Diers 2:12

Yeah, exactly.

Alina 2:15

We have a couple of things, but they're really important things to us.

Sophie Diers 2:19

For sure. It's only focusing on essentials. So what kind of jobs are you usually working in or what kind of work do you do?

Alina 2:32

I'm a Program Manager or project manager if you want to put it like this? And I've been a manager for like seven years. And I'm working for a UK based company offering consultancy,

so I'm also like, entrepreneur. I have my own company and I offer consultants.

Sophie Diers 2:55

Okay. And you've been working for this company. So you're working for the company and at the same time, you're also self employed. Is that right? Or is it's just like the work for the company and then projects.

Alina 3:10

I'm not hired by the company as employee. I'm self employed. We have a contractual basis, consultants.

Sophie Diers 3:19

Okay. All right. And in what places have you already lived on your in your journey? So you started in Romania...

Alina 3:31

I started in Romania, but for a while in the beginning I was living in a van. Okay, it was very nomadic. Very close to Brandon Castle, in the countryside. So for like eight months I spent in a van. It was a very small place. So yeah, really crowded, but it was fine. It didn't need too much. Then I moved to Brasov, and I stayed there for like one and a half years in Brasov. I also did Spain. I spent a lot of time in Spain summertime I spent in the northern part of Spain, the northern coastline. It all and now I moved to Bali.

Sophie Diers 4:29

Okay. When you were in Spain. Did you also live in your van?

Alina 4:36

No, I just traveled a lot when I was in Spain. I did mostly backpacking. I didn't want to be in a van because I didn't have like the right freedom. I just want to do like backpacking in Spain, sort of like Camino, Camino del Norte Greenway. So I wanted to do that and a lot of backpacking and mixed with working so I just took the time to do everything.

Sophie Diers 5:08

And then so in what kind of accommodations are you usually living on your journey? So I mean, you already kind of answered first in the van and then now?

Alina 5:23

I started in a van for eight months. Then I moved I rented an apartment in Brasov for one year and a half. It was a two bedroom. No was a one bedroom apartment in Brasov. For one year, one year and then in Spain, I stayed in hostels, because I was backpacking all the time, so I moved very frequently from one place to another, so I was staying in hostels. And right now I'm staying in a private guest room in Bali, and has 10 rooms, shared pool shared kitchen, but each bedroom or each room has their own bed, desk restroom, shower. Okay. It's called the private guest house.

Sophie Diers 6:21

Okay, all right. So do you prefer to have to live in like a private room to have more your own space?

Alina 6:31

Yes, yeah. You have no space and I have meetings. And I need some quiet time. And it's better like this for now for the current situation. This is the best thing for me at the moment-

Sophie Diers 6:46

And then do you have a daily routine and how does it look like?

Alina 6:57

I change my routine. Depending on where I am, I try to bring what I do on a daily basis if you want or on a weekly basis and find the right means to adapt it to where I am. So for example, on a daily basis, I tried to incorporate some workouts even if it's like walking for a while, or running or going to the beach swimming, swimming in the pool, bring some exercises in the pool, doing yoga or anything like that. It's really important. It keeps you keep your body up to speed. You know. Movement is really important. So no matter where I am, I always make sure to get like a couple of hours like walking like I mentioned, you know just like having an active life but now embody and things change the bit I usually work out in the morning I have surf, I wake up at 5am Then I have surf from six 6:30 until eight/ nine o'clock and then I come back where I am just do I don't know laundry or whatever nails, massage, whatever you have to do. Then I work and after 10/11pm I go to the pool because I can't go to sleep right away. So I would go into the pool at night and just get some swimming done or relax after a hard day of work that we have. So that's a daily routine. Just working out. Having coffee for example. You know if you eat you say that you're interested in like product, I just bought this thing because everywhere you go here it coffee is really good. So these are a couple of products I like really, really really much and they're really useful here like the coffee mugs but they're really nice branded, but like coconut chopsticks, not for specifically chopsticks, but I can also hold my hair with them. So products need to be multi purpose.

Sophie Diers 9:14

Yeah, that's great. And also I mean instead of having disposable cups all the time, it's nice to have like one that you can just clean and then use it again.

Alina 9:24

Okay, I would also have one bottle, but I lost the previous one that I had I had it for like five or six years I think I lost it at the gym and I was thinking today to buy another one. But here it's so much plastic that everyone so here water is tap water is not drinkable. You always need to buy or where you go they will give you the drinkable water so now I'm just reusing the plastic bottles that we have, rather than just buying a new one. And I would usually have a water bottle. What else do I use towels like towels are really important. Fast dry and absorbent towels that you can take to the beach or at the pool or at the gym. Just want to be able to have clothes that dry very fast. I can tell you this is really important for me, because that I have you can wash them but it's important that afterwards they dry really fast because it gets you know like time it's not so much time consuming to wait to have your clothes dry.

Sophie Diers 10:38

Yeah, especially if you're living somewhere where humidity is higher.. And is it also those traveling towels that you can fold really small?

Alina 10:51

Very small. Yeah. But you know, what? Can I tell you something you know, everyone has the ones from the Decathlon. Everyone has the same and you just want something else just want like a new model right? Instead of having the same one that everyone else has. Yeah, there's like there's no new order you have to take that one or not. So that would be nice. You know, to have like something like towels that are also looking really nice with a nice design and fast drying and highly absorbent. That would be good.

Sophie Diers 11:28

Yeah, I actually I got one because I wanted to backpack in South America to two years ago but then COVID came so I had to go back actually. And I got a towel that you can also use as like a yoga mat kind of thing. So it has really nice grip. So I don't know I can look what kind of brand it was and I can send it to you if you want. It's not super smart, but it's but it's the like a fast drying small towel and it has like this yoga grip.

Unknown 11:58

yeah, you're not using it anymore?

Sophie Diers 12:01

Oh, I do but like I haven't been backpacking in a longer time, so not like frequently. But I can look it up. I think it was a German brand.

Alina 12:13

That's nice, so nice. And what else I really had you know, what I had is something that I really liked a lot, but I gave it to another girl. I have a hat of straw hat. A foldable straw hat Can you can you imagine that? Have you ever seen one?

Sophie Diers 12:34

Yeah. Yeah, actually a friend of mine did something like this. My bachelor's program like a foldable hat.

Alina 12:43

That's really super cool because you can put it in your backpack or if you're on the scooter, you know, you can just put it somewhere and then we use it. It's really really and I haven't been able to find that anywhere else. Yeah. I'm a bit sorry that I gave it away but it's fine.

Sophie Diers 13:02

and did you did you also modify the physical item yourself? So create something by yourself that you used in your van for example, or now? Or is it more that you look into solutions that are already existing and just like buying stuff that is good for traveling?

Alina 13:26

To be honest, I do go to the second option. It's easier for me you know if I need something to just buy it rather than reading it myself when I was at the van I did indeed spend more time into thinking on how to use some stuff. Or just create the things that I would need just but that was then it was also pandemic we were not supposed to get out of the house or to go to the shops it was more difficult. But to be honest right now, I would do much rather prefer just to buy stuff you know if I know I have a list with things that I need to buy, like for example I need to get like coconut oil or SPF cream or just a mug for the coffee. And if I see something that we are if I get to a place where they might sell it you know, I know to check and see if they have that. So I always have a small list on top of my head with things that I need to buy for that week or for that situation. I don't know just that I need something. Okay, so I would look for them, and they would ask for them like with chopsticks or with the coffee mug. That's what happened. I was really needing these and I was thinking for like two or three days. And so today I just found the perfect shop and they had it was not that expensive and I said yeah, I'm just gonna take it. This is my chance.

so right now and everything here is outside. Mostly. I mean you can find a lot of stuff for nomads and for reusable stuff and for a minimalist lifestyle. You will find it here in in Bali.

Sophie Diers 15:18

Yeah, that's nice, because I guess infrastructure is already quite good for nomads because there's a lot of people living there.

Alina 15:27

So just because you know the time and everything. It's not so much time consuming. It's like into buying things and also supporting the local businesses. So definitely, yeah. I have invested since I came here with two swimsuits and I bought two more. So swimsuits is something really must have in Bali, but everyone has a business here with swimsuits. So one in 10 Girls, she's selling swimsuits or something like that here.

Sophie Diers 16:02

I also have two product ideas in mind already for my project. And I wanted to get your opinion on those to know with which one to proceed. Maybe you also have other ideas or something comes to your mind. So my aim is to create something for nomads that live in vans and regular accomodations. So the first one is a moveable light which you can use for different purposes. So bedside lamp, or you can stick it at the wall to have like an extra light source. Or you could also carry it as a torch. That's also maybe more relevant for van living maybe.

And the second idea is to have like a pillow that is inflatable. So you can just put air in it and pack it up super small. And you would have the opportunity to mount a surface on it. So yea you could use it for working on the lap, eating and other things. So just to have like an extra surface for different purposes.

Alina 18:27

Yes, the light would be a saver! Especially if you can stick it even on the wall. Currently I'm having this issue with poor light next to my work space, so it looks bad when I'm in video meetings. I would totally buy the little lamp, as I can see a need to it. I asked the landlords to provide something extra, as there's not enough light in my apartment right now. So it would be really good to have a light for reading and a light that makes it more bright when you're on

the laptop camera. If it's small, and if it sticks even to the wall that would be perfect. Really really good idea! Same for the laptop desk for the lap. But right now for me it is not needed, so I would not purchase it. But the lamp definitely

#### Appendix 18: Interview with urban nomad Emma (author)

Sophie Diers 0:02

How old are you and where are you from?

Emma 0:10

I'm 29 and I'm from Montreal, Canada.

Sophie Diers 0:14

Okay. And then second question, why did you decide to take on a nomadic or half nomadic lifestyle?

Emma 0:31

It kind of just happened. So I've always wanted to travel. I remember, like, specifically two people in my past who kind of got me into it. One of them was a foreign exchange student from Brazil. And we were friends in high school and I never thought twice about visiting Brazil but when she ended up going home, she invited me with her. And that was kind of my first taste of like, traveling alone, and being somewhere that's very different from Canada because before that, I'd only done USA and Europe on like family trips. And then the other one was a friend who I had worked with when I was a lifeguard and he told me once that he was going to take a year off to go live and work in England and I didn't realize that that was a possibility. And it kind of blew my mind and it kind of turned me on to the idea of traveling. And then working with trouble like I ended up going to Australia on a working holiday visa. And trying to find work while I hired someone for six months and then leave them be. So I took a couple of odd jobs here and there, but that's when I started freelancing. So I am right now a full time freelance graphic designer, and that was kind of the start of this journey because I ended up working. I was living in a hostel I printed out my CV once and the guys who owned it were like you're a graphic designer, we need a graphic designer and started giving me all their business. So it kind of just I rolled into the freelancing. I have had jobs since then. I have I don't really love the office setting. I don't really love the structure of a company either. I like being able to choose who I work with and what kind of projects they work on. So I ended up quitting those jobs and going to Colombia to visit a friend. And I was like, Well, you know, I have I have my computer. I'm trying out this freelance thing. Let's see how far I can go with it. And it ends up being like a backpacking trip for a year where I meet new clients and then went home. Kind of build up the business again and then now here I am kind of doing this thing every winter where I can get away from Canadian winter and work warmer.

Sophie Diers 2:52

Yeah, I know you worked in a company right after University, right? Like for how long did you work there? And when did you start freelancing?

Emma 3:05

I got hired right out of school. So we had a vernissage. And they had some companies that come in scouts, the new students and do interviews so I had a couple of interviews and I ended up getting hired at an event marketing agency. And it was really small to realize I was a designer that wasn't because we're in a copywriter and that was it. And it was a good first experience. But like I went in with the intention, knowing that I was going to save up all that money and go try and do the working abroad thing in Australia a year afterwards. So that was my first job it was a year long. It was good, it was kind of like the setup the pillars for knowing how to be a like, be all around graphic designer, I guess.

Sophie Diers 3:50

That's great and yeah, this question you already answered kind of, so in which places have you already lived and why? So in Australia, Columbia, Canada...

Emma 4:06

Australia, Canada. I've bounced around most of Latin America. I've been in Mexico for a while. Ecuador, through Chile, Argentina. I really I'm kind of like Spanish so I really like being in Latin America as it is right now. I do I would eventually like to do a bit more Europe but for now. I'm doing Spanish lessons and I made a lot of friends and like kind of invested myself in Colombia particularly. I just love it here something about the weather, the people's language, the music, everything kind of works. And also Colombia in particular. I love Medellin which is great. You have a lot of options in terms of co working spaces. So yeah, a lot of coffee shops, cafes, or what they call co working spaces. Airbnbs to live in. Really, it's set up well for people who work remotely, which is nice.

Sophie Diers 5:16

So you went back to Colombia for like the second time now or for a few times already? And always to the same like place too?

Emma 5:31

Four times already. No, so last few months. I was in Medellin. That's where most of my friends are right now. My cousin is with me and she also works remote and we're on the coast. So I haven't spent a lot of time in this area yet. So it's been nice. I have one more month before I head home my tourist visa ends and also back and enjoy the Canadian summer. And then next year I'm actually thinking of doing the band thing and doing a little bit more of Argentina.

Sophie Diers 5:58

Okay, that's so great. Okay, so next one, what can what kind of jobs are usually working in so graphic design freelancing?

Emma 6:11

Yeah, exactly. I do. I have two clients, who are like my main clients and then a couple of

sporadic ones. One of them's in web. So I do a lot of web design. Mostly UI, a little bit of UX, and then branding. So I'll do new branding. I'll help people refine how to create a more cohesive branding if they have something that already exists. And I kind of take care of anything that they might need. So I try to do with social media. I don't love that domain. Anything in terms of marketing material and web. I help out with.

Sophie Diers 6:52

And then what difficulties have you faced on your journey? So regarding visas, for example, or whatever comes to mind?

Emma 7:04

I haven't had any issues with visas largely because I've just been traveling on either working holiday visa or tourist visa. So I'll leave when my tourist visa ends. I do not deal with the tax implications of working from another country at all. I just, I don't mention it. I don't declare anything that I spend on my business abroad. Just because I don't totally understand the tax implications of working remotely, I guess. So this is like a little bit of a gray area. Yeah. Like I'm probably just not going to deal with it until I have to deal with it. You know?

Sophie Diers 7:47

But like most of your clients Canadian, are also from South America?

Emma 7:51

Mostly Canadian. Some Australian, and I still do most of my business in Canada. So I'm largely only traveling during the winter. So there's not no complication really in terms of which country my life is facing and what kind of taxes I collect. I haven't really worked in weird time zones. So the only thing is we don't do Daylight Saving here. So there was a little bit of a glitch in terms of like oops, I missed my first meeting and I forgot that we're an hour behind. But other than that, like just the regular business struggles of like making sure that you always have enough work coming in for the next month. Be able to balance all your projects and not get up for work. Enjoy that work life balance even when you're fully booked and trying to enjoy the new place that you're in. But it's been a pretty good ride.

Sophie Diers 8:54

Okay. That's great. And also like with finding housing or like finding good Wi Fi or something like this was this issues that you had?

Emma 9:05

Yeah. So I generally try not to go to places where I either know or think the Wi Fi is going to be terrible. Because early on in my travels when I was more backpacking than I was working. I've been in the situation where I was in a hotel, and the Wi Fi didn't work anywhere except for the bathroom. So I had to sit in the bathroom floor and finish my project and it was so you know, it really makes you start looking more seriously and like the reviews about the Wi Fi making sure that co working spaces nearby if there are four spaces they have these nearby you can usually tell if an area is well suited for remote workers. And then other things like recently on this trip, it's been finding an Airbnb with a dedicated workstations. Because, where I'm right now, I have a bar table with bar stools, so it's not been the most comfortable so I've

been working on the sofa most of the time. So little annoying things like that, but it's not the end of the world.

Sophie Diers 10:19

Okay, so you're always living in Airbnb s or also hostels sometimes. Or like shared apartments?

Emma 10:27

Yeah, mostly Airbnb is at this point.

Sophie Diers 10:31

To have like privacy of your own space?

Emma 10:34

Exactly. Part of it. Also, when I started doing this, I wasn't really living sustainably like I wasn't saving any money. I was just kind of going all out and working to sustain that lifestyle. Whereas now trying to be a little bit more of an adult and like, maintain your saving, be able to keep up with your workout routine. So I do need more privacy in terms of just being able to work out at home, be able to concentrate and not have people inviting you out every evening. As fun as that is. When you're trying to travel and work and kind of like making a lifestyle. You need to figure out the type of accommodation that works best.

Sophie Diers 11:16

Yeah, for sure. Okay. Do you have a daily routine? And how does it look like? So I mean, you already talked about it too, like working out or like a structure. Or are you just working within normal working hours, like eight to five or something?

Emma 11:38

Pretty much nine to five. I was. I was in Newfoundland in Canada. We are the year so in the fall, and they have a really funny time differences. An hour and a half ahead of Montreal. Some of my clients are in Montreal. And I completely shifted my routine the night case because I realized if I started to work at seven that was 5:30am in Montreal, so I would have most of my day done before anyone started writing to me on Slack or email. So it was very good for productivity. And I kind of missed it or is here I'm an hour behind. Schedule looks more like I'll go for a walk in the morning. I take an hour to practice my Spanish, I make my breakfast and then roll into work. At nine my time though I'm starting an hour later, and then continue till five.

Sophie Diers 12:31

And then, because I want to focus on products too. So what items are the most important ones that you're carrying with you? And why are they important? And did you like develop or modify a special physical item yourself like something that you can have adapted to your needs? I don't know. If you can think of something like this.

Emma 12:58

Not really, like my portable workstation has really evolved over the years so I used to just

travel with my computer and that was that. But now I have like a full proper setup. I have the holding then for the computer. I have the stand that I'm using for my iPhone right now. I carry my trackpad and my keyboard around for more ergonomic reasons. And I also have an iPad that functions as a second screen. The workstation itself has really evolved. It's been since the beginning but no like custom tools, that I made.

Sophie Diers 13:38

Okay, and like apart from the work objects, what is the most important thing that you're carrying? It could also be something personal. Or something practical.

Emma 13:58

Yeah, I mean, I bought myself a folding yoga mat this time. So that's been a little bit of a game changer in terms of being able to do yoga wherever I want. It folds really small. It's not the most comfortable one but it's nice to have. So I have that and then nothing really like there's little things that I just have no matter what like you always have a rain jacket. You always have a sweater you always have you know a beach sarong. Like you never know where you're going to be when you might need a blanket. So I always have that on me. And then, you know, shoes, you never know when you're going to end up going for a hike. Mostly just for activities, everything that I carry.

Sophie Diers 14:55

And then also do you have like a big suitcase or do you just have a backpack that you carrying?

Emma 15:02

I'm a backpack person. I used to be a carry on backpack person and now he's limping in places longer. I do have a larger one that I checked into my luggage. But it was fun for a while like trying to keep everything as small as you can and limit the amount of packing you have to do was a fun challenge for a while but now it just handier to have a bigger bag. And the budgets a bit better.

Sophie Diers 15:27

So like it's still a backpack. That's interesting. Yeah, and the last question, what do you miss and or wish for on your journey that could make your life easier? So like in terms of products, services, the environment. Something that could facilitate your life.

Emma 16:05

Trying to think of something.

Sophie Diers 16:09

Or something that you really miss?

Emma 16:14

I feel like my life is pretty easy as it is. So I don't know how many things I would really change. I mean, like, there's things I miss from home like having my car. So just being able to drive wherever I want to whenever I want to. That's something I really miss. When I'm traveling. I

mean, like I also being in Latin America, I really miss good food, it's not great here. I mean, my dream is one day to have the Starlink thing so that I could work from literally wherever and just have internet with me at all points. So I guess I actually I can think of one thing that would be a game changer. It could be an international SIM card. So not having to change my SIM card every time I go to a different country would be beautiful.

Sophie Diers 17:06

That's how they made it in Europe actually. I still have my German SIM card. So that's handy.

Emma 17:15

I have a bag full of them. Yeah. Because now everything needs to obey. I have to constantly switch out my Canadian one with my Colombian one. So it would be really nice if and I tried the roaming thing and I find that the data drains sometimes faster than it does if you actually buy a SIM card. So you know the day that they figure out like global literally every country involved. That would be life changing.

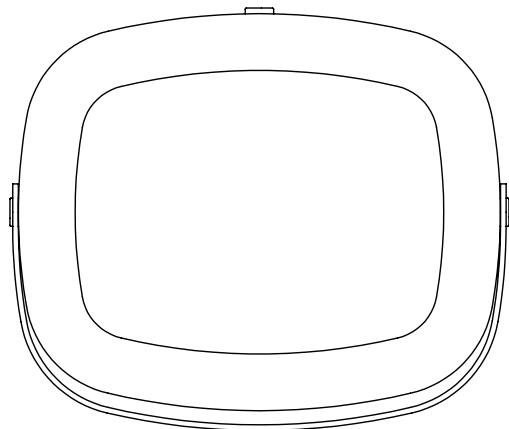
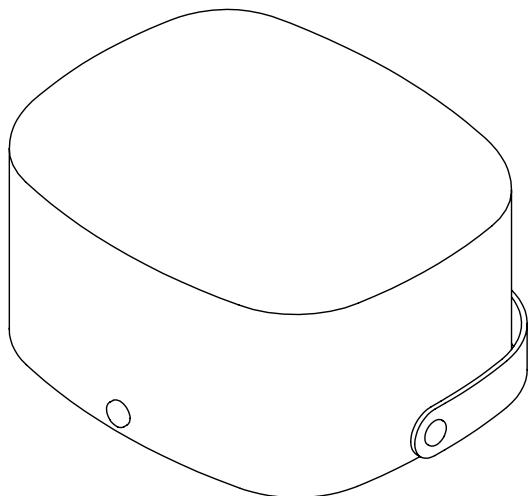
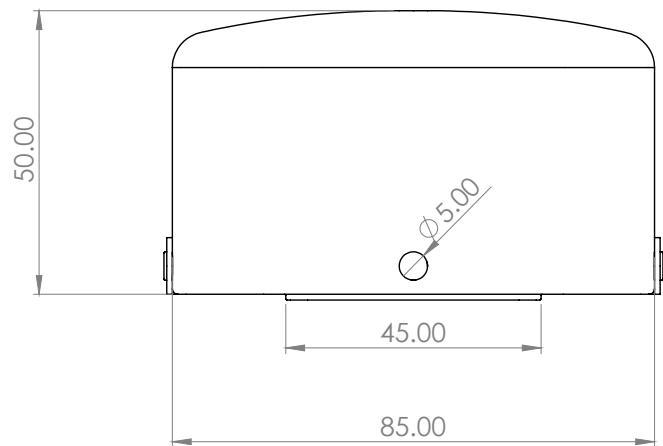
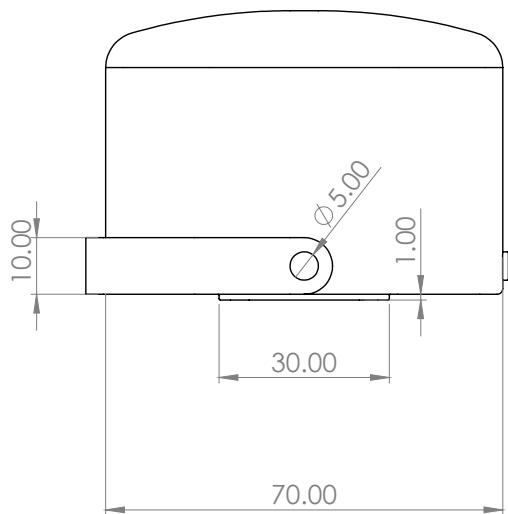
Sophie Diers 17:54

And are they like any services? Or something that you're using? I mean, like apart from co working spaces, for example, is that something else?

Emma 18:13

I mean, like everything else is kind of business related. Like I use project management tools online to keep track of my projects. I use Slack to talk to my clients. Email not used as much anymore. But the goal is always to find I guess the best project management tool that's been that's been the field research this year for me.

Appendix 19: Technical drawing lamp body (author)



Appendix 20: Technical drawing base (author)

