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D&E MSc

Intuitive traveling: Step towards discovery experience

Intuitiivne reisimine: Samm avastamise kogemuse suunas

Author applies for degree of Master of Technical Sciences (M.Sc.)

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Author's Declaration

I have written the Master's thesis independently.

All works and major viewpoints of the other authors, data from other sources of literature and elsewhere used for writing this paper have been referenced.

Master's thesis is completed under ..... supervision

/ / 2015 Author ..... signature.

Master's thesis is in accordance with terms and requirements

/ / 2015 Supervisor ….....signature.

Accepted for defence

..... chairman of defence commission

/ / 2015 ..... signature

Master's Thesis Objective & Task

2015 /2015 academic year: **Autumn** semester
Student: **Bogomolova Anfisa** 122662MADMM
Field of study: **Design&Engineering**
Supervisor: **Ruth-Helene Melioranski** (Researcher PhD)
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Master's Thesis topic (in Estonian and English languages):
Intuitive traveling: Step towards discovery experience
Intuitiivne reisimine: Samm avastamise kogemuse suunas

Tasks and timeframe for their completion:

Nr	Task description	Completion date
1	Discover: Collecting information which answers the questions who, what, why and how.	30.09.2015
2	Define: Disclosure insights into design opportunities.	02.11.2015
3	Develop: Concept generation.	07.12.2015
4	Deliver: Product solution and details.	28.12.2015

Design and Engineering problems to be solved:

The object of the thesis is to study traveling process, with the focus on the exploration aspect during the planning and navigation stages of the trip.
The goal is to develop a product, which cut down the process frictions and let the traveller enjoy the unknown location discovery.

Defence application submitted to deanery not later than 05.01.2016

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Abstract

The study on the traveling process for youth people, their motivations and issues uncovered a need in a new market niche for independent exploration experience with the least research and navigation frictions.

The result of the work is “Intuitive traveling” niche platform, which with the help of Artificial Intelligence and software development automatically creates a personalised route and navigates a user with the tactile signals. By optimising the process solution offers to focus on the exploration and discovery.

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1 Prologue. Background

As an inspiration and introduction to the given thesis preceded a course project in the frame of Master course at Tallinn University of Technology “Design&Engineering”.
Blinkie has been developing with a team of five members different backgrounds and team roles. The main problems were preceded while development are winter and social matters (Winter Depression). Blinkie is a start up, which represents social wearable icebreaker and helps outwardly young people to express themselves through the projection of their interests, desires, and passions. Blinkie also as gets users to connect with other users around them with similar mutual interests and qualities. The aim is to forge deep connections between wearers in a public setting by revealing intrinsic mutual links between them that they would have otherwise missed. Concept focused on augmented reality development.

The concept developed an experience which reveals the connection with a people around. Theme of revealing hidden links and breaking the ice imply and open many other future development possibilities and this suggested an idea to take it forward and change a focus from the people to ambience.
Thesis topic is based on the personal interests in traveling and to research the topic was conducted personal trip during 45 day in 13 countries, which helped to reveal the insights.

Fig. 1 Starting point of the research

1.1 Research objective

The aim of this research is to reveal a brand-new experience by connecting Travelers with new locations.

This refers to the Planning and Navigation decisions which has to be done in advance. In case of lack of a good planning, positive experience of the vacation may turn out into ta negative.

The study of the traveling process of youth people, their motivations and issues on the way uncovered a need in the new market niche for independent exploration experience with the least research and navigation frictions.

The object of the thesis is to study traveling process, with the focus on the exploration aspect during the planning and navigation stages of the trip.

The goal is to develop a product, which cut down the process frictions and let the traveller enjoy the unknown location discovery.

1.2 Outcome

The result of the work is the “Intuitive traveling” niche platform, which with the help of Artificial Intelligence and software development automatically creates a personalised route and navigates user with the tactile signals. By optimising the process solution offers focus on exploration and discovery.
Developed experience is aiming to capture the new traveling market niche promising to provide an autonomous virtual traveling service. It unites research, navigation and adventurous parts and claims to eliminate excising flaws of the traveling process, by meliorate the experience with an emotional value. In the market there are no similar products.

2.Methodology

This master thesis work is laid out in a standard design research project scheme Double Diamond model (Design council, 2015). It divided in two phases: Definition & Execution. The first part is aimed to explore and get an answer to the open ended explorative question that covers a relatively wide interest area, the second part is a collection of insights gained from the first phase and giving the proposal as a project.

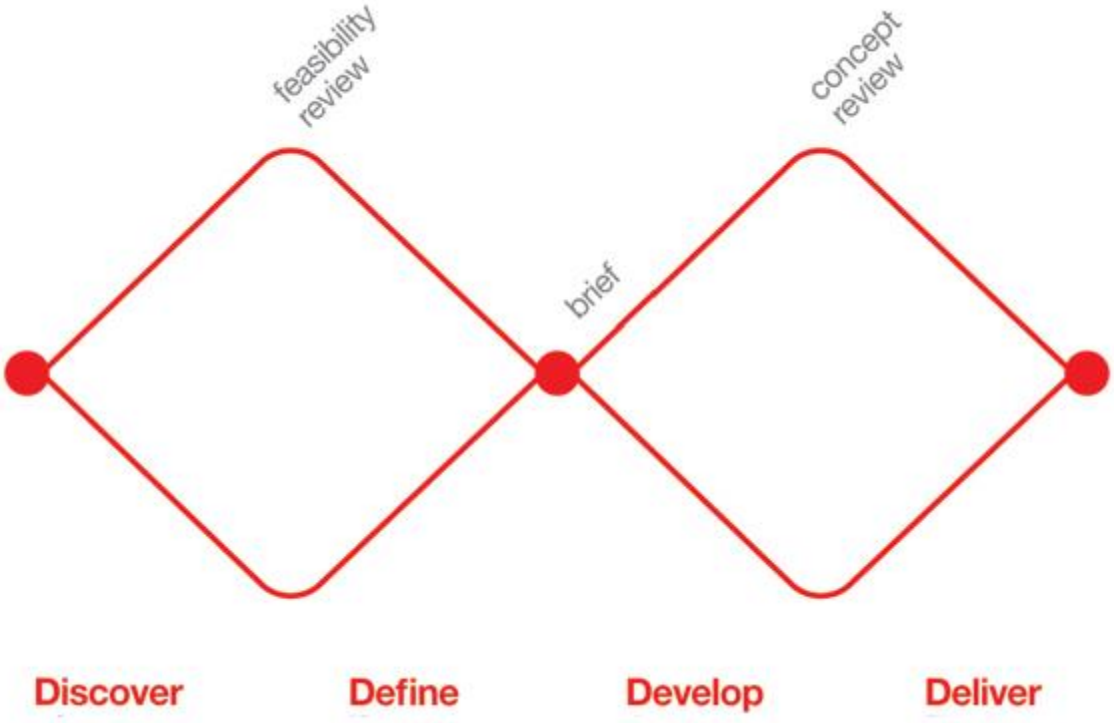

Fig.2 Double Diamond model. Design council, 2015

2.1 Double diamond model and '8 Is' of design thinking for start-ups.

The times line was planned accordingly (Appendix I)
Where left part answers the question Why? And How? And the right part reveals What? Starting with a left Diamond, first part of it respond for Ideation/generation. This papers collects data, shape a background, form questions which will help us to reveal answers and brings us to the possibilities and directions to go with the project. Second part of the diamond responsible for the definition and requirements. With the definition of possibilities area, it starting to analyse, filter

and decrease the range of opportunities and consequently goal of the work becoming clear. Dots between Diamonds represents the defined design problem, as known as conclusion of the research. Summing up the results it followed by the product development and execution phase.
Like in a first phase - the number of possibilities to solve the problem increases, but after concept review – only one concept is selected, the number of different outcome possibilities decreases, so the end result gets more defined. The second diamond collects its input from the first diamond so in case of mistake made in the previous phase, step back has to be done.

2.2 Discovery

This method is useful to develop implicit data into explicit knowledge. It helps understanding of how other perceive certain issues and use analysis of it to proceed with the research.
Intent to launch a new product or service was driven by the inspiration from the previously developed concept project “Blinkie” (the social ice-breaker, which connects like-minded people) in the frame of Master course at Tallinn University of Technology “Design&Engineering”. It served as a starting point and taking into consideration with personal interests in travelling addressed a question: What if people can get connected with unknown places?
The study started with the Discovery stage and outcome is based on the empirical observations and interviews which were done in the Personal trip during the 45days. The most valuable data has been gathered from observations, interviews and online surveys with frequent travellers, who are facing the equal experience nuances.
To reach insights research consisted of primary and secondary research to gather more intelligence about the domain, ecosystem and potential customers. This included : Interviews with frequent travellers, media check among movies, social media pages, blogs which settled the broader context and framed the issues.

Methods were used mainly taken form the source Design Research Techniques (CFC Medialab; Professor Suzanne Stein of OCAD University (n.d.):

2.2.1 Giga-Mapping

Giga-mapping system-oriented design approach, which maps out all dimensions of a particular subject to reveal links and connections between different pieces. It is a method of structuring information with emphasis on

interaction, rather than borders of mapped system (Sevaldson 2011).Focus on interaction or activities helps to priorities key findings to base the design on. In it's turn this method keeps design less complex. Giga-mapping is a useful tool to scale information in systematic way and generalize understanding of the issues.
When answers were added to Giga-map in the place of connections, the first restraints start to emerge and the problem defining started.

2.2.2 Issue Mapping

Issue mapping is a method in which situations are observed and documented and then analysed. After analysis, observations are categorized and clustered together into problem areas which are then further analysed and simmered down to root issues. Throughout the entire process, user profiles have to be taken into account and all involvement from primary, secondary and tertiary users should be considered. Issue mapping deepens the understanding of the root and contained.

2.2.3 User probing. Persona

Defined amalgamated representative user profiles, based on behaviours, lifestyle patterns and needs.

2.2.4 Questionnaire

A structured interview format that included a range type of questions. To understand tendencies and issues about the travelers was conducted a quantitative survey, which was published in the traveling forums, Facebook groups on traveling thematic and addressed 18-30 years old people. It collected 310 answers and revealed next data on the next questions:

1. Demographic data.
2. Types of travellers
3. Frequency and duration of the trips.
4. Exploration paths and tools.
5. Constraints.

2.2.5.Shadowing

Shadowing provides a rich, comprehensive data set about the patterns of actions, interdependence and motivations of users. Observation is enhanced

with information about mood, body language, pace and timing in order to give a full picture of the world from the user's point of view.

2.2.6 AEOUT Observations

Observational frame from the Doblin group that looks at the intersection of key elements AEOUT: Activities, Environments, Objects, Users, Time.

2.2.7 Historical analysis

Overview analysis from literature and web research to recognise motivation of the travellers over the history and discover the meaning of it.

2.2.8 An Affinity Diagram

Affinity diagram method (Kawakita Jiro, 1960s) helped to organize information and ideas, and see how they're connected. To follow it in separate sticky notes was written down every piece of information that was needed to organize. When notes were sticked onto a wall they were sorted into the groups that are similar in some way. After groups were organised more precisely and narrowed down into clusters.

2.3.9 Open-ended interview

With open-ended questionnaire interview were gained insights from travellers. Questions were flexible and arose from the preceded answer. Every interview was unique and gave an overview about the situation.23 interviews with travellers aimed to collect the data on the following questions: Motivations.tools used for traveling, interaction with technology during the trip, problems, and suggestions.

2.2.10Customer journey

The customer journey map is an oriented graph that describes the journey of a user by representing the different touchpoints and characterize his interaction. In this kind of visualization, the interaction is described step by step as in the classical blueprint, but there is a stronger emphasis on some aspects as the flux of information and the physical devices involved. At the same time there is a higher level of synthesis than in the blueprint: the representation is simplified trough the loss of the redundant information and of the deepest details.

2.3 Defining stage

This step consists of suspending judgement and taking a ‘deep dive’ into the customer environment and convert clues into informed guesses.
The defining section of the layout consists mainly of analysis from the collected data in previous sections. During this phase user needs were searched and placed into the context of background information. From the emerging relation the common problems are identified and documented.

2.3.1 Technology road mapping

A method which outlines the future of a field of technology, generating a timeline for development of various interrelated technologies, including factors like regulatory and market structures.

2.3.2 Extreme persona review

Literature overview, online research and data collection about users which can partly be involved. In the frame of the development into account were taken visually restricted explorers.

2.3.3 Scenario planning

Describing future scenarios based on existing research helped anticipate potential changes in technology, culture, etc.

2.4 Brief

In the section of Brief highlighted problems that need to be addressed. The needs are analyzed in the context of business side and marketing strategy. As a description of expectations from product results are written into the Brief. This short explanation is a base for product development.

2.5 Development

To start with a development taken frame from the brief required to analyze wearable technology trends and innovative concepts on the given thematic.

Brainstorming sessions commence about what approaches and products may work or how existing products can be modified with divergence and convergence.
Product components and features are conceptualised with storyboards. They were connected with the wearable market research and defined into 2 directions to analyse. To see what is potentially successful product, concepts were tested with user groups in A/B testing interviews. For broader prospective solution were also analyse in terms of production and the winning concept taken for the further development.

2.6 Delivery

Ideas, assumptions and actual prototypes are subject to systematic iterative testing. With the verified concept, prototype needed to be done. Having imagination how the product roadmap look like, the idea was pitched in the Hachaton in Minsk (organized by Garage48) and consequently collect a team of 3 developers and 1 marketer. Over the 48h was developed a beta-prototype, which took a Special prize and encourage further development. This lead to testing a prototype on the user. At this point was recast the original intent and even gather more market insights. Development continued to reach a minimum viable product with subsequent marketing plans. Business model, product life cycle analytics and brand development were done.

Research

3.1 Starting point

Looking into the process of traveling is a crucial point in understanding of how the people are discovering, exploring and learning new spaces and what are the problems arising within this process. Learning the discovery process should include a group of the users and their particular needs. Traveling has to be analysed and divided by the trip stages, expectations, time limit, budget and other factors which profoundly affect an experience.

The research starts with the central focus on persona, analysing the process of traveling and each of it's steps. Then zoomed in asking "Why" questions, which allowed later to zoom out and by asking "what" questions and look wider.

By going deeper, were observed micro entities levels. And by going wider on the macro level were grasp relationships and systems, which revealed a complex overview.

This chapter inspected and analysed exploration aspect of traveling. Described and made concussions based on the persona, motivation to travel, It's needs, travel roadmap, problems occurred during the journey.

Understanding motivation and the way people travel is a crucial point for realising issues within this process and impact on users. In different times traveling has different premises and ideas. In the current age presentations are changing very fast and it's important to understand where it does moves and the level of freedom traveller seeks. Therefore only with collecting information from targeted persona was possible to move forward.

3.1 Traveling

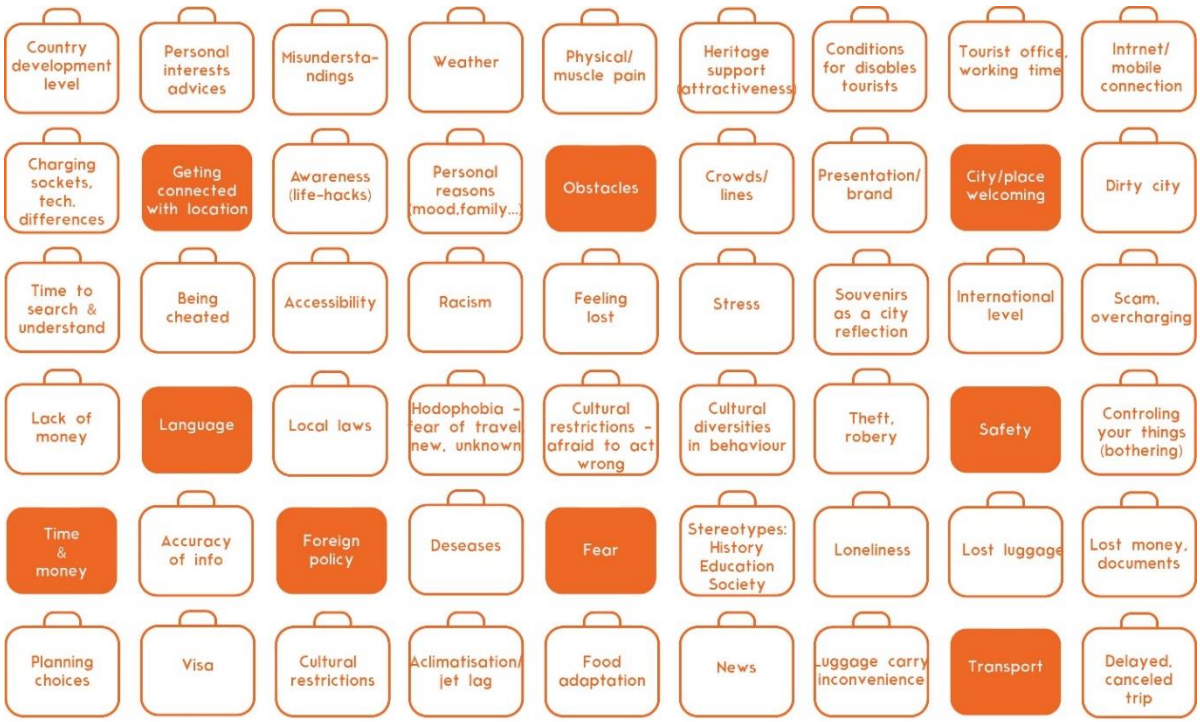

Fig. 3 Traveling aspects giga-mapping

Research starts with an open-ended questions with different categories of travellers. This is a first acquaintance with a field concluded into a giga-mapping of the aspects and possible problems during the traveling. This process aimed to narrow-down the scope of the field and figure out the area which has more connections to each other and consequently urgency of the direction. By mapping down potential problems outstand couple of categories which were connected into the clusters in the issue-mapping. The biggest clusters appeared to be: the language, connection to the location, city welcome level. They are grouped into Exploration aspect of the traveling cycle and the main field to focus further research. (Appendix *Issue-mapping. Focus on the Exploration area)*

3.2 User probing. Persona

By understanding the focus area next step was taking a look and observing massive groups of travellers and determine what is the persona, who travels the most and consider traveling as an important part of self-development on the way of it's growth.
The target user picked in the range from 18-30 years old people. They were selected as a focus group due to the fact that starting from 18 years people acquires their independence, taking decisions self-reliantly and naturally wants to explore new horizons on it's own. By the middle of 20ies age young people reach a peak of their discovery activity and by 30 traveling tendency curve descent and move towards the settled life, focusing on the family, new angles of career and consequently lack of the time and interest for traveling.

3.2.1 Defining profile

Demographical tendencies about the traveler revealed from the quantitative survey and collected 310 answers:

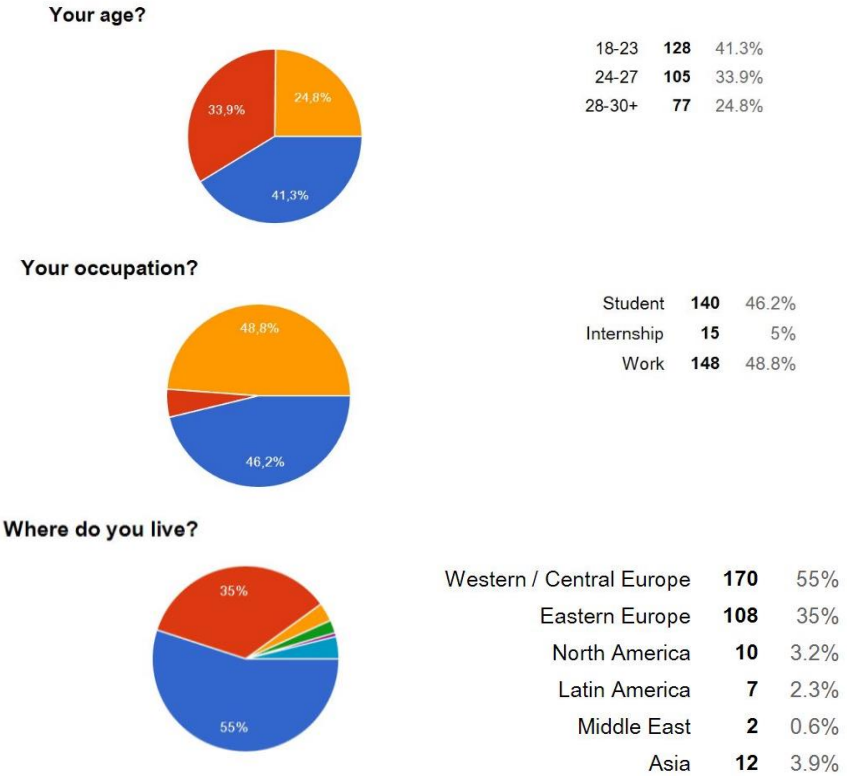

Fig. 4 Gauging demographic data of the potential users.

Most of the data are collected from European residents (90%) between 18-30years old. Respondents almost equally revealed division by occupations: 46% students and 48,8% workers. Thus considering age and occupation separation,

target group of users was divided into the next 2 sub-categories for future analyze:

1. 18-24years old students.
2. 25-30years young professionals.

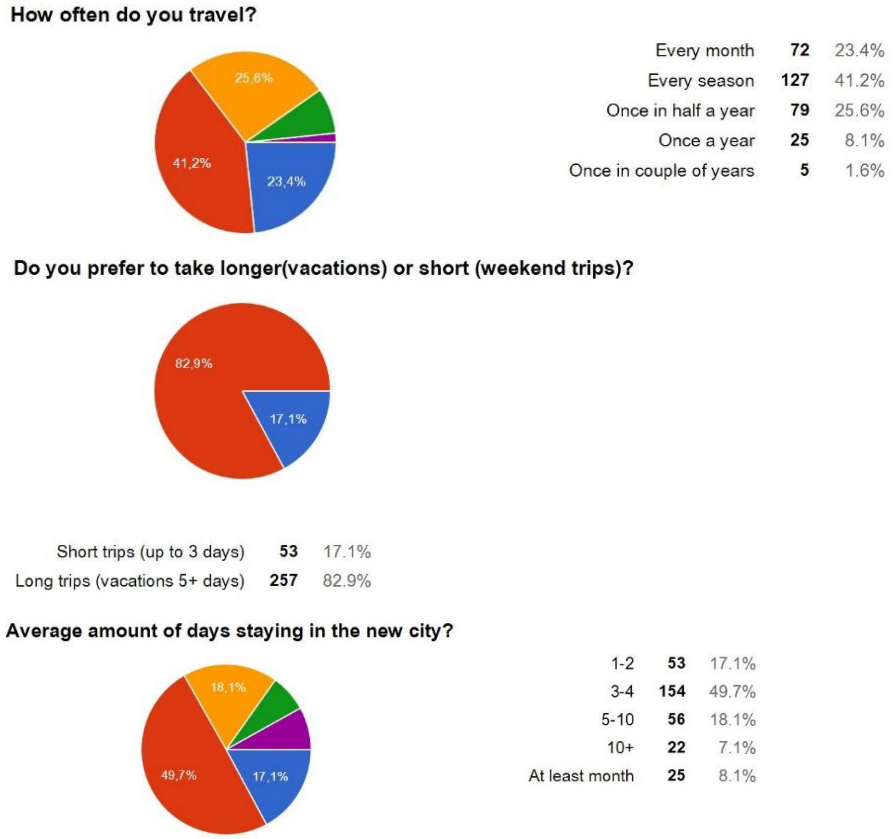

Fig. 5 Gauging trips frequencies and durations

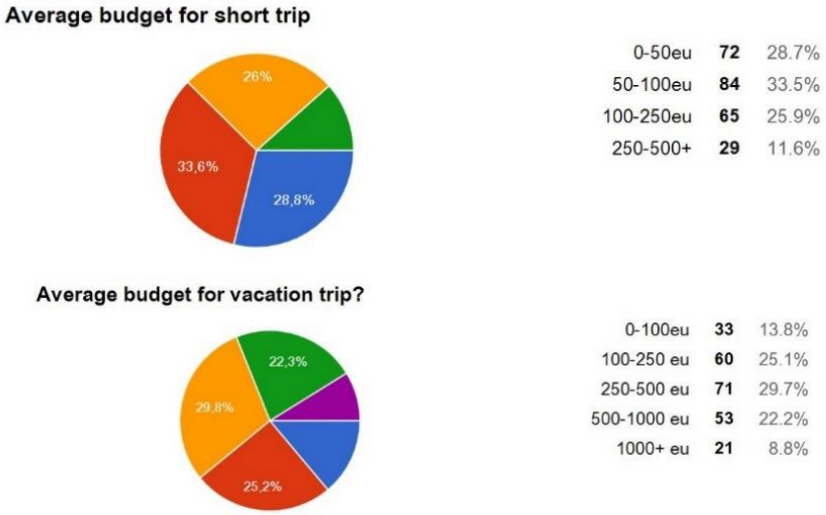

Fig. 2.3 Gauging budget planning based on the duration.

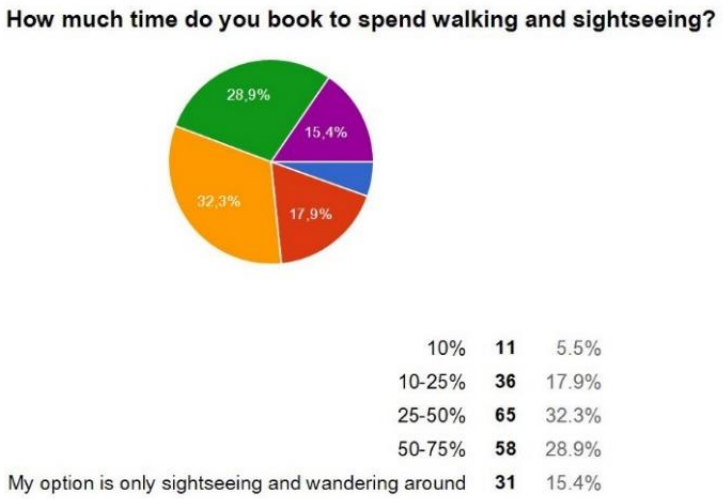

Fig. 6 Gauging free time reserved for exploration.

Survey revealed that young travelers move “Every season” (41%) which means that at least 4 times a year. Majority (83%) of the young people prefer to take a longer than weekends trips. Among them 50% choose of trip 3-4 days long. In terms of budget young people plan accordingly short and longer staying: Up to 4 days - 100euro. Vacation trip (5-14days) 100-1000 euro. The time spend sightseeing during the travel shows that young people are mostly walking outdoor (50-100% of the time.)

3.3 Student and Young professional traveling habits.

Next important analysis has to be done based on behaviors and habits of the targeted group in order to understand differences and common values between them. With an open-ended interviews were defined amalgamated or representative user profiles, their lifestyle patterns and needs.
Interview conducted based on the next questions:

1. Accommodation and budget. (Defines the available time and resources.)
2. Free time and expectations. (Exploration and learning were important insights to consider and compare because two target personas may learn the same amount of information, but the way they experience it reflects in their Emotional state. The stronger emotional level – the more meaning and memories it carries over a time)
3. Lacking aspects. (Experience deficiency explains restrictions and inconveniences during the trip which are affecting the experience and I's important to understand the constraints)

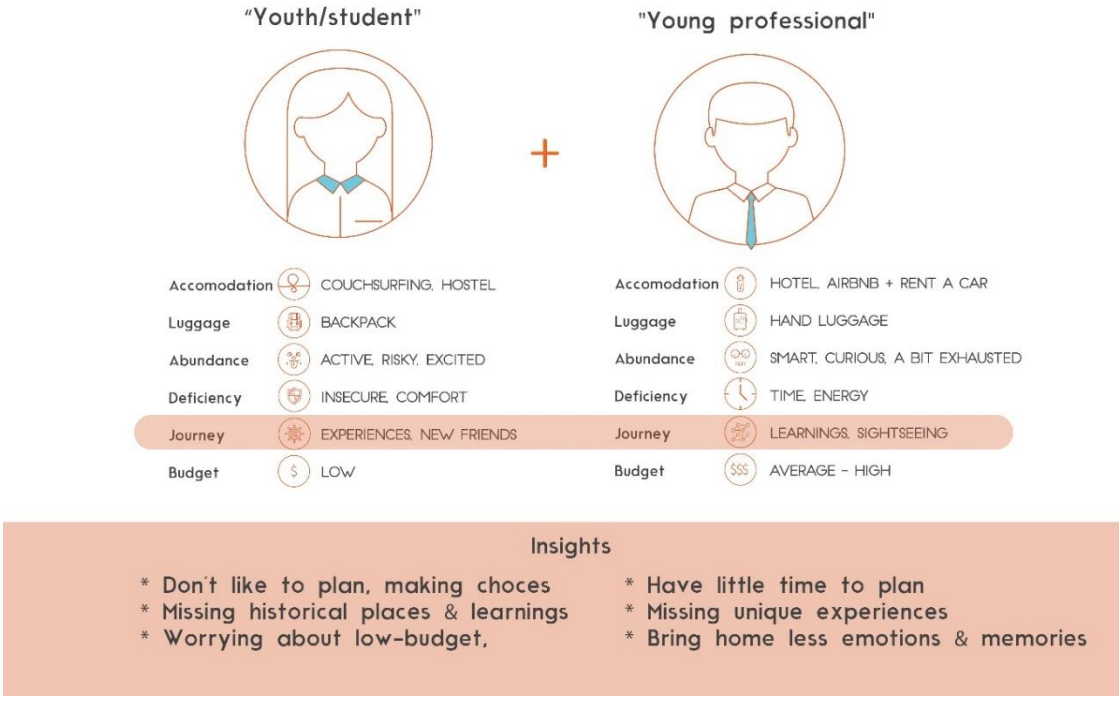

Fig. 7 Habits comparison between the Student and Young professional.

3.3.1 Student

Average student prefer to travel once in the season. Trip takes 3-4 days including transportation time. Budget for a short trip (1-4days) takes 50-100 euro, for a long trip (5-14+days) 250-500euro. This includes accommodation, transportation, food and entertainment costs. Student plan most of his time sightseeing (50-75%) and performed to be more open to try new things than at home. Among mood boarding featured next habits: taking risks, staying active, and being excited all the trip. Most of respondents declared that if they don't know much about a local culture, they are most likely willing to try new experiences, things and go with a flow. Activity is not important as long as it is something new, emotional and motivates to step outside of their comfort zone. Another important fact is obtaining new local friends. Decent amount of respondents reported that to have an opportunity to explore unique places, they stick to locals and trying to dig into their circles to experience local trends.
In terms of missing sides were defined next aspects:

1. Lack of the comfort.

This aspects attached to the limited budget. Respondent's answers revealed that in general comfort aspect do not affect a positive experience. What is important is safety during their stay. Some services (ex.Couchsurfing) are prone to be considered not very safe and making traveller dependent from the host.

2. Lack of cultural and historical learnings.

This aspect is directly connected to the motivation of learning, time for research and planning activities accordingly. Most of the times happens that student don't have enough time and motivation to read historical facts, is not interested in museums and excursions and missing cultural context discovery. Instead student is searching for the stories from local peer. In general this practice may reflects into experiences which are not described in the traveling guides. This makes discovery route unique and emotional, but culturally poor.

3.3.2 Young professional

Average young professional prefer to travel once in the season. Average trip takes 3-4 days including transportation time. Budget for a short trip (1-4days) takes 100-250 euro, for a long trip (5-14+days) 250-500 euro. Persona's planning traveling time for resting and sightseeing equally (50/50%). Young professionals exposed a preference to have some rest and learn new things during the trip. Looking for new opportunities, ideas, cultural learnings and some rest from the work and routine. Young worker inherit next habits: staying curious and relaxed.

In terms of missing sides were defined next aspects:

1. Lack of unique experiences.

Taking into account profile of a student, became apparent that average young professional focusing more on the cultural side of the trip. This gives learning side of a trip, but lacking unique experiences which are not offered in the tourism guided books or offices. Lacking of unique experiences may affect emotional memory and consequently lack of delightful experience from visited location.

3.4 Habits analysis.

By conducting personal trip was used observation method which allowed to trace different behavioural models and defined two main patterns of actions: Traveler and Tourist. Observation is conducted on the streets of the popular traveling destinations (Lisbon, Madrid, Paris, Milano) and enhanced with information about the mood, body language, pace and timing.
Traveller - the one who is traveling often travels take it as a lifestyle.
Tourist – the one who is traveling or visiting a place for a pleasure.

3.4.1 Tourist.

AEOUT Observation.
Classic tourist carry a camera, travel book and map. Tourist do not adapt into the local ambience, but rather prefer to stay in the comfort zone. For example: wear the same clothing he wears at home. Tourist speaks English and do not try to learn local language. He choose notoriously known directions, major cities and do not turn into smaller streets. They also may prefer to stay in areas where the amenities alike to what they have at the homeland.

Interpretation.
The way tourist act may give him some familiarities of the new unexplored country or the city, but do not provide deep understanding of the culture. It only reveals super faces of what this location has to offer. Mainly it happens because of the 2 reasons:

1. Lack of the time or interest for personal research.
2. Notoriously adopted traveling activities offered from the tourist office.

3.4.2 Traveler

AEOUT Observation.
A type of explorer who Is trying to immense himself into the local ambience and culture. Traveler prefer to not stand out and follows local trends, patterns and behaviors. Traveling type usually researching less traveled areas, shadowing local inhabitants, going far away from touristicaly promoted sides.
He is looking for a way to interact with local and with that aiming to learn and experience new things, which are not familiar in the place of his origin. Traveler take a journey as an active research rather than a relaxing vacation.
Interpretation.

The way -Traveller- type acts give him a complex overview and interaction facilities with a new place, but making traveler being attached and dependent from the locals around. His natural behavior is to copy the steps made by local resident. Without it his experience is not fulfilled or meaningless. Given type of travelers discover and explore culture profoundly, but getting dependent to the local population and limited with the options.

3.5 Motivation

3.5.1 Historical traveling motivations

To understand premises and need of humanity to travel it's important to see what were the purposes and motivations of leaving houses for our ancestors.
Data cited from internet and literature editions:
Lucia Byttebier. A HISTORY OF WHY PEOPLE TRAVEL.
Ueli Gyr. The History of Tourism: Structures on the Path to Modernity.

1. "First traveling mentions exist from Egypt under the pharaohs. In the latter, there is evidence of journeys emanating from a luxury lifestyle and the search for amusement, experience and relaxation." (Ueli Gyr, 12 March,2010)
2. "Herodot (485–424 B.C.) , the well-travelled writer with an interest in both history and ethnology who visited Egypt, North Africa, the Black Sea, Mesopotamia and Italy, pioneered a new type of research trip." (Ueli Gyr ,12 March,2010)
3. "Wealthy Greeks and Romans began to travel for leisure to their summer homes and villas by the sea in cities like Pompeii and Baiae." (Lucia Byttebier, September 17, 2007)
4. "Vikings had a particular skill for sailing and a keen interest in exploring. Through voyages they conquered areas such as Iceland and Greenland, and were even the first to accidentally discover America in 985 A.D." (Lucia Byttebier, September 17, 2007)
5. "In Medieval times, the most notorious travellers were pilgrims and missionaries. Driven by their religious convictions, pilgrims made dangerous journeys to places like Canterbury." (Lucia Byttebier, September 17, 2007)
6. "In the late 16th century it became fashionable for young aristocrats and wealthy upper class men to travel to important European cities as a crowning touch to their education" (Lucia Byttebier, September 17, 2007)
7. "The French revolution marked the end of the Grand Tour as was known, and with the coming of rail transit in the early 19th century, travel was revolutionized." (Lucia Byttebier, September 17, 2007)
8. "The Industrial Revolution brought leisure travel to Europe. Traveling was done for the sole pleasure." (Lucia Byttebier, September 17, 2007)
9. "Thomas Cook, in 1841, put together the first package holiday in history. He pioneered all the common services that travel agencies undertake for the passenger today: accommodation, travel tickets, timetables,

attractions, currency exchanges, travel guides and tours." (Lucia Byttebier, September 17, 2007)

3.5.2 Traveling motivations nowadays

Interviews also gave an understanding of the modern values. Questioned people where offered to name 3 main reason why they are travelling. This information was collected and connected into groups into Affinity Diagram (*Fig.9 Motivation reason grpups).*
Referring to the persona's analysis, interests and motivations are somewhat differs between targeted sub-groups: Students are looking to try new experiences, things and go with a flow. Young professional declared that during the trip they are looking for new opportunities, ideas and cultural learnings. To understand main reason of contemporary traveller from the most repeated words in interviews was created a map. (*Fig.8 Motivation map)*
Later it was analysed by the meanings and sort out into categories. As a result were defined 4 main motivation drivers:

1. Escape from reality (Inherited both to student and young professional)
2. Inspiration. (Inherited both to student and young professional)
3. Learnings. (Inherited more to young professional
4. Memories. (Inherited more to young student)

Fig.8 Motivation map

*Motivation affinity diagram

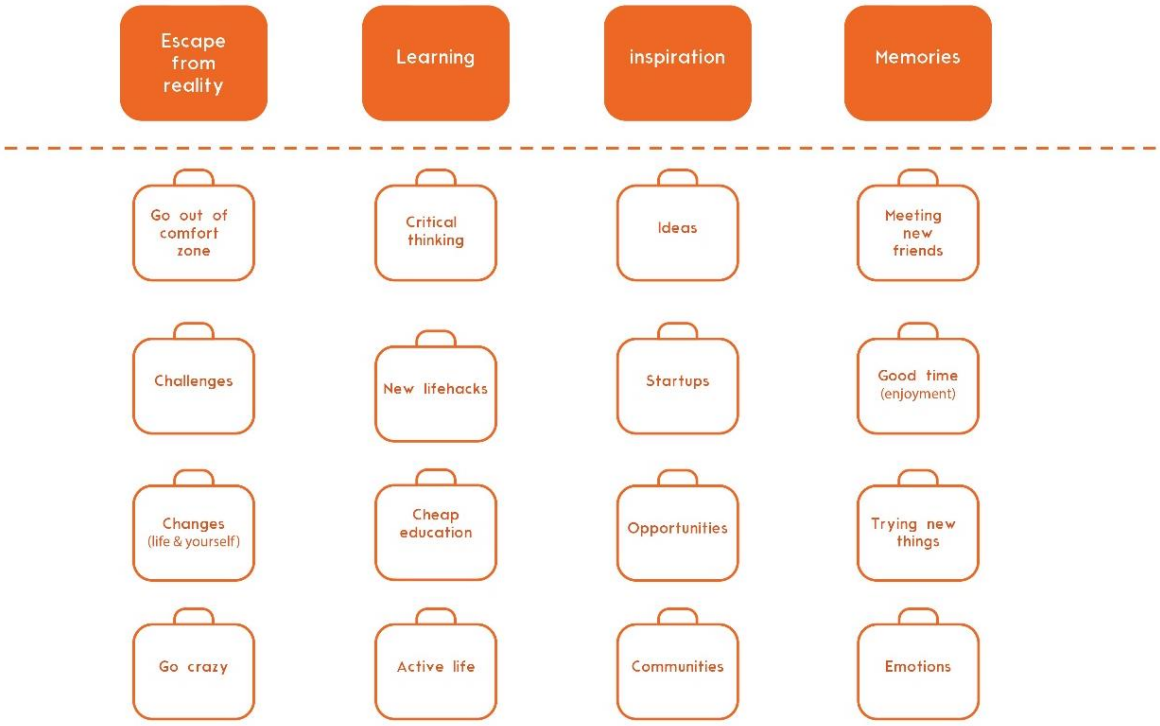

Fig. 9 Motivation reason groups.

3.6 Process

Conducting AEOUT Observations (Activities, Environments, Objects, Users, Time.) on the streets of popular traveling destinations (during the research trip in Lisbon, Madrid, Paris, Milano) were noticed that children and adults learn a new environment with the same pattern – exploration.

The analysis is done on the comparison between local people and tourists and travellers (children and adults) behaviours.

Exploration of unknown places starts with the selection of a material reference and proceeds in around it. From the reference person obtain awareness of the things around, positions and relations between them and start to imagine and observe how they changes from different angles or prospective. This process of exploration creates a mental map. Exploring the way, children and adults found a way they like to go and reach what they need. With a time and repetitiveness of exploring, they learn alternative and preferable paths.

The difference between kids and adults is that kids exploration activity called take a form of a "play". Kids are usually wander and comprehend visual information to create new perceptions. Tourists consider few references at once and use different help for it: asking people around, looking on the map. Travellers

can be called a “playful adults” coinciding with children by wandering and discovering while they walk without additional help.
Both travellers and tourists obtain knowledge through:

1. Exploration
2. Feedback and questions.
3. Graphic materials (maps, schemes).

For understanding what are the process and particular tools used while traveling was done a survey, which revealed next statistic: 84% of travelers planning and exploring new places on their own and 58% of travellers seeing it excited to be uncertain, disoriented in a new place. For getting oriented most commonly used: 30% - phone with internet services and 26% - paper maps. (Fig.10Tools used for exploration.)
Considering the fact that nowadays technology plays an important role in exploration aspect of the traveling process, it was necessary to understand what targeted persona feel is feeling about using mobile phone : data revealed that 27% of users having average satisfaction with current solution. But taking a closer look, answers tend to grow bigger in the negative satisfaction side. (Fig.11 Phone interaction satisfaction.)

Fig.10 Tools used for exploration.

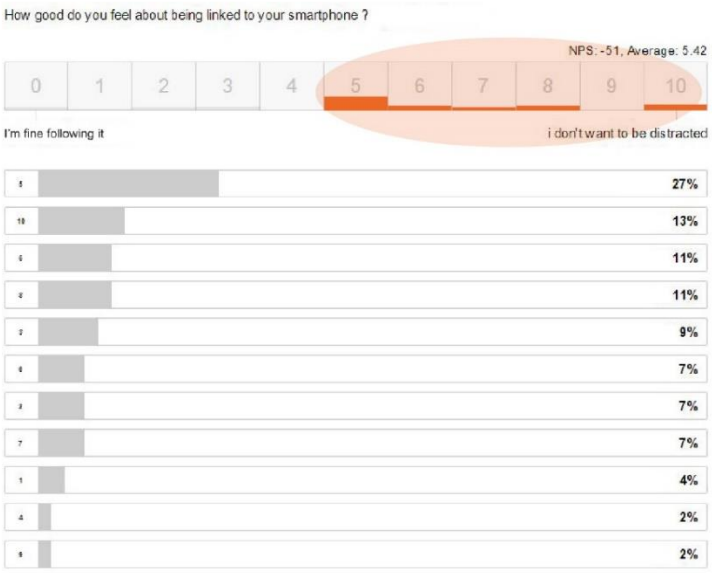

Fig. 11 Phone interaction satisfaction.

3.6.1 Journey map

Understanding the tools travellers are using and observing their experience gave an understanding of the overall process. To recreate a Journey map considering most common touchpoints and existing solutions was done a group interview with 3 travellers, where they shared each step of their average 2-4days trip.

Fig.12 Conducting a group interview with the frequent travellers

Resulted map (*Fig.13 Customer journey)* is dividing into 3 main trip stages: before, during and after the reach of new destination. Considering them became obvious a complexity of the first two stages and was decided to focus in them (*Fig.14 Focus areas.)*

First stage "Before trip" requires preparations, which takes 3steps: search, contact and planning. Second stage "During the trip" reflects in the: explore and experience steps made as a result of "Before" trip research.

Depending on the preferences and cultural background from searching to contact, user would usually have to overcome in average 4 touchpoints: traditional media, social media, word of a mouth and web recourses. The most used resources are Word of a mouth and web search. From planning to packing there are 2 ways to go: either organise a journey independently either address a tour firm. Youth travellers at 84% declared to plan it self-organized, which takes in average from 2-4 days of planning in advance. Target travellers reported to be satisfied with transportation and accommodation services available on the market. The questions and feeling of unknown comes when the basic preparation (transport and accommodation) are organised.

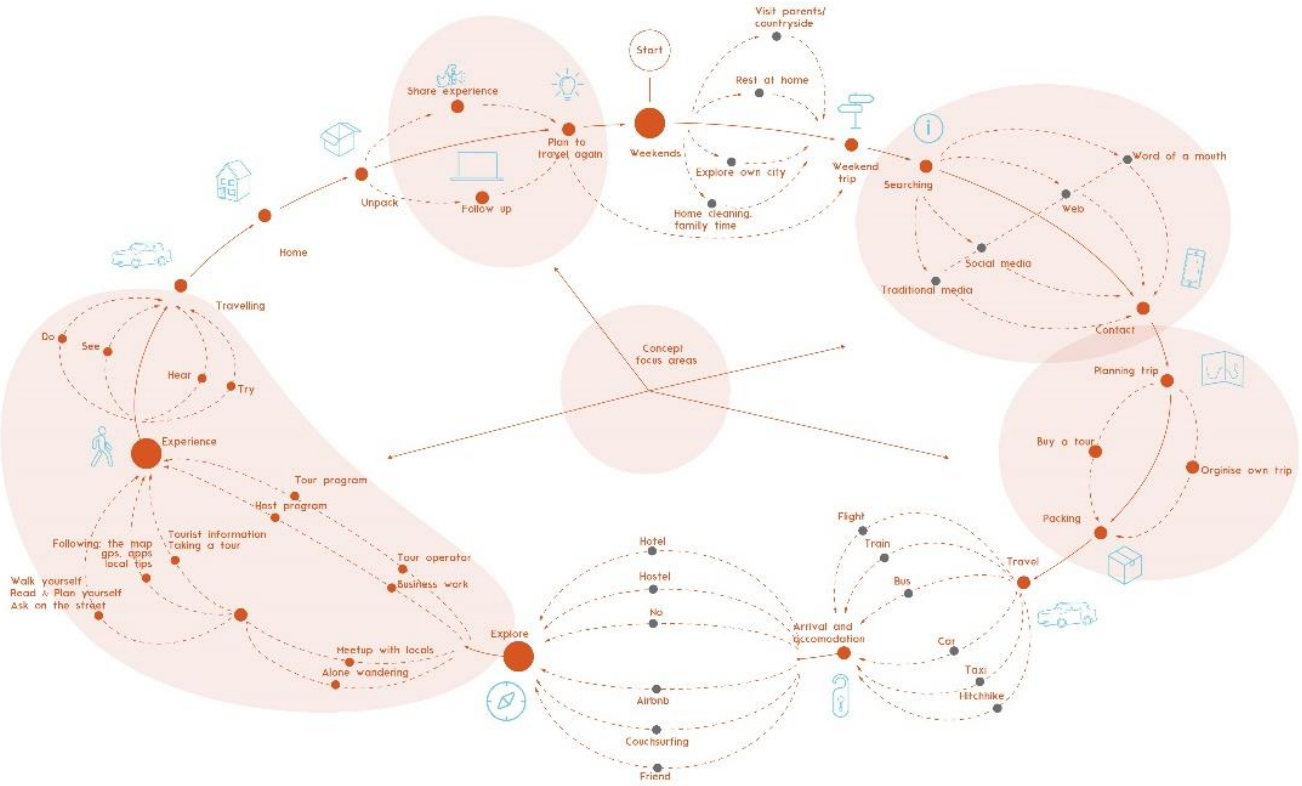

Fig.13 Customer journey

* Development focus areas.

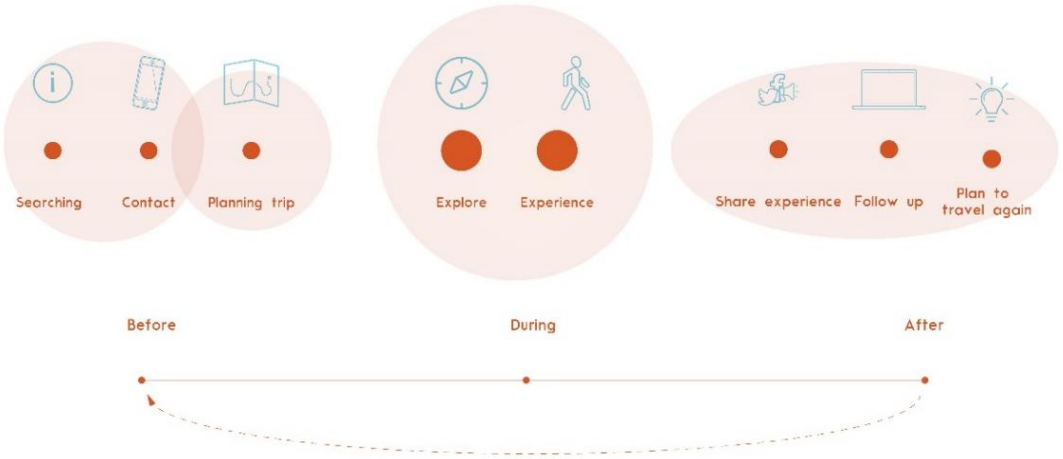

Fig.14 Focus areas.

The whole complex of options encloses when it comes to the second stage "During the trip: Explore and Experience.
Defined 4 main scenarios of activities:
a) Tour-operating: when all is organised and payed in advance. This option either cut-off personal location discovery opportunity either performed to be very limited. Majority of the respondents answered that since it organised without consideration of personal needs and interests, but focusing on the group organisation, it is the least appealing option to take. The reason why some users are taking it is no planning hassle, language-barriers and security propensities.
b) Business trip: Young professionals are inclined to take business trips time to time. Usually it's a short 1-3days trip with the focus on the work, consequently time to explore is very limited. Usually respondents said they have free time from couple of hours up to one day. Sometimes cultural program is organised, but most frequently this type of traveller arrive without preparation and searches for activities on spot, having time constrains.
c) Visiting friend / meeting local: Exploring a new land with a friend or a local appeared to be the most common and convenient scenario to take. In this case local performs a sort of a guide, who understands where to take a foreigner. Local considered to be a personal guide and flexible route-planner, who is taking into consideration wished of traveller. The problem here that sightseeing with a local displaces independent discovery journey and not every local is a professional guide or always available.
d) Independent discovery. This type of exploration usually could be divided into 2 variations:

- Use of some tools like paper maps or technology for navigation (particularly mobile applications based on GPS)
- Absolute hands free discovery. This would only need a curios traveller who walk unaware, going where the eyes are taking him, following own intuition or asking people for advice on the street.

Independent discovery itself offers a lot of solutions and dealing with them might be confusing. So solutions on the market must be examined on effectiveness.

3.7 Market research and position gap

Existing market can be divided into 2 axis's:, which are interconnected between each other Y: Exploring habits / X: Exploring services / tools:
Y axis : Exploring habits could be passive and active. Passive is an autonomous discovery experience and active is a discovery with a help of locals.
X axis: Exploring services and tools divided into: Virtual web-solutions (free of charge) and Human services with a help of local residents (payed).

The upper part is of the table (Fig.15 Market analysis and gap detection) represents a solution for research and planning with a help of local residents. Most of those are Peer2Peer (P2P) services and are capturing crucial touchpoints of the traveling cycle, such as: accommodation, food, sightseeing. P2P services helps travelers to reduce time on planning and research, coulde be payed and free options, but creates an issue of being dependent from a local. The market battle is happening in the bottom part (Fig.15 Market analysis and gap detection) between the Virtual tools and Autonomous habits options. Mainly this niche consists from the web and mobile application services. They do benefit for users from the economical point of view as they don't charge. But the hassle is that they offer planning and navigation route variations but with different solutions and applications. For users it creates a bundle of choices before they even start spending time of researching, planning and setting a navigation route. While web services market more and more growth, user is getting tired and strive for less and less frictions. This leads to the "Decision Fatigue" (Roy F. Baumeister, 2005 Decision Fatigue Exhausts Self-Regulatory Resources) may also may cause making poor choices.

Currently web traveling services are divided on the: Services on a trip planning / services on navigation / adventurous services. The most common web-platforms are: Tripadvisor, Foursquare and Google maps.
A unique solution which solves all the hassle is missing and this emerges a need for a new niche. A platform which can substitute all the frictions and even more supplement experience with a tint of an adventure.

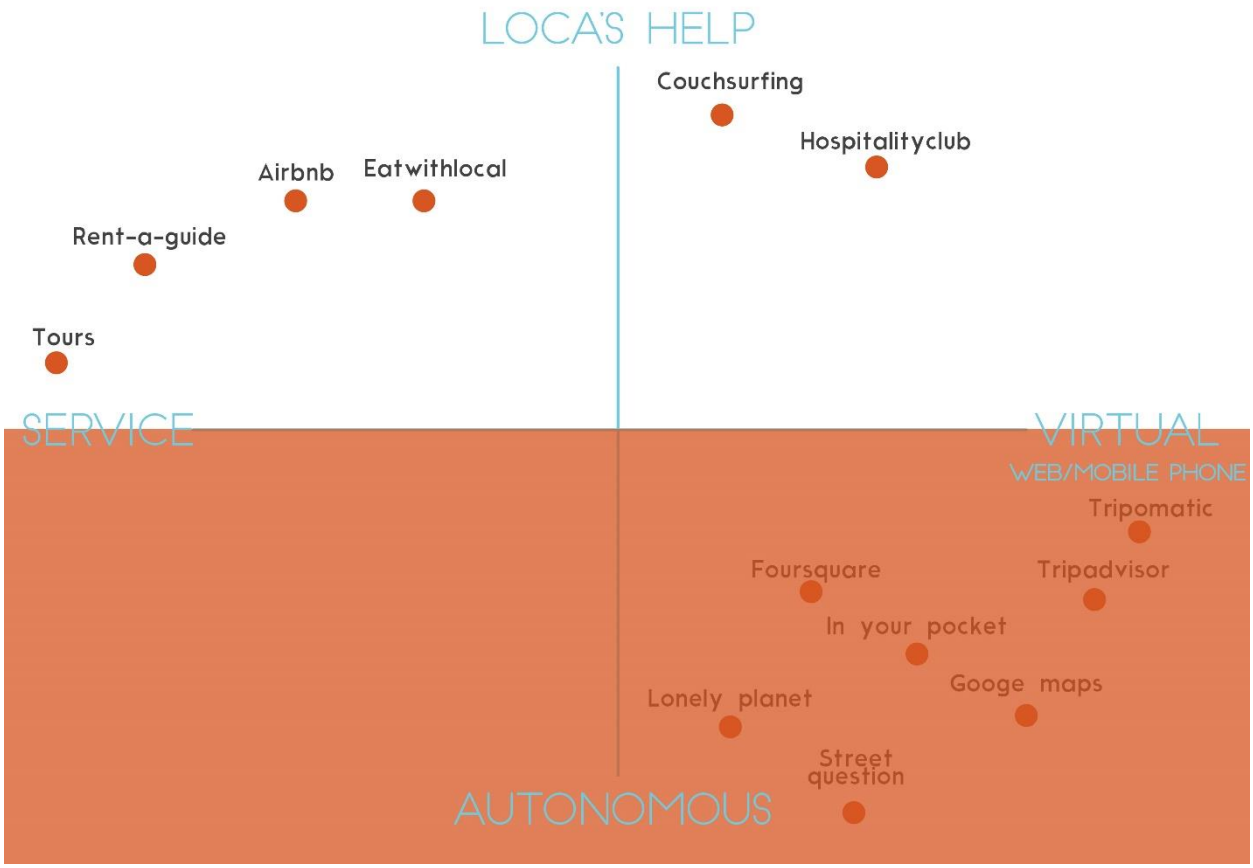

Fig.15Market analysis and gap detection

3.8 Visually impaired explorers

Extreme user review is a method which helped to zoom out from the targeted persona research. This method gives alternative prospective and reveals opportunities in the development.

From interviews and literature review can be described mapping for visually restricted people. Exploring starts with smaller pieces of environment and assimilated slowly. Process starts with identification of the reference, proceeds to the linking marker and form a route. This creates a mental image of environment and consequently become a mental map. Learned information relates to subconscious navigational system. Visually restricted explorers tend to create a sensual & spacious patterns such as: sound positions, relative positions of objects.(Wayfinding Online book, no date.)

Tools and methods used to educate blind people:

Audio and Braille lessons, tactile games, maps, all organized into lessons.

Exploration assesses through the:

1. Kinesthetic distance judgment system
2. Subconscious routes
3. Bare set of landmarks
4. Sun, wind, weather gage initial position

(IDeA Center, University at Buffalo; Touch Graphics Inc , no date)

Visually impaired traveller is able and usually:

1. Hear the walls and the space.
2. Identify places by smells. (Istanbul or Bangkok is a good exploration orientation)
3. Use a help from strangers (Big cities in America are difficult, some cities are even aggressive)
4. Appreciate same things through different feelings. (feet / hearing / energy air)

(Tony Giles for Lonely Planet Magazine: On the Road April, 2011)

4 Insights

4.1 The users

During general research were 2 categories of persona's: student and young professional, who are traveling at least 4 times a year. Average trip duration is: 3-4days with a low budget up to 100euro.

4.1.1 Student

Student have emotional traveling path. He get connected with a place fast and creates own unique route. But frequently avoid classic tours and might miss a connection with a culture and history of a new particular place. This may reflect into missing out the context.

4.1.2 Young professional

Young professionals have relaxed traveling path. From the trip expect rest and new experiences. But avoiding adventurous activities or spending less time soaking into the local culture and lifestyle reflects into the average trip with similar itinerary every new journey. The problem is that by fulfilling basic expectations, of trip impression is not reaching a delightful experience. Furthermore if something goes wrong, this could frustrate traveller immensely. The thread between average and negative experience is very thin and for finding a balance and reinforcement of the overall impression, missing an opportunity to reach unique experiences, (immersed in the classic route).

4.1.3 Habits analysis

Tourist: The way –Tourist- act may give some familiarities of the new unexplored country or the city, but do not provide understanding of the culture from the inhabitants point of view. It reveals tops, but missing some context.
Traveler: The way -Traveller- type acts give him a complex overview and interaction facilities with a new place, but making traveler being attached and dependent from the locals around. His natural behavior is to copy the steps made by local resident. Without it his experience is meaningless. Given type discover and explore culture profoundly, but getting dependent to the local population and are limited with the only option.

4.2 The motivations

4.2.1 Historical references

First intentions to travel known from Ancient Egypt are linked with the reasons of amusement. Classical Rome gave traveling particular status of holiday. Journeys to famous educational institutions in France, England and Italy became a component of education. During middle-age travellers created an research trips (on industry and technology). Those information-gathering journeys were driven by professional interests and economic motivations. With a time and industrial revolution, it became easier to overcome distances and make traveling massive and accessible. Due to this reason leisure has become an important aspect of exploration.
Historic research revealed three main foundation of the traveling process:

- Amusement
- Holiday
- Education.

This mainly meant self-realisation motivations and purpose to get mature, experience the world and improve craft skills for traveller.

4.3.1 Modern motivations

Compounding the answers from interview clusters were created:

- Escape from reality. (Holiday)
- Inspiration. (Education.)
- Learnings. (Education.)
- Memories. (Amusement)

Those aspects associates with each other and carry 3 main strong motivations, which during the development process is important to underline unobtrusively.

4.3 Journey map and market

4.3.1 Journey map.

Shadowing and recreating a Journey map helped to detect a process issue: to find what traveller would love to experience, but don't have an idea what is it exactly. In the other words to find unique local experiences.
Most frequently travellers are relying either on the word of a mouse either a fast web research. And to navigate they switch for another tool, like map or addressing a local. Among of 4 defined travelling paths, 2 are facing an opportunity:
1. Business traveller (due to the fact of the time constrains).
2. Independent traveller (due to the need of discovery without external help.)
Considering all the steps and interaction touchpoints which has to be overcomes in the journey, defined 2 main focus areas: Research and Navigate.

4.3.2 Market gap.

A lot of options and frictions between web-traveling service platform exhaust a traveler. An opportunity of an seamless discovery is missing. Relatively new disruption of P2P services on the market generally solve an issue on planning and navigation, but link traveler to the local resident and do not provide independent way to explore. All this emerges a need for a new niche – Experience with no friction between planning and navigation, but focusing on the real location discovery.

4.4 Relations

4.4.1 Adults and children exploration process

Observation help to reveal that differences between adults and children exploration process is in the "Game". Travellers often prefer to act like a children and exploring through the play, which includes wandering and absorbing new perceptions. This gave a clue that the process has to resemble a natural exploration pattern and the solution have to include elements from the game or adventure.

4.4.2 Visually impaired traveling

Visually impaired people explore new locations with senses. Hey help to learn and create mental maps with:
1. Touch. Without vision, body became it's primary tool. Sense of "Touch" serves as a number one tool to get references, measure, remember and proceed information in order to get oriented in a new place or a to get a feeling that this place is already familiar.
2. Sound. People with visual impairments usually has a very good developed hearing sense -feeling microwaves, attentive to every noise and this consciousness transforms into new way of perceiving environment.

5 Brief

5.1 Problems

1. Study of the targeted persona's gave an understanding that each of two travellers has its own restrictions and back draws on the exploration process. Student is missing learning aspect. Young professional may have a lack of unique experiences.
2. Process showed that it take too many steps and to decide where to go and how to explore an interesting location. Time and energy spending on designing where to go in the city and planning the route.
3. Targeted user group is tending to dislike excessive mobile phone interaction. While walking on the streets with mobile city guide, eye contact with a smartphone takes about 20-30% of the time. Instead of interaction with a new city, user experience interaction with a phone screen.

5.2 Targeting

Problems derives can assert that the target of the given product has to answer the brief:
Connecting “Adventurous” and “Learning” exploration experience into a planning and navigation hassle free solution, which cut down all the process frictions.
In other words to create a user-friendly product, which will be associated with a best traveling friend “Traveling wingman” and guide an explorer to the places he would love to explore.

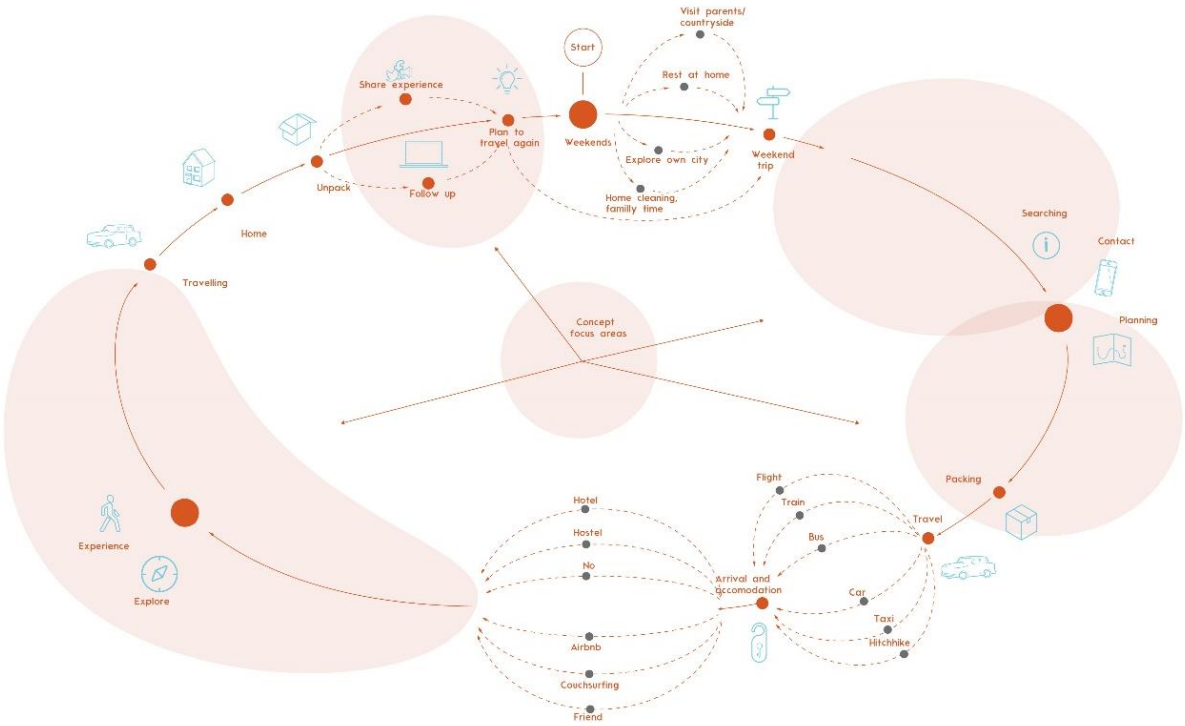

Fig. 16 Vision

5.3 Objective and vision

Solve and recreate an experience on the next touch points:

1. Research
2. Navigation
3. Adventure
4. Informative Value
5. Cost

Initial directions:

1. Learning with elements of the game assimilates better. Think about children exploration principles: learn through play.
2. Wearable interaction trends as an attempt to rethink interaction with a mobile phone.
3. Sensual experiences. Both Touch & Hear reveals most of the missing information for visually impaired people. Learning through the senses leaves better perception and memory.
4. Unobtrusive integration into the existing Journey map.

6. Wearable technology and internet of things

6.1 Trends and directions

In terms of the thesis development it is necessary to understand the trends, possibilities and the market gap of Wearable technology.
The smartphone gave the ability to connect to the human knowledge anywhere. So a logical question came up: What is the next step after a smartphone? Will there be a new form of human connection to knowledge, a new paradigm shift.
History tells us that the first known wearable technology was a wrist watch. It was New Year gift to queen Elisabeth in 1571. First point of starting designing technology referring the body. Gambling shoe in 1961 was a first wearable computer –example of providing benefit in a clothing accessory. Steve Mann in 1979 initiated first researches of providing modern wearable computing. De facto Steve Mann is a pioneer of this entire new sector. His early research was focused on the backpacks and helmets. In 2000 the first Bluetooth headset came out. In September 2009 was commercialized first wearable device Fitbit fitness tracker. It remarks as a very first point of commercialization of a modern wearable computing. What is interesting is that if we look in between 30years different Steve Mann researches and now, we'll found a 30 years generational gap. And that means that we could be at the point of a mass adoption of a life cycle in a wearable technology.
(Henry Winchester, May 6 2015). In 2015 activity, mobility, connection, communication, computing – all of this is already selling on the wearable devices market. Research institutions have outlined three main directions of WT directions:

1) Activity monitors devices to quantify the human body.
2) Head-mounted displays (computers on our heads - valuable on a workplace).
3) Smart-watches (a cell phone on your watch, which provides an hands-free benefits).

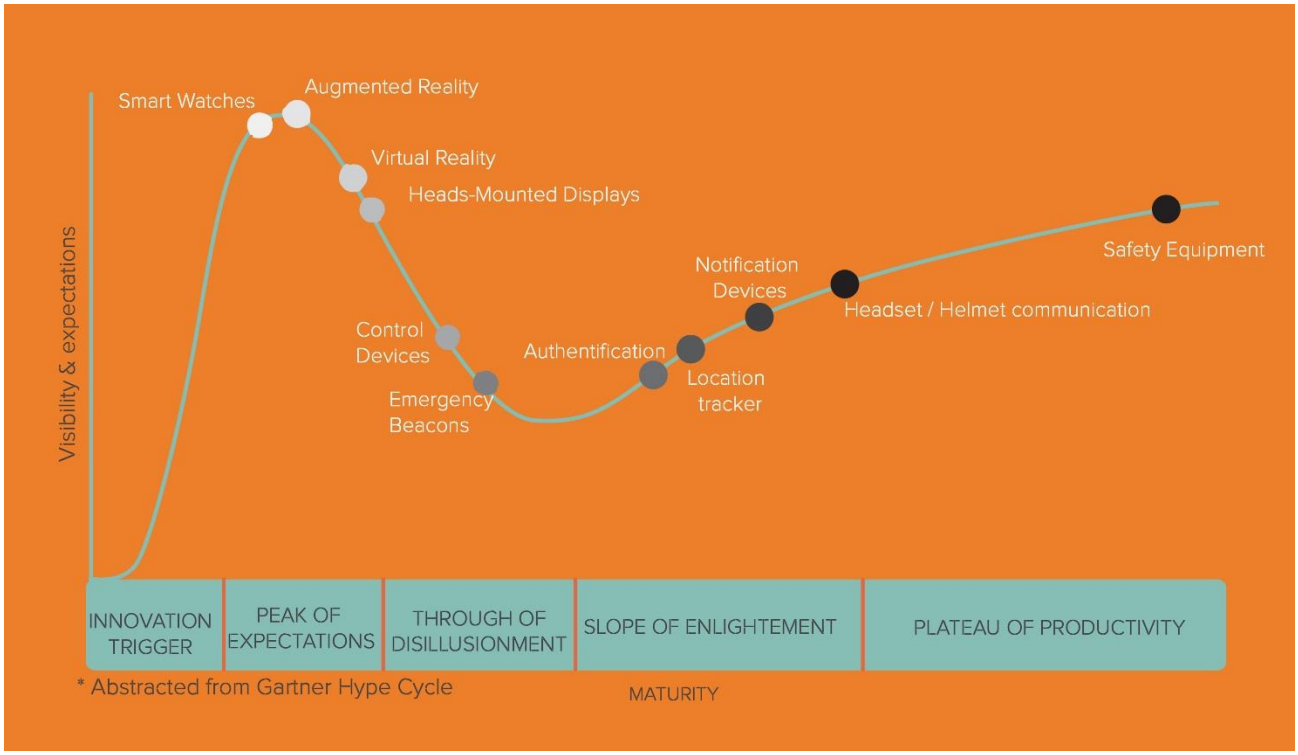

Fig.17 Wearable technology hype cycle

As WT is on the early stage of adoption, it's important to understand either it worth to work on the new WT product or rather develop a smartphone software for a smart watch. Therefore were analysed Smart-watch growth trends, consumer attitudes ("The Wearable report" From Business insider.):

- Global wearables market will grow 35% over the next five years (148 million units shipped annually by 2019) up from 33 million units shipped in 2015.
- The smartwatch will be the leading product category. Smartwatches account 59% of total wearable device shipments in 2015 .
- The Apple Watch will growth in the overall smartwatch market and reach a peak 48% share in 2017.

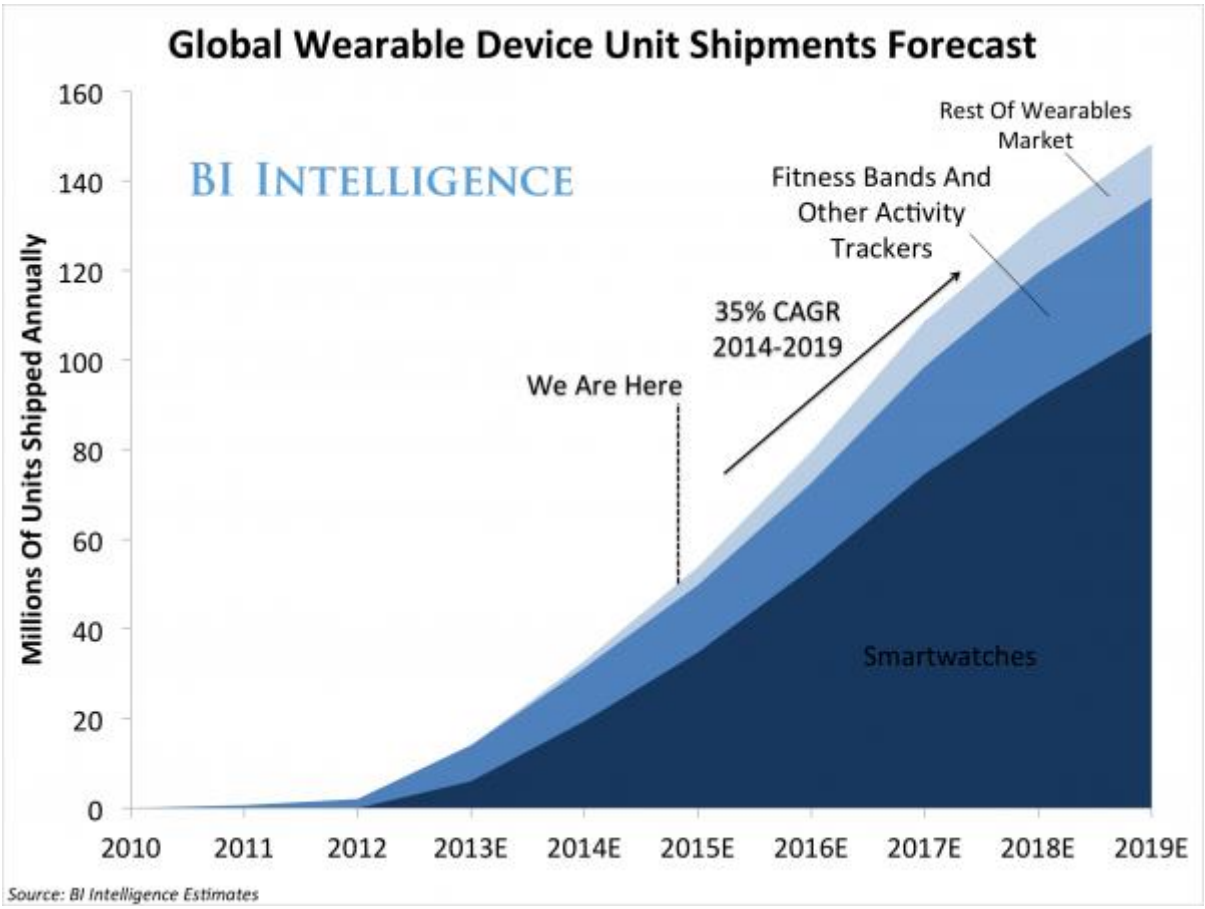

Fig.18 Global wearable device shipment forecast

6.2 Wearable technology case study. Disney World

Wearables reveals that they could benefit in all life aspects, starting from the health to work environment optimisation and life quality habits. To understand innovation opportunities in the wearable market let's take a look into the case study.

In 2008, Meg Crofton, then president of Walt Disney World Resort decided to root out all the friction within the Disney World experience. She focused on the pain points and barriers of getting into the experience faster. Was created a Disney Laboratory, where designers were inspired of an imaginary world. By experimenting they tested out which one idea or existing solution could create Surprising experiences. Instead of looking for a problems to solve, designers wanted to connect some dots and research how one solution may be useful in a way more broad meaning. This experiment resulted into "Disney magic band and targeted to create an experience when wearable device could be the key that unlocked everything at Disney World. The way it works: the band connects to the system of sensors within the park. Disney's reveal preferences, package them into an itinerary calculated to keep the route between stops from being a slog. Disney has engineered away most of the experience frictions: There's no need to rent a car or waste time at the baggage carousel. No need to carry cash, because the MagicBand is linked to the credit card and no need to wait in a long lines. The system turn the park into a giant computer—streaming real-time data about where guests are, what they're doing, and what they want. It's designed to anticipate desires. Band might also know when user is waiting too long in line and email a coupon for free ice cream. And with that, Disney hooked the white whale of customer service: Turning a negative experience into a positive one.

6.3 Conclusions

Wearable technology is a natural progression towards the Individual, who became a centre of things. WT is an interface between individual and environment. It connects people and environment and represent a key for people to get connected with Internet of things. Technology will stop being complicated and instead of creating new problems – solve them even before they arise. In the present times, people are connecting to the things by own efforts, though predictions are saying that in the next 10 years technology will tell solutions preventing the problem.

By 2020 wearables anticipated to melt into the background of the daily routine and became a normal thing for everything to be connected. Data is already available, online but important is to start using available data In the useful way.

In 2015 wearable technology is in a very early days in terms of opportunities, but in the next 10 years information will design life's. Currently every context needs a deep thinking process, opportunity gap research and empathic understanding of a user needs.

The example of Disney world gives fundamental understanding that positive experience makes people happier not by giving them more options but by stripping them away. Data-driven world can control, anticipate and predict wishes and by asking only few questions, may calculate the whole route. For user it's akin to the magic.

Consequently it suggests the idea that it's not a person who has to connect to the environment during the travel but the environment has to be akin to the doctor who figure out the problem for patient and connects to the traveller.

The problem is that places itself are passive and cannot interact with traveller, but internet of things (IoT) can. For example brands can address their particular target users using a bridge platform, which connects both to businesses and users based on their preferences.

The next step has to define the way how can WT and IoT shape the traveling exploration experience.

7 Concept development

7.1 Inspiration and precedents

Taken concepts were chosen in terms of brief frame, but from different angles and user prospectives. They reveal different approaches formerly explored and revealing successful sides and shortcomings of previous design.

7.1.1 A treasure hunt. Geocaching

A treasure hunt is an exploration game aimed to try to find hidden objects or places by using a series of clues. Geocaching is an outdoor recreational activity, in which participants use GPS receiver on mobile device and other navigational techniques to hide and seek containers, called "geocaches" anywhere in the world. A typical cache is a small waterproof container containing a logbook (with a pen or pencil). The geocacher enters the date they found it and signs it with their established code name. After signing the log, the cache must be placed back exactly where the person found it. Geocaching shares many aspects with benchmarking, trigpointing, orienteering, treasure-hunting, letterboxing, and waymarking. There are around 2million geocachers worldwide. This activity represents an adventure that could happened anytime and aims to bring you to the new places or even a place in your town which you've never been before.

7.1.2Foursquare

Foursquare is a discovery mobile app social network. It takes into account the places a user visits, feedback received and provides this information to other users. Foursquare also provides recommendation.
The company operates from 2009 and has 10 million registered users. It includes the elements of the game and encourage people to explore their surroundings. With 5 check-ins in the places of a certain category, users achieve a badge. Badgers is visual cue from imported from the scouts traditions (Aleksander Buczkowski 2012).
Foursquare collects user data and acknowledge inner-explore expertise. A user with a "Coffee" badge usually gives better coffee tips than a person without it. The goal is to get more experts to generate content such as quality tips. Described solution meets a need of an explorer to find places which matches with him. Through the relevant cues (Boy Scouts merit badges) associates with an adventurer.

7.1.2 Ingress

Ingress is an augmented-reality multiplayer online and location-based game . It also considered as an exergame - video game that relies on technology that tracks body movement. Ingress counts 7million users around the world.

The gameplay consists of capturing "portals" – cultural landmarks (public art, monuments, etc.), link them and create virtual triangular over the spaces. Technology created an opportunity to play an invisible game. Ingress is based on the trigger “Capture the Flag”. The aim of it - is to capture as much "portals" and hold them for as long as possible. The team which has bigger amount of triangles – wins (Eric Ravenscraft, Nov 20, 2012). This concept particularly works with the Google Glass. In the future developers are working on the geo-location game hands-free, so the experience will approach to a real movie impression.

7.1.3 Innovative concepts for visually impaired people.

1. Peepo. GPS guided dog.(Jason Perkins, 2009)
Guide Dogs come trained and takes visually restricted people around the neighbourhood. It provides independence in case they want to explore places around. The GPS system guides the dog to the ordered location with vibrations to lead. Device consist from the hand GPS unit (with a voice user request a direction) and second part attaches to the guide dog’s handle and orient him with vibration (L= Left, R= Right, F= Forward). Also there is a “bring home“functions.

Fig. 19 Peepo GPS guided dog by Jason Perkins

2.GPS in a hand disk (Matt Marrocco, 2010)
“DROP” GPS system. It uses the 3D braille dots - Tactile Display technology. It’s a hand hold system with the dot’s map of the city lifted up from the shell. It moves

as user start walking. Device represents a compass and with zoom, search, voice command in the hand.

Fig. 20 GPS in a hand disk by Matt Marrocco

3.Scout concept (Allan Sejer Madsen and Lukasz Natkaniec, 2010)
Scout – Portable Navigation GPS guide. Represents a digital compass and encourage exploration. Device has a screen, a camera, and a scroll wheel button. Developers of the device aimed to bring people back to the streets and recreate a discovery experience as it allows to document and sharing every step on social media.

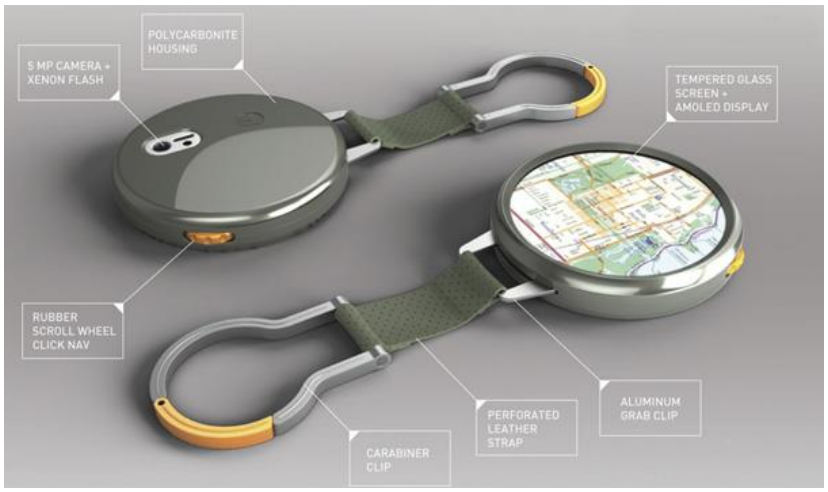

Fig. 21 Scout concept by Allan Sejer Madsen and Lukasz Natkaniec.

7.2 Precedent insights and conclusions

1. Geocaching:
Given case proves the trend of an interest among travellers to explore through the engaging activity. Behaviourally users are driving with a curiosity and excitement to discover and achieve. Developer's particularly payed attention to the symbolic elements, such as: a compass to navigate to the target, cassettes and other attributes which associates with a traveling.

2. Foursquare Insight:
Foursquare gives an insight that with an engaging game, which contains straightforward elements and provokes natural human instincts (to achieve and become an expect), start up could capture a huge market and create a new network of explorers, trustable feedback on the locations, and actually collect unique statistics.

3. Ingress:
As in the previous examples Ingress has caught trend and massive passion for a battle for control (brought from science fiction movies culture) and by using a technology relieved this fiction to everyone.

4. Innovative concepts for visually impaired people.
As maps and directories are the visceral and intuitive way to learn – touch & Sound has become an important aspect of our interactions with devices like tablet computers. As touch moves into the third dimension and the Internet of Things begins to evolve, we may see all usual equipment controlled through touch, gesture or voice. This gave an understanding that mainly sensors are involved for providing necessary information to the user. The compass itself is a powerful and very intuitive object, which by using historical links carrying a strong utility message. There are some pitfalls in the design though. GPS devices are pretty small these days and even with a camera this device could be more usable and smaller and therefore less heavy.

7.3 Precedents Conclusions

1. Precedents pointed out that exploration experience device can be both : physical devise and software.
2. Concepts brought as an example mainly include both information of the places to where go, maps and navigation orientation, which required in the brief, but they are not customisable for user and rather represents an entertaining alternative.
3. Solutions commonly use gamification elements and habits: Curiosity, Achievements and Bonuses.
4. Concepts embodied into a shape from the associative travelling array: Compass, scout badges, boxes or souvenirs, treasure hunt.
5. Augmented solutions boost user in the exploration productivity. Instead of user drive the technology, wearables allow technology drive to explore. Wearable technology paired to the smart phone interact directly on you and recreate a new augmented 3dimensional experience.

7.4. Concepts

Main issue in the current stage is to define either it has to be a Software development conjugated with existing wearable market either it worth creating a new niche of wearable. Ideation and analyse of technical capabilities, production costs, business aspects and user value were considered comparing those directions.
Through the exploration of precedents and the identification of their pros and cons, some valuable elements were taken into elaboration of next 2 strategies.

7.4.1 Concept 1. New wearable technology product

Traveling creates emotional memory, which usually imprints into the souvenirs or memorable presents. While visiting a new place it become a natural habit of most of the travellers to bring home magnets or decorations. Successful accessory company “Pandora” proves that travellers are willing to pay 30-100euro for a piece of bijou with a local highlight to update the bracelet and remember about the visited place every time watching wrist accessory.
Wearable interaction is directly linked to the databases and technology side. So for creating memorable and useful experience, was considered to position a new wearable as technologic accessory.

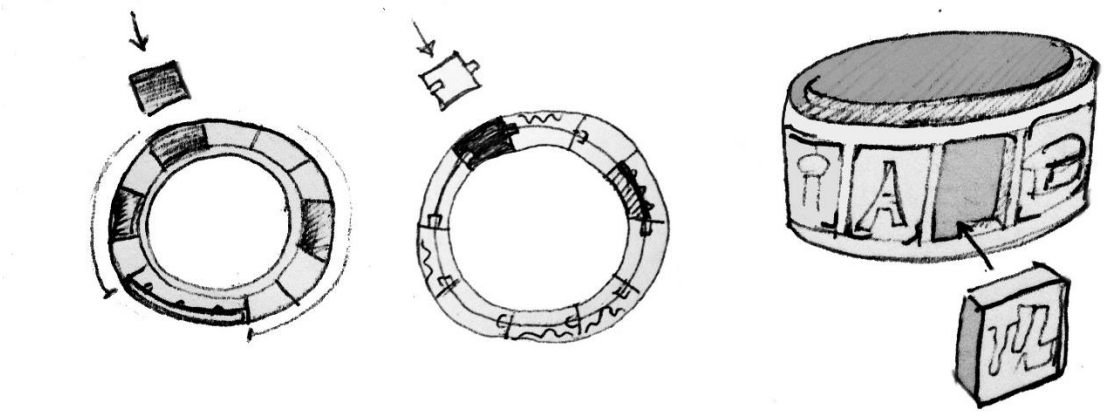

Fig.22 Concept 1. Wearable technology development

Experience:
A base of the bracelet is equipped with vibration and sound capabilities and represents an accessory. For enacting an exploring experience, user would need to buy locally a playful, piece of Lego with a local databases, which contains an information with the maps. Those maps are saved in the chip and shelled with a beautiful illustration of the visited place. To set up where the user wants to appear, he’ll download an software application, indicate his interests

and this information will be transferred with Bluetooth to the bracelet database. The bracelet receiving an information from backend interacts with a body and in it's turn with vibrations brings you to the places of the user's interest.
The value of the given product is reflected into a natural habit of the traveller - obtaining a souvenir, but represents a unique experience, which with a help of an Artificial Intelligence and technology, wipes away all the hassle of the traveling process and guides the user exactly where he wants. Given product aims to pass emotional value into a technology and become an irreplaceable traveling accessory.
It is a physical product and in terms of production this concept requires a development of : hardware and software, which can provide an experience only together. Once it's prototyped, it'll require negotiations with a resellers and online shop management. This Business is focused on the Customers and revenue mainly expects to come from the selling a product, but considering other monetisation B2B opportunities.

7.4.2 Concept 2. Software for smartwatch

In 2015 around 33 million smart watch units were shipped worldwide. By 2019 this number presumed will reach 148 million units. There are no doubts in the market growth and it's important to be a first who takes a niche in the smart watch software development and creates a whole new traveling experience.

Reduced space can benefit with a fast access only to the most needed information and provide meaningful interaction with a body, using such triggers as: vibrations, sounds and key visuals. Those two aspects were important to keep in mind while developing a software concept.

Experience:
To start exploring new spaces, user need to download a free mobile application and pair it with a smartwatch. Application here represents a mediator, which function is only settings. In the settings field user can specify what activity is interesting for him and how much time and budget is in his availability. Once all is set, user conjugate created route via Bluetooth with a smartwatch and simply goes. With vibrations guide sends the explorer clues and encourage him to turn left, right or inform on a wrong direction with vibro-signals.
Concept requires software development production and has to pay particular interest on the back-end development. This includes considering Artificial intelligence, databases development and cloud store. Once it's prototyped, it'll require investment and B2B management, but considering other monetisation B2C opportunities.

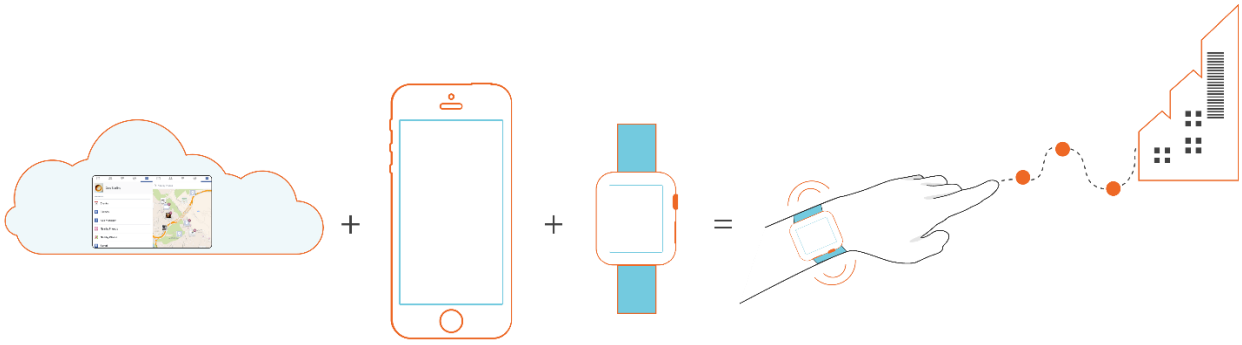

Fig. 23 Concept 2. Software technology development for the smartwatch.

7.5 Concepts evaluation matrix

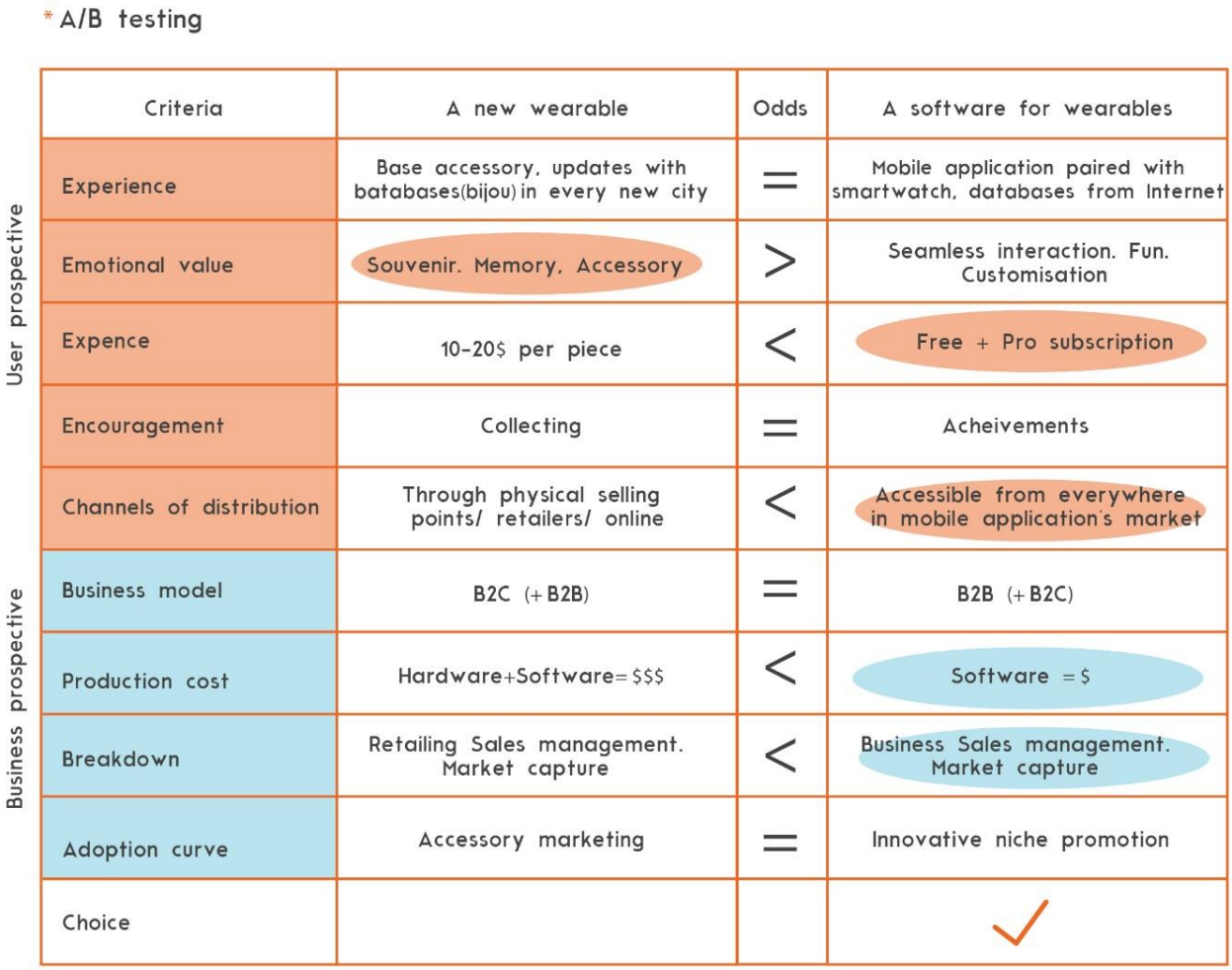

Fig.24 Concept comparison test from User and Business prospective.

To understand which concept has better chances to work were made talks with potential users. They were offered to consider two concepts in terms of experience and value. Answers revealed that from emotional aspect new wearable is more attractive, though when it comes to the accessibility and obtaining, users felt more likely to choose a free software available online.
Understanding main principles form the production and promotion point of view revealed that it's also more feasible to build a software platform with a focus on the hybrid business model addressing businesses and customers' needs.
Eventually comparing pros and cons, the choice were made into a development a software platform.

8. Design development

8.1 Smart watches analysis

Given table trace the differences and divide by group's product specifications among 10 the most demanded smartwatches in 2015 year (Smartwatch site, May 8, 2015), giving an understanding about technical requirements and constrains for a further development.

	Apple Watch	Pebble Time	Pebble Steel	Alcatel One Touch Watch	Moto 360	LG G Watch R	Sony Smartwatch 3	Asus ZenWatch	Huawei Watch	Samsung Gear S
Smartphone Compatibility	iPhone 5 and Newer	Android OS 4.1+ iPhone 4, 4s, 5, 5s, and 5c, iOS 6 and iOS7	Android OS 4.1+ iPhone 4, 4s, 5, 5s, and 5c, iOS 6 and iOS7	iOS 7+ Android 4.3+	Android 4.3+	Android 4.3+	Android 4.3+	Android 4.3+	Android 4.3+	Android 4.3+
Price in USD	$349+	$299	$149 - $180	$149	$249.99	$299	$200	$199	$349 - 399	$299 $149 (w/ contract)
Display Type	Retina	Color e-Ink	Black and White e-Ink	LCD	LCD	OLED	LCD Transflective	AMOLED	AMOLED	Super AMOLED
Screen Size	38mm: 1.5" 42mm: 1.65"	1.25"	1.25"	1.22"	1.56"	1.3"	1.6"	1.64"	1.4"	2"
Screen Resolution	38mm: 340x272 (290 ppi) 42mm: 390x312 (302 ppi)	144 x 168 pixel	144 x 168 pixel	204 x 204 Pixel 258 ppi	320x290 pixel 205 ppi	320x320 pixel 245 ppi	320 x 320 pixel 269 ppi	320x320 278ppi	400x400 Pixel 286 ppi	480 x 360 Pixel 300 ppi
Storage	8GB Limited to 2GB for Music and 75MB for Photos	No Limit on Apps (smart caching system)	Up to 8 apps	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB	4 GB
Charging	Wireless	Magnetic Charger	Magnetic Charger	Intergrated USB inside watch band	Wireless Qi	Magnetic Charger	Micro USB	Magnetic Charger	Magnetic Charger	Charging Cradle
Sensors	Hear Rate Pulse Oximeter (Blood oxygen) Accelerometer Gyroscope Barometer Ambient Light Sensor Force Touch	3-Axis Accelerometer Magnetometer: E-compass Ambient Light Sensor Microphone	3-Axis Accelerometer Magnetometer: E-compass Ambient Light Sensor	Hear Rate Monitor Accelerometer Gyroscope Altimeter	Hear Rate Monitor Pedometer 9-axis accelerometer Ambient Light Sensor	Heart Rate Monitor Barometer Accelerometer Gyroscope	Ambient light sensors Accelerometer Compass Gyroscope GPS	Heart Rate monitor Accelerometer Gyroscope Barometer	Heart rate monitor Barometer Gyroscope Accelerometer	Multi-touch Accelerometer Gyroscope Compass Heart Rate monitor Ambient Light sensor UV sensor Barometer
Wi-Fi	✓	✗	✗	✗	✓	✓	✓	✗	✗	✓
Dedicated GPS	✗	✗	✗	✗	✗	✗	✓	✗	✗	✓

Fig.25 Inspection and differentiation currently available smartwatches.

Important insights derived from the inspection of dedicated GPS availability for given concept. It means independence from the phone, which in it's turn reduce consumption of the phone battery. Currently most of the watches are connected and run on based on the internet from smartphone. This creates pairing system and have it's positive and negative sides.

First by being attached to the smartphone, wearable can provide customisable settings, which is impossible to organise in the smartwatch screen due to the reduced space. Pairing to the phone smartwatch experience provides a value of an accessory and consequently considered luxury product. Being an accessory is not a first need product and hence currently adoption and positioning of the product is defining.

Table comparison showed that currently only 2 companies are working on upgrading the smart-watch niche with independent internet access: Sony and Samsung. Providing wi-fi connection along with GPS and compass in one smartwatch consequently will lead the wearable to the growing stage and switch the category from accessory to the first need product.

Un-pairing watch from the phone could reduce battery consumption and bring phone to the new level of value. Currently it's already possible to produce smartwatch running on it's own mobile internet. This doesn't mean that smart watch would work as an autonomous device. Most probably they'd work together in conjunction (for settings), but once it's all set – watch will be able to run and provide experience without any other supplemented device.

Hence in the future this opportunity could change an experience in a broad scale of applications and supersede a need in mobile phone in your pocket. This growing opportunity is alarming to take a niche already today as it's crucial foundation for innovation. Given start up concept take the course to disrupt traveling sphere business and occupy a new market place.

8.2 Lean start up

For the start up on the current stage the most important value is to elaborate meaningful experience and relevant back-end based on the Data-analysis.
As a new market niche validation were used a Lean start up business development method (Eric Ries, 2011). It benefits with a shortening product development cycles by experimenting with hypothesis combinations by trying to test and launch as soon possible.
The difficulty of chosen concept is laying in the defining Minimum Viable product and It's launch. The list of requirement has to follow the target. Being focused and concise on the main message and value. At the same have enough features to be able to collect needed data to proceed with development further and keep building and growing a product.
The principles were used:

1. "Build–Measure–Learn (A learning cycle of embodying ideas into products against existing products. Works principally: Idea – Build – Measure – Learn. Provides fast results by testing and in case of failure process starts again." (Eric Ries, 2011)
2. "Minimum viable product (MVP) testing business hypotheses as quickly as possible. " (Eric Ries, 2011)
3. "Business Model Canvas (strategic management template by Alexander Osterwalder for developing new business models). A chart which describes a customer, value proposition, infrastructure and finances "(Eric Ries, 2011)

8.3 Minimum viable product

8.3.1 Product vision

The target of the product is to be able to provide categories with thematic routes. This way traveller would only need to select a mood or genre of the route he feels like at the moment and simply enjoy the exploring, following his feelings. The experience need to be integrated intuitively into itinerary of the target group traveller.
On the first stages of the product development though, databases would not be able to provide mood categories. To get there, relevant information has to be gathered into the databases. Later proceed them by data-analyst and narrow down big quantity of data into qualitative data. As one of the main principles of the Lean startup model is to receive a feedback from the user and adapt it into the product users love. So to start with a first concept was developed into a Minimum viable product.

8.3.2. MVP mechanism

The very first prototype was developed in the Minsk Hackaton Garage48 together with IT developers. It based on the very simple front-end and basic back-end. By choosing category on the Android application, back-end search for the first nearby place in the Foursquare and navigates user there. By testing this first prototype became apparent that using existing categories - user is redirected to the meaningless places. Firstly categories in Foursquare often mislead, secondly there was no surprise effect upon arrival as the place did not deliver a story behind it.

After the first testing were done a strategy and targets planning, which defined MVP requirements. This reflected in the elaboration of the first back-end mechanism. The core of the solution lays in the technical side of the product. First of all it snags into the location databases, which has to surprise user with a route. To get to this goal MVP launch has to include 6 iterations.

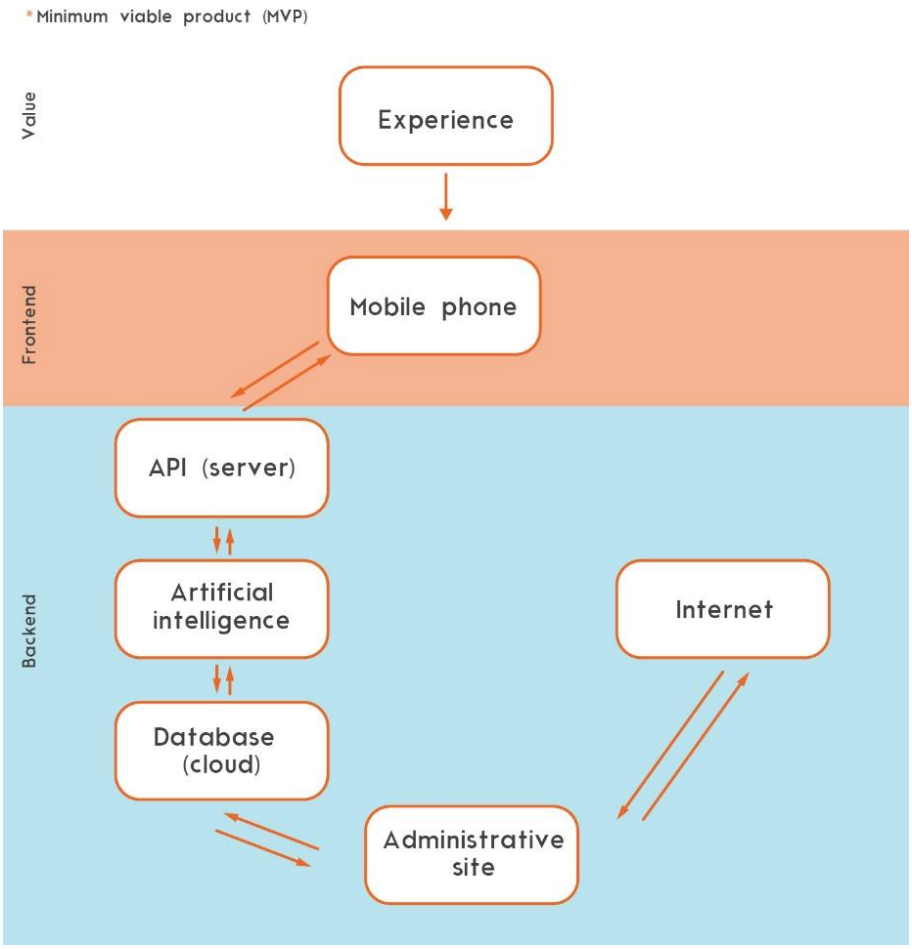

Fig.26 MVP Back-end mechanism

It gathers, filters and accumulate information from the social network open-sources: Facebook places and Foursquare. This location information is defined into categories, which user is selecting from the mobile application interface.

In the Facebook places open-source local businesses already specified budget category and address. Visitors leaving feedback on the service and location directly in the social media pages. This going to be reflected in the categories. At the first product stages, it is important to accumulate own databases and start tracking user experiences and their satisfaction with a route to narrow down this data into a personalised experience. With a time database will be proceeded and accumulated into the product own databased cloud and would not have a need to refers and create a route directing to the social networking databases each time user request an action.

Once product have it's own databases, through the Artificial Intelligence this data proceeds with distance and budget requests and transferred into the experience. Also with an ability to accumulate own databases, it'll be possible to provide an experience offline and offer professional version to the user.

MVP is the most responsible stage of the product launch as from the defining it's requirements will depend if the product can boost and run.

To set up a requirements for a first developments, duties were divided into Back-end and Front-end. Both of them are referring to each other. Most of the work has to be done in the backend, but reflects in the very simple and intuitive front-end design. This provides easy experience for the user, with the minimum efforts and interaction done on the interface. Also simple UI meets the dimensional requirements for the smart watch display.

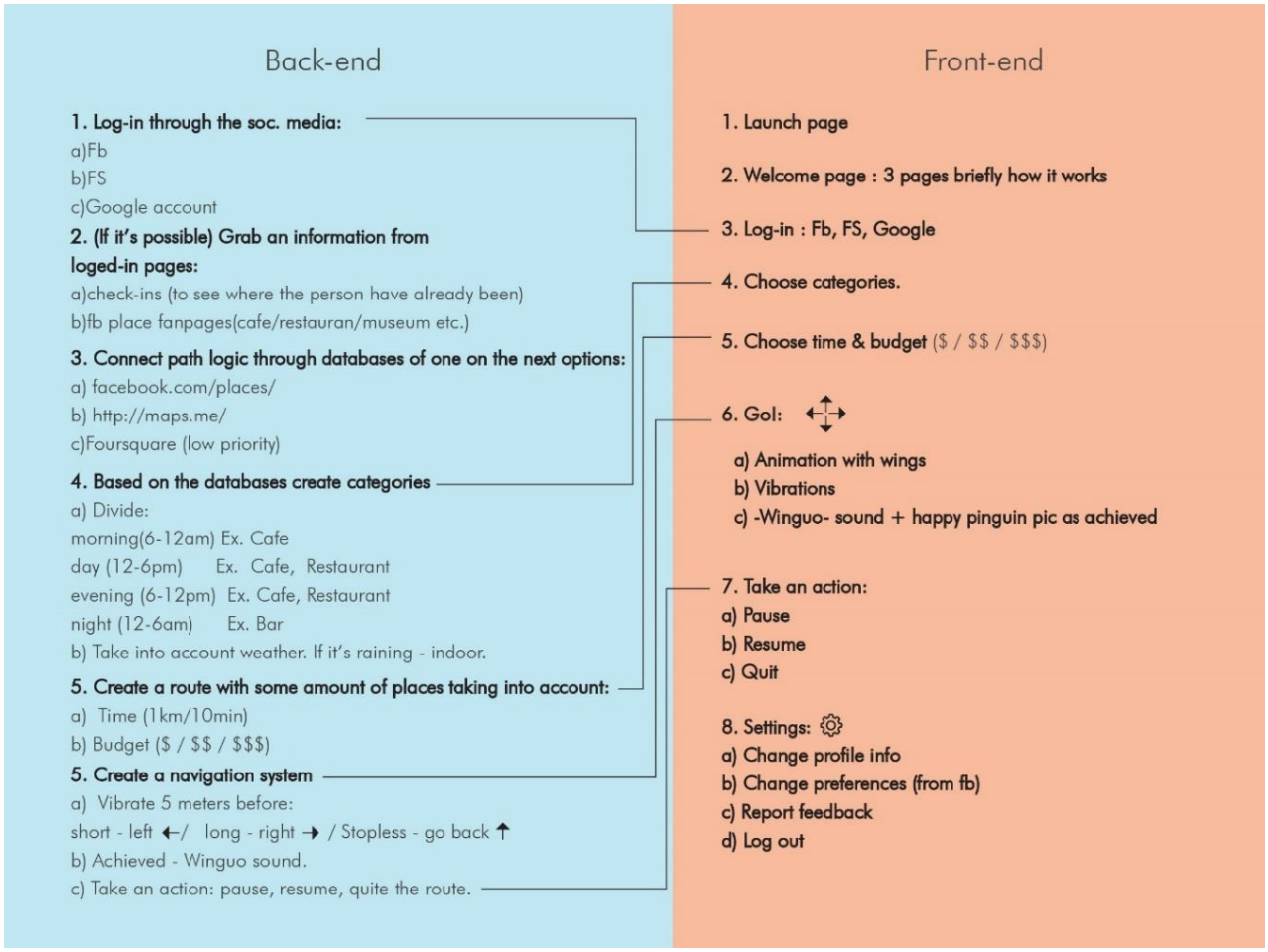

Fig. 27 MVP requirements

8.4 MVP nuances

To use GPS on the smartwatch, internet has to be turned on all the way to the destination. The real problem given concept meets is an access to the internet data abroad without a roaming. The first beta-version able to provide a route only with an internet access. Council of the European Union abolished roaming charges effective from July 15th 2017. From this time roaming has to be same in every country in the EU zone and will be limited to €0.05 per MB plus local taxes (max. €60 per GB). But until this time the only possibility is to use a platform on the domestic disadvantageous rate.
There are few possibilities to solve this until July, 2017:
1.Cooperation with roaming and traveling sim service providers.
2. Cooperation with the biggest internet provider's networks: Orange, Vodafone, Lycamobile, who are already have roaming cheap packages to offer.
3. Wi-fi hotspot set-up and Integration with an offline-maps providers (maps.me, Galileo Offline Maps, HERE Maps etc).
Those options requires further research, consideration and analyses for the future development.

8.5 Product growth stage targets

Once MVP is successfully running and accumulate data-bases with it's own information, all the data is saved in the cloud platform and there is no need for an additional iteration – internet request from social media.
It will work next : When frontend requested an action, request proceeded to the server, derive information from location database, proceed into Artificial intelligence, where request filtered with personal needs: Time(distance) and budget. Based on the calculation made request goes back to the frontend and transforms into action and real user experience. In this way with a time would be able to increase a quality and a speed of the product performance with less frictions. Every new country will have to poses it's own server with locations, businesses and ecosystems.
The growth of the market is only possible with a successful start and initial product test. Once the system workflow is automatized, expansion of the map will depends only on the business negotiation speed and obtaining local cloud-servers.

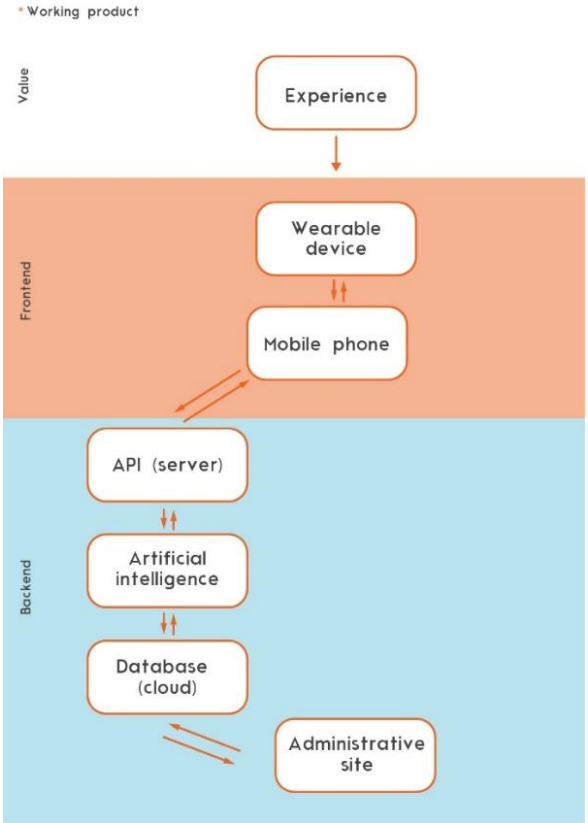

Fig. 28 Product growth stage

8.6 Branding

For visual communications was important to create an imaginary hero, which will embody the concept, enounce a clear message and ensure the trust to the targeted user. On the way to find this hero were tested two versions.

8.6.1 First image

It was developed during the Hackaton in the Minsk. During 48 hours was created a first visual concept, referring to the definition: “Traveling wingman”. The word “Wing” stated here an image of something what is always next by the user and may show you the way by waving the wing. Considering the target group preferences and visual tendencies were defined that mascot must have pretty look. The hero embodied into the Penguin “Winguin” and invites the user to follow him into the adventure. After the fast developed image, it was important to test it on the user and observe the reaction. The overall feedback was positive and provoke certain excitement in the potential user eyes, but didn’t evoke the trust. The mascot didn’t appear to directly respond the idea behind and 90% of the bilingual surveyed users could not spell the name properly. Therefore pivoting and early-stage rebranding required to be developed for the MVP.

Fig.29 First visual communication concept

8.6.2 The second image version

It was developed reviewing the fairy-tail stories, referring the heroes, who associates with a guide into the adventure. This way was found out an image from Alice in Wonderland novel written by Lewis Carroll – a rabbit or commonly known “March Hare”, who according to the story triggered main hero Alice attention with a curiosity and took her into adventure. This story directly echoes with the concept of the product. Colour palette and fonts previously evoke a good feedback and stayed unchanged. During the development of the mascot were set up the next requirements: Inviting and invoking appearance, pleasant and kind feeling, dynamic stature. According to the scenario of an action, user is invited into the Adventure, which reflected in the 3 main mascot positions: Inviting (call for an action), specifying (asking the preferences) and leading (guiding the user).
The brainstorming of the name kept in mind a call for an Adventure and the assurance to provide an effortless exploring value. The chosen is a “Bringly”, self-explained and sufficient name for the rabbit. The web domain registered as: Bringly.me and in its turn also reveal the idea.

Slogan was partly borrowed from the referring fairy tale “Alice in wonderland”, and encourage to experience an adventure with the words : “Follow the Bringly”. The history of development as well reflected in the social media web page in the Facebook

Fig. 30 Final version of the Bringly start-up visual identity

8.7 Market position

Developed experience is aiming to capture the new traveling market niche promising to provide an autonomous virtual traveling service. In it united research, navigation and adventurous parts, claims to eliminate excising flaws of the traveling process and meliorate the experience with an emotional value. In the market there are no similar products. Current solution offers information portals, navigation maps and entertainment alternatives with the elements of exploration. So in terms of competition: Direct competitor – can only be web services. Indirect – P2P services.
Since the niche is currently unoccupied, the target of business is to capture the maximus of the potential market.

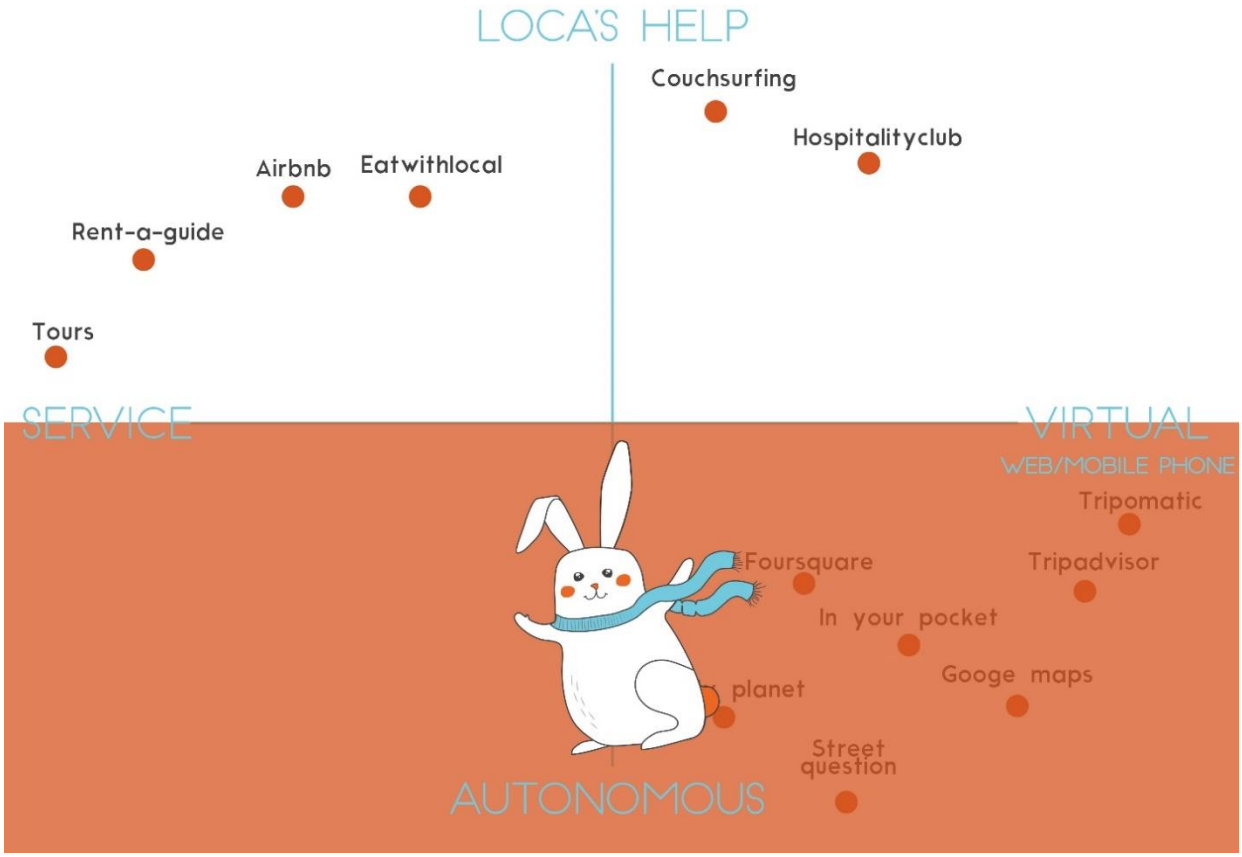

Fig.31 Product niche position on the market.

To calculate a total addressable market (TAM) and figure out how many people could possibly use a developing product was used Facebook audience tool. Was defined that in Europe there are around 50-60million active social media users with an interest : Travel.

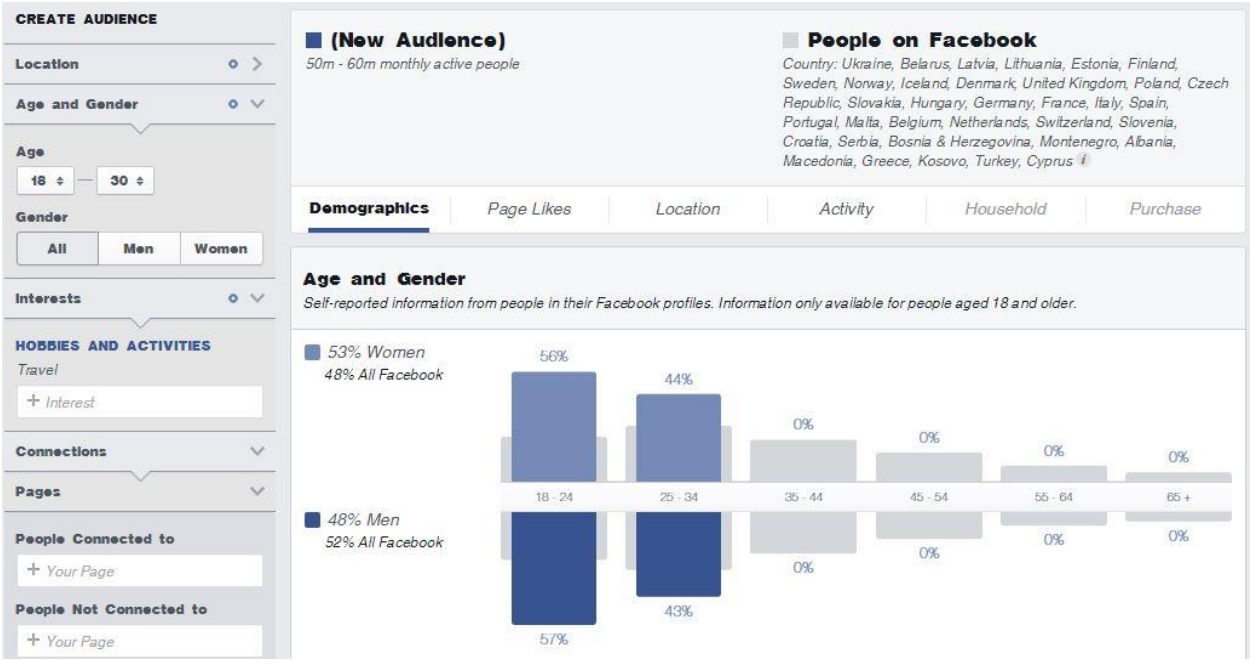

Fig.32Target market measure

7.7.1 Optimistic market calculations

For the introduction life cycle stage, the target to attract 20% of them and to convert 5% of the travellers into active users.
5% of 55 000 000 potential users results into 2 750 000 potential active users. With an average statistic of 4trips a year 2 750 000profiles / 4trips = 687 500 is a user requests target for the first year of the development.
Calculated metric will attract contextual advertisers and hence proceed with the developments into the market growth stage capturing 20% of the TAM. The approximate number of it consists from: 20 % of 55 000 000 users = 11 000 000 of users / 4trips/yearly = 2 750 000 platform usage requests.
On the growing stage the target is to convert active users into Premium product users on the yearly subscription base: around 20 euros.
This means that 5% of 55 000 000 TAM = 2 750 000 * 20eu/year = 55 000 000pure revenue / 12month = 4 583 333monthly customers income on the growing stage.
This number include only potential market of the travellers without calculation of the secondary users (small and medium businesses).

8.8 Product life development strategy

For the Start-up which target to take a new market niche – the most important part is to attract targeted users and encourage them to test and validate the early-stage product. With the close beta-version and first feedback upon it, would be possible to adjust the product and with improvements start massive campaigns and marketing promotions.
For the close beta version no budget needed, but for reaching the higher masses of users, product has to raise the first invetsment or enter the accelerator program. With a loud voice on social media and search engine optimisation product will reach certain amount of users. With active travelers using the product, would be possible to provide a metric statistic. Consequently other small businesses would be able to cooperate with Bringly, using the application space for cotexual advertisement and become a first revenue stream for the Start-Up. Once the a user market is growing, data-bases are constantly updating and first revenue is incoming, the product will reach the next development stage.
With an effort of data-analytics and automitised optimisation of the route categories Bringly would be able to offer a first premium version to the users based on the month / yearly subscription. With a lean development also possible to create an offline access and ad-free version for Premium users.

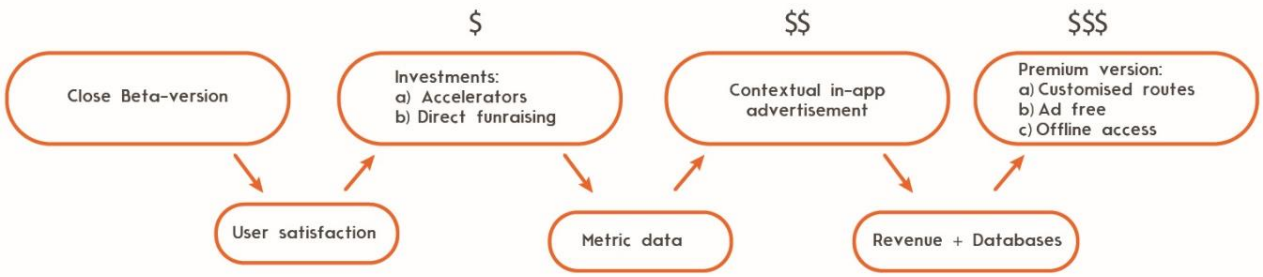

Fig.33 Business development scheme.

The planning of the product growth is reflected in the life cycle curve, explaining the strategy and the business development milestones.

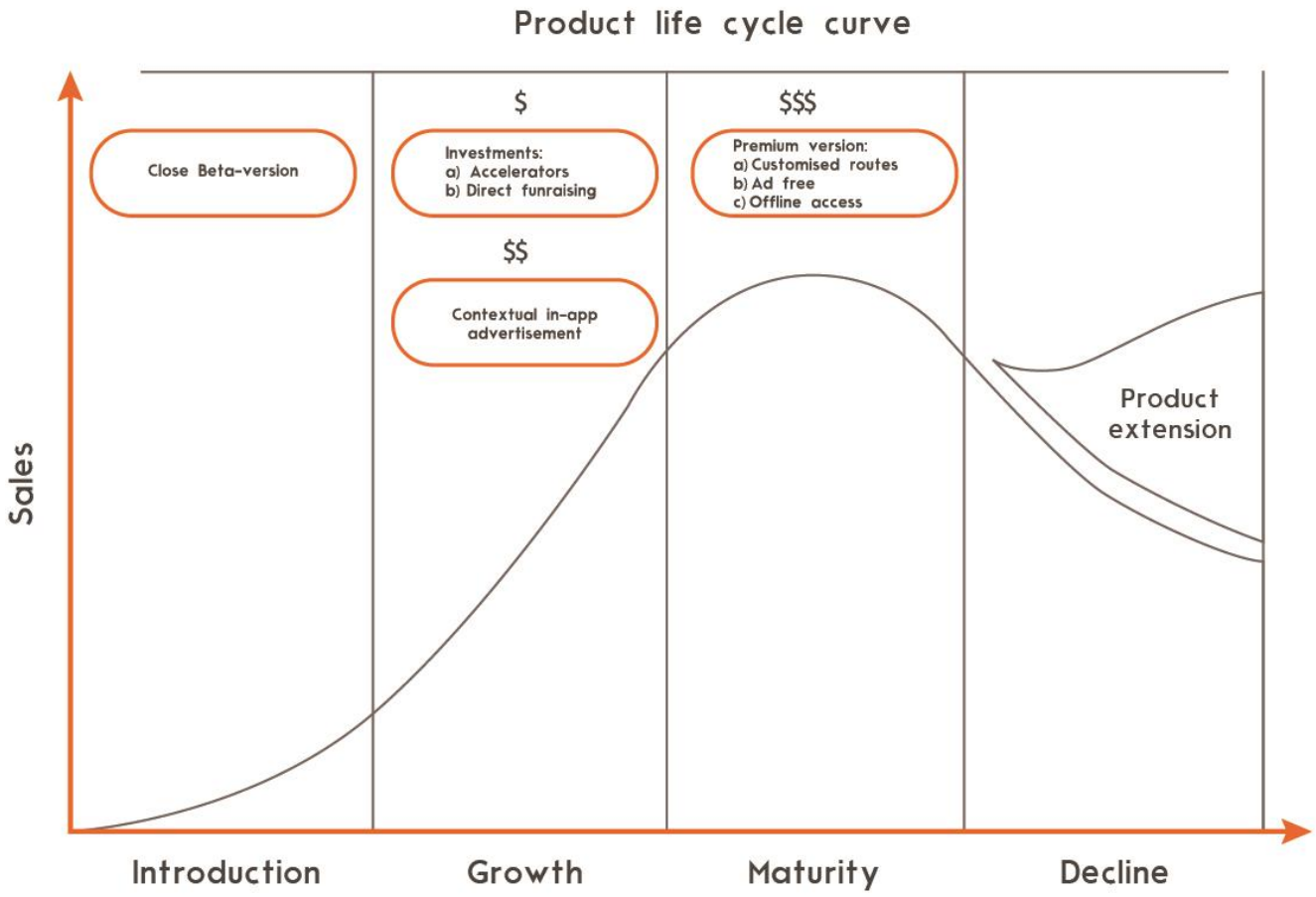

Fig.34 Product life cycle development strategy.

9.Design outcome

9.1 Overview

The result of the given work is an innovative niche platform “Intuitive traveling”.
Problem addressing:
Currently to find out the route in the new unexplored location targeted traveller resorted to literature, internet research or word of a mouth defining what can be interesting to visit, later check reviews in feedback social media platforms and finally navigates with paper map, either mobile application, either with a help of friend. This creates a friction itinerary. Hence decrease a happiness during the traveling journey map by with choices fatigue and lower discovery expectations.

Intuitive traveling platform erase the need in research and navigation and let the user enjoy exploration process with an open eyes. Bringly optimize the process, eliminate the search, contact, planning need in traveling cycle and offers instead to focus on exploration and discovery.
Practical value:

1. Time saving (Bringly creates a route in a minute).
2. No options, no choices, no frictions.
3. Personalisation (Users only have to say what they feel like and choose the category).
4. Intuitive navigation experience (Go with vibration signals, no necessity to keep an eye on the map).
5. Unknown pathway, discovery adventure.

Emotional value:

1. Curiosity (driven with a need to figure out and unlock the next destination)
2. Adventure (excitement of unknown)
3. Intuitive navigation (move with the signals)
4. Trust into adventurous character (Rabbit Bringly)
5. Magic and surprise (once you reached a destination)

9.2 Customer journey

The result of the project simplified the process of the journey, wiping away all the steps which needed to be done previously.
Full experience formula is:
Smart watch + Smart backend (application) + Simple experience = Value.
(Fig. 35 Redesigned traveling Journey map)

Experience Initial requirements:
1.Have a previously downloaded application
2. Smartwatch upon availability.
Experience might be applied for targeted persona: A young frequent traveller as well as a local explorer. Next explained premises and steps of solution.

9.2.1 A traveller:

Motivations:
- Independent exploration
- Connection with unknown location
- Adventure seek

Process:
1. Arrive to the traveling location place.
2. Find Wi-Fi open spot or use roaming internet provider (until July, 2017)
3. Open the mobile application.
4. Choose interested category.
5. Set up Budget and Time expectations.
6. Pair with a smart watch(subject to availability).
7. Go, following vibration signals.

9.2.2 A local explorer:

Motivations:
- Exploring better local places.
- Have a free, leisure time and don't know where to go.
- Hanging out with a friend and looking for a place to go

Process:
1. Exploring own city.
2. Open mobile application
3. Choose interested category

4. Set up Budget and Time expectations.
5. Pair with a smart watch(subject to availability).
6. Go, following vibration signals.

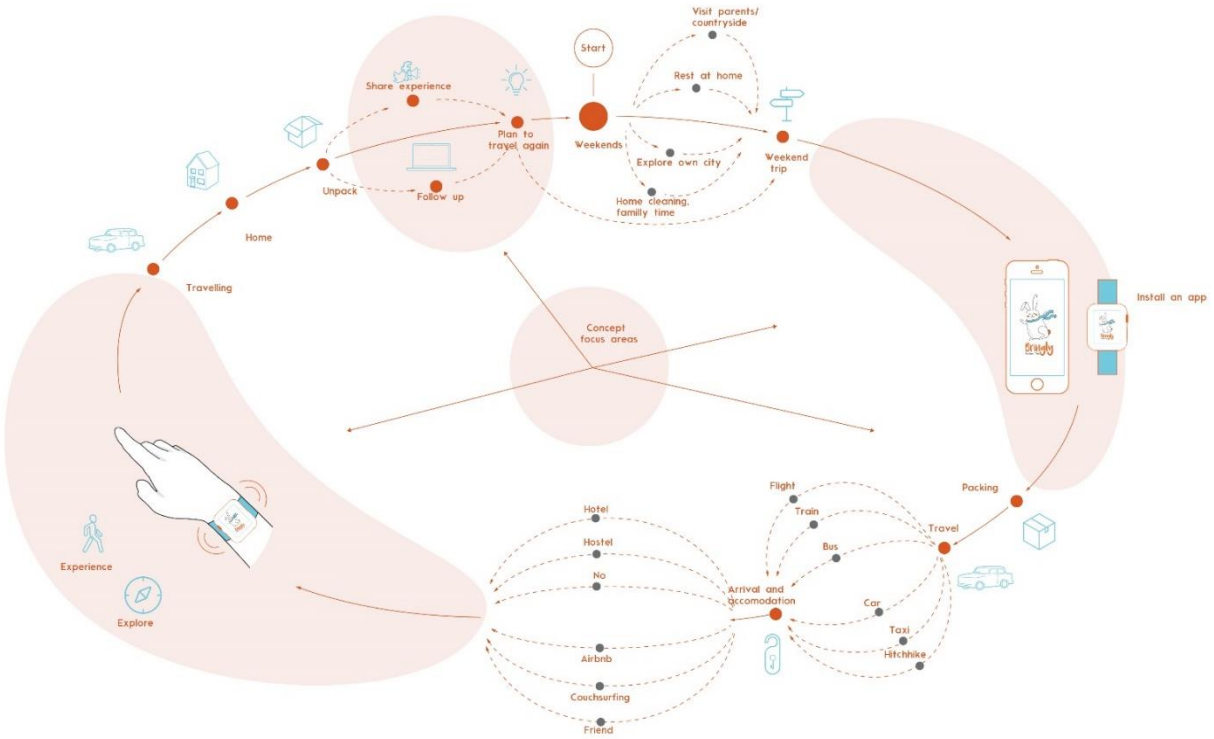

Fig. 35 Redesigned traveling Journey map

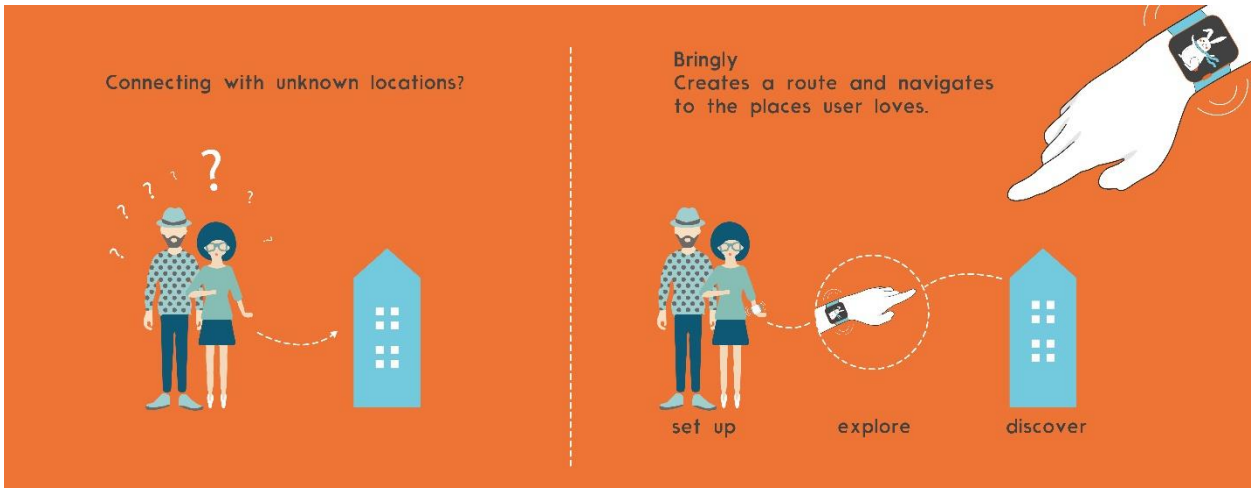

Fig. 36 Overall experience

9.3 Business Model

As a part of the Lean Start-up process was created a Business model canvas based on the Alexander Osterwalder's (Business Model Generation, no date) analyse the User, Business and Developers sides prospective.

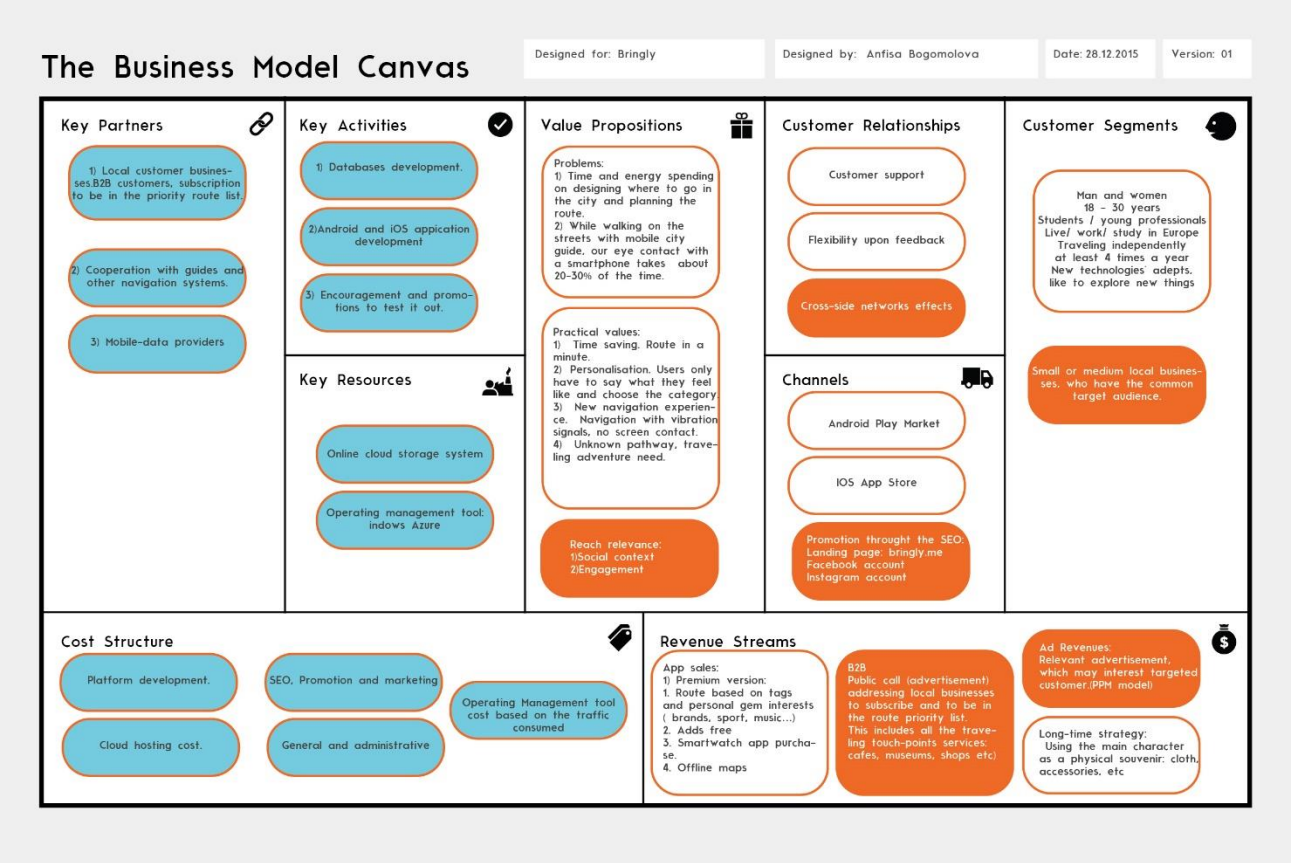

*Fig.37 The business model Canva (*Alexander Osterwalder's)

In the canva explained in details about the target market (B2C), potential small business customers (B2B) and partners.

First monetisation of the platform would be possible from cooperation with small businesses. Key revenue streams would targeted to obtain from smart watch application and the Premium version sales.

9.4 Specifications

“Any sufficiently advanced technology is indistinguishable from magic” (Arthur C. Clarke).The success of the product experience is only possible with a time and development of the proper back end.
The way magic works is next:
User download the application from the virtual market and pair it with the smart watch. Once he plan to explore the location, on the interface of the phone he setup the category he’s interested in and the personal time & budget restrictions. By pressing button “Go”, starts working backend, which calculates the route according to the request. First it goes to the online server, then Artificial intelligence engine filter the request and proceed to the categories, which are stored on the cloud database and registers in the administrative site (e.x. Windows Azure). On the first stage of product development, request will be proceeded to the databases of the location servers of Fb places and Foursquare and will take a longer period of time to result the request. Once the databases would be accumulated, there would be no need to make additional step in the process chain. Once request define the route, it saves in the GPS offline map on the backend and reflects on the front-end as an image of the product mascot – Brinlgy, who only shows the directions along with vibration signals.

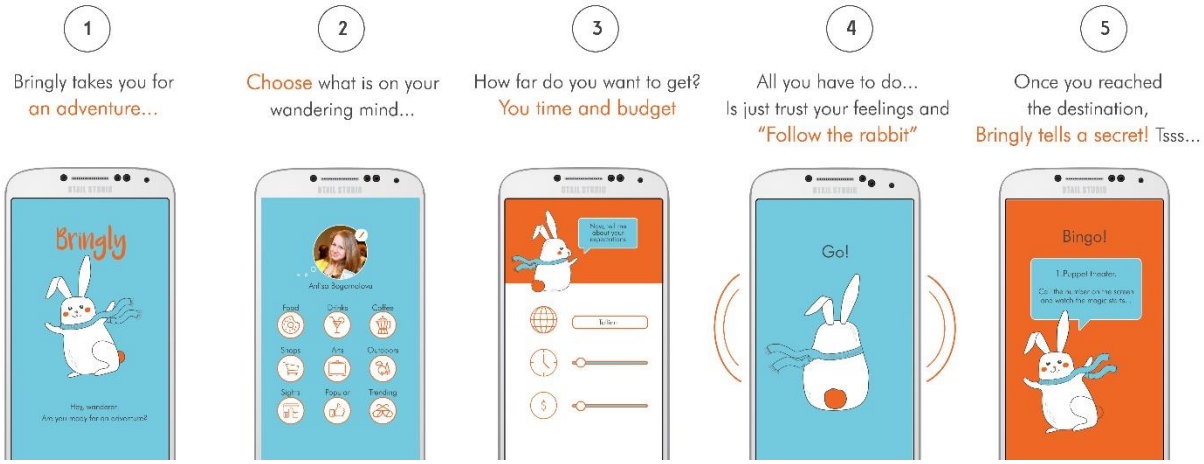

Fig. 38 Application user experience

9.5 Evaluation

To understand if the final product is viable and meets brief requirements it was evaluated on the traveling process optimisation, adventure qualification, exploration value delivery and the final cost for it.
Bringly was compared with other exploration invention solutions.

			Web.Maps	Foursquare	Games: Geocashing	P2P services	Bringly
Weight	x1	Research	Low (1)	High (3)	Low (1)	High (3)	High (3)
	x1	Navigation	High (3)	Low (1)	High (3)	High (3)	High (3)
	x1	Adventure	Low (1)	Medium (2)	High (3)	Low (1)	High (3)
	x1	Informative Value	Low (1)	Medium (2)	Low (1)	High (3)	Medium (2)
	x1	Customers price (less is better)	High (3)	High (3)	High (3)	Low (1)	High (3)
		Weighted total	9	11	11	11	14

Fig. 39 Comparative solution evaluation

10 Conclusion

10.1 Summary

The current thesis represents a study on the independent exploration aspect of the traveling process. Revealed issues were regarding frictions between research and navigation as a part of the journey.
The research issue connected to the loss of expectations on the discovery once the research is done in advance or missing opportunities if the research his not done at all.
The issue on the navigation is connected to the fact that traveller is less and less satisfied with an amount of interaction with a phone in the conditions of the limited exploration time. User has to follow the map in order to get to the targeted destination instead of interacting and observing new cultures.
And finally lack of experience and learning unique solution on the market. Choices exhaust a traveller.
Taking into account all the uncovered insights the target of the work was to:
Connect “Adventurous” with a “Learning” exploration experiences into a planning and navigation hassle free solution, which cut down all the process frictions.

10.2 Result

The result is a development of the platform niche called “Intuitive traveling”.
It is hassle free planning and navigation exploration software tool, which pays particular attention to the Adventure and Learning experiences.
For user it automatically creates a route based on it’s personal preferences and with vibration signals on the smartwatch navigates him to the “Must see” landmarks. The landmarks user is navigated are highlighted in reviews with the locals and other travellers to provide only delightful experiences. By discovering and reaching the destination user unlock a story or a review about the place he have been taken.
For the local businesses it attracts and connect targeted clients to visit their particular place. And for small businesses it provides an opportunity for a contextual in-smartphone-app advertisement.
The result of this work represents a concept development, minimum viable product on the Beta version available for testing on Android platform and product growth strategy planning based on the Lean start up model.
The Beta-version is available from at the Google market
https://play.google.com/store/apps/details?id=com.winguin
A feedback upon experience would be highly appreciated through the Social media page:
https://www.facebook.com/Bringly-437346676464539/

10.3 Future developments

The project has a potential to start fully functioning starting from 2017year due to the next reasons:
1.By this time the roaming in the EU zone will become accessible at the same prices as a domestic charge. (Planned to enable and switch starting from the 15th of July, 2017)
2. The databases with a qualitative backend and accordingly categories has to be developed until the level of overall positive user experience.
3. Smartwatch is anticipated to grow up to 65millions of shipment worldwide in 2017, particularly in the developed countries, including EU zone. (148 million units forecasted to be shipped annually in 2019, up from 33 million units shipped in 2015.)
By the time of the entire experience and turning into growing product stage a lot of development has to be done on the Back-end of the MVP. Particularly data-mining, analyse, A/B testing's, categorisation definitions and product recruitment. Also testing user-experience in terms of "Intuitive traveling" is important part to analyse in the bigger masses of target users.

One of the future possibilities to consider is to wipe the border between the project which served as a starting point for given research and create a unique platform, which will connect people and places in the one Internet of Things backend.

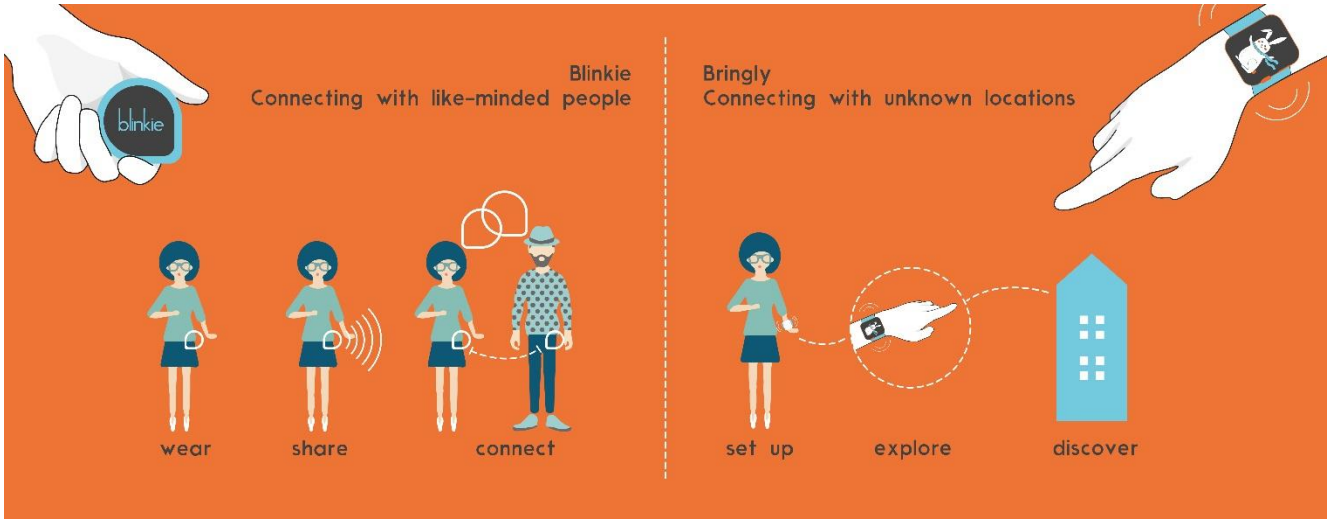

Fig.40 Platform integration opportunity

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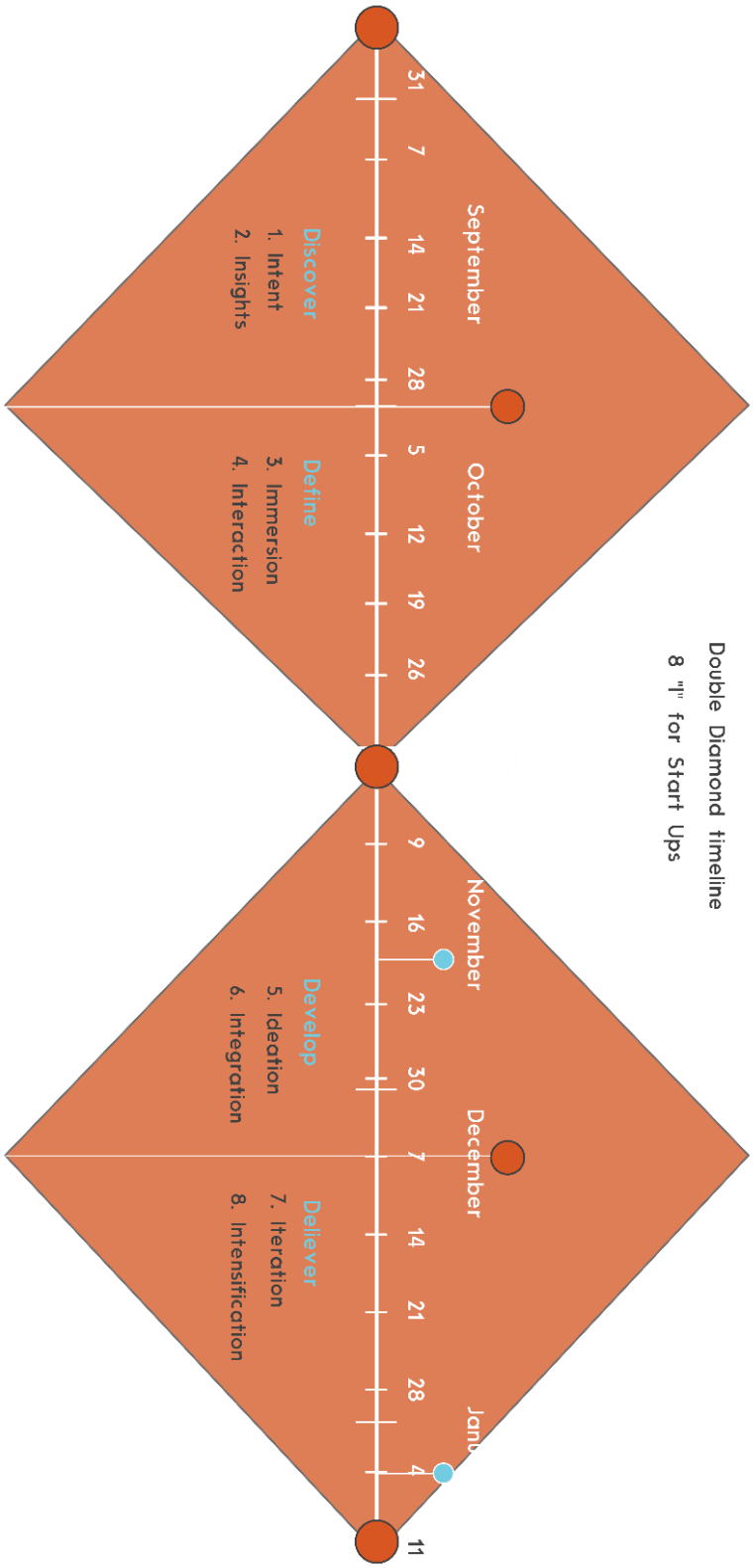
Appendixes

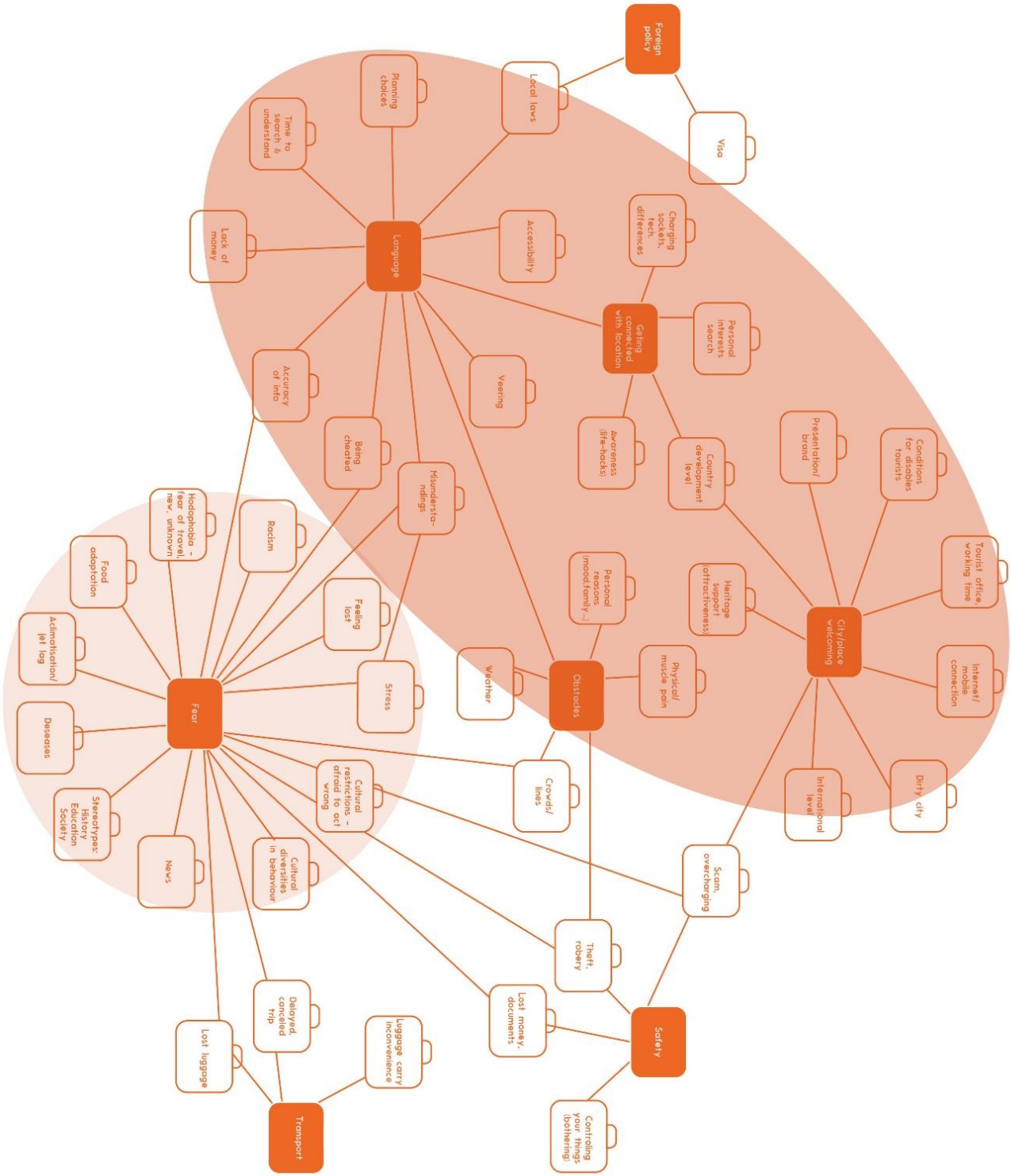
Appendix I

Timeline planning



Appendix II

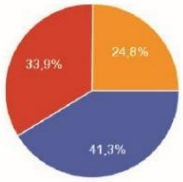
Issue-mapping with the focus on the Exploration area.



* Focus

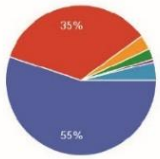
Appendix III
Quantitative research

Your age?



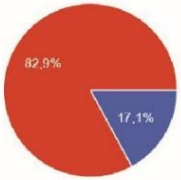
18-23	**128**	41.3%
24-27	**105**	33.9%
28-30+	**77**	24.8%

Where do you live?



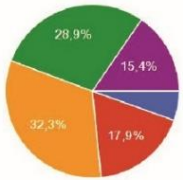
Western / Central Europe	**170**	55%
Eastern Europe	**108**	35%
North America	**10**	3.2%
Latin America	**7**	2.3%
Middle East	**2**	0.6%
Asia	**12**	3.9%

Do you prefer to take longer(vacations)



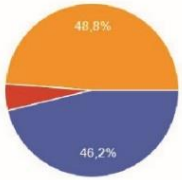
Short trips (up to 3 days)	**53**	17.1%
Long trips (vacations 5+ days)	**257**	82.9%

How much time do you book to spend walking and sightseeing?



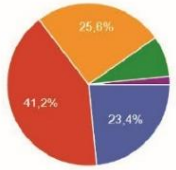
10%	**11**	5.5%
10-25%	**36**	17.9%
25-50%	**65**	32.3%
50-75%	**58**	28.9%
My option is only sightseeing and wandering around	**31**	15.4%

Your occupation?



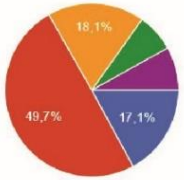
Student	**140**	46.2%
Internship	**15**	5%
Work	**148**	48.8%

How often do you travel?



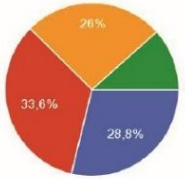
Every month	**72**	23.4%
Every season	**127**	41.2%
Once in half a year	**79**	25.6%
Once a year	**25**	8.1%
Once in couple of years	**5**	1.6%

Average amount of days staying in the new city?



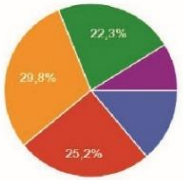
1-2	**53**	17.1%
3-4	**154**	49.7%
5-10	**56**	18.1%
10+	**22**	7.1%
At least month	**25**	8.1%

Average budget for short trip



0-50eu	**72**	28.7%
50-100eu	**84**	33.5%
100-250eu	**65**	25.9%
250-500+	**29**	11.6%

Average budget for vacation trip?



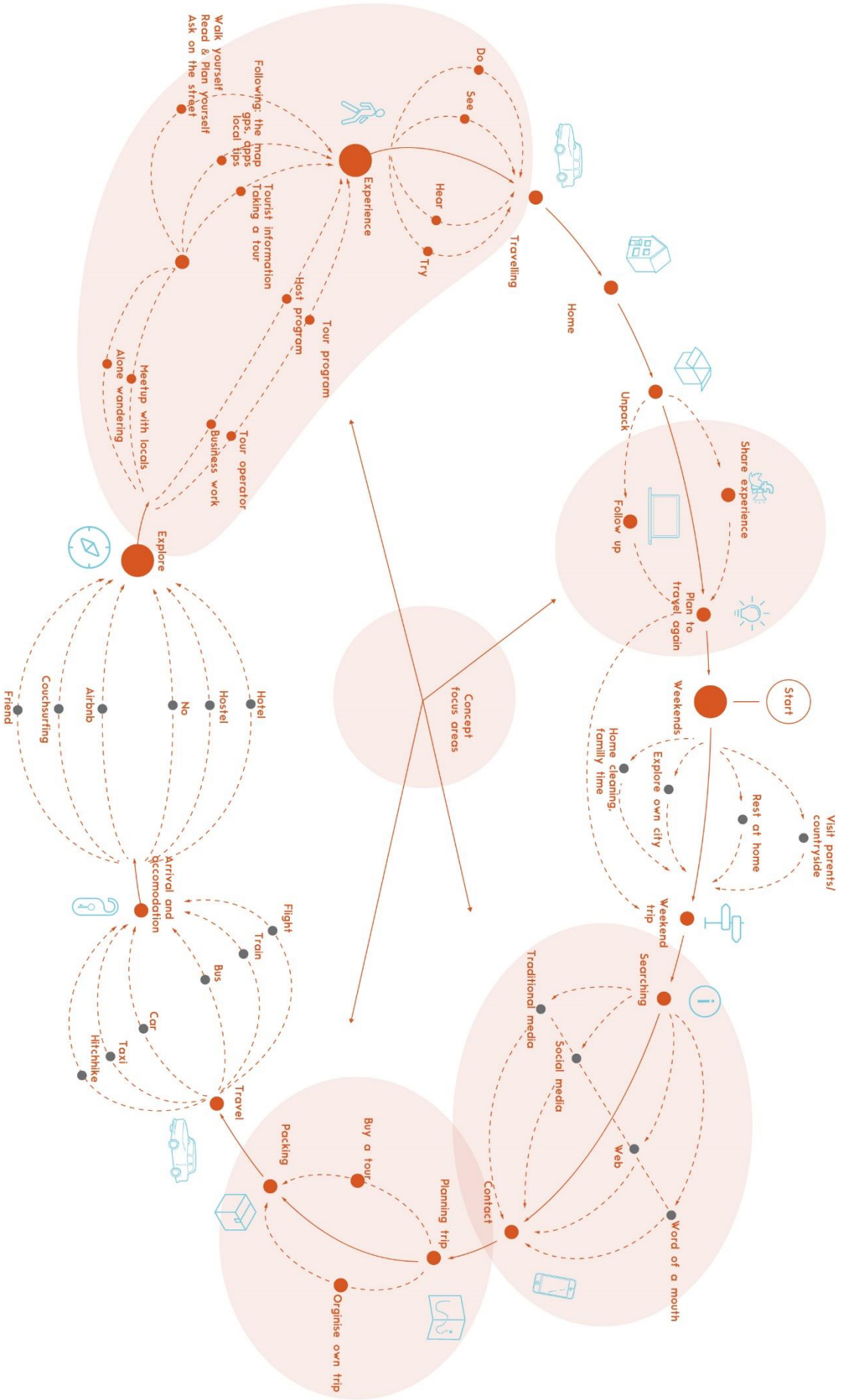
0-100eu	**33**	13.8%
100-250 eu	**60**	25.1%
250-500 eu	**71**	29.7%
500-1000 eu	**53**	22.2%
1000+ eu	**21**	8.8%

Appendix IV

Business model development

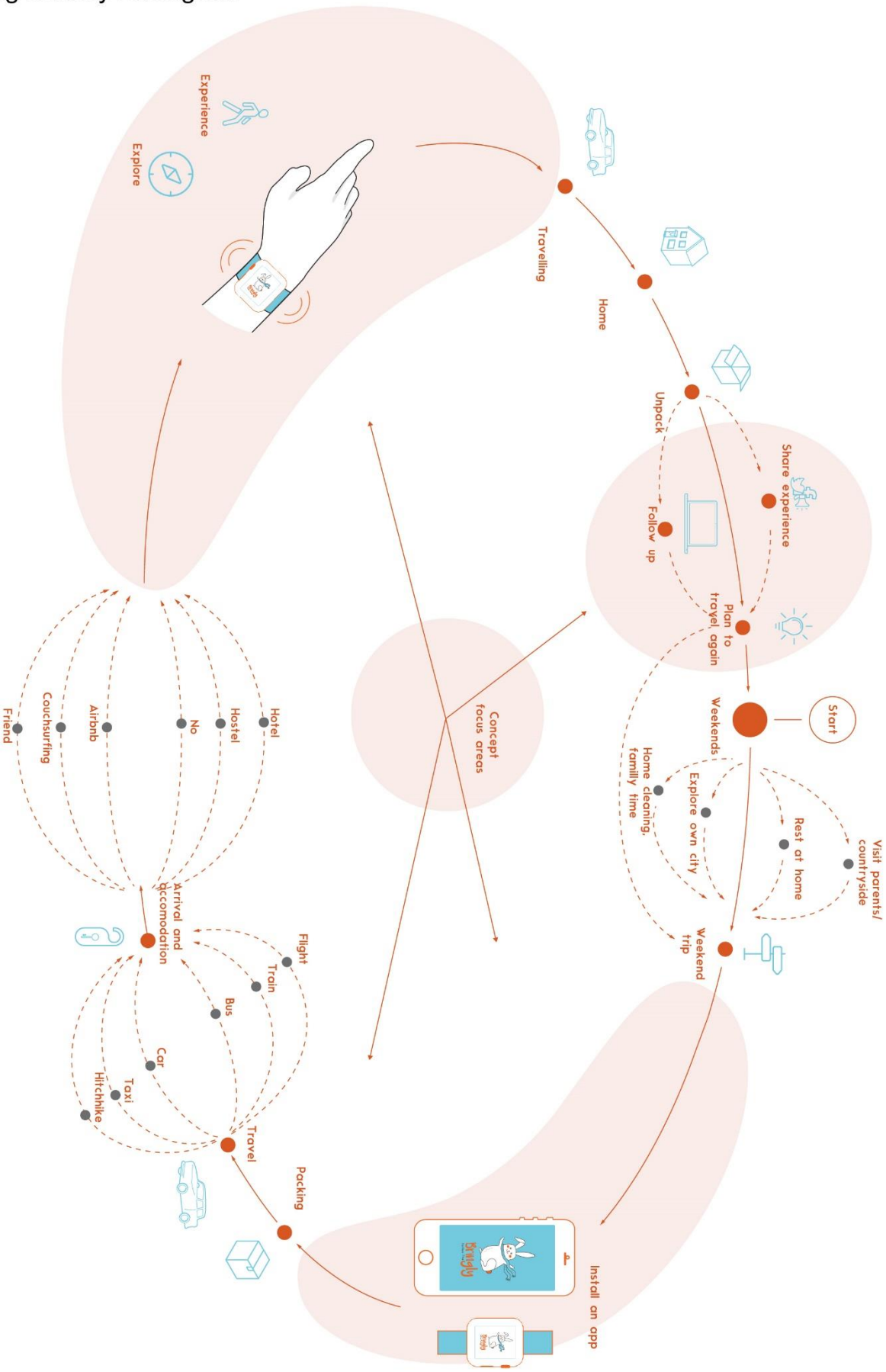
Appendix V

Traveling Journey before



Appendix VI

Traveling Journey redesigned



Appendix VII

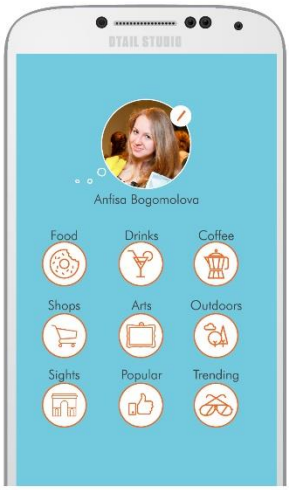
Application work principles

1

Bringly takes you for
an adventure...

2

Choose what is on your
wandering mind...



3

How far do you want to get?
You time and budget

4

All you have to do...
Is just trust your feelings and
"Follow the rabbit"

5

Once you reached
the destination,
Bringly tells a secret! Tsss...

Bogomolova Anfisa

2015