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Faculty of Regional Development and International Studies

Geocaching as a form of recreation along the Morava river in Kroměříž

Bachelor's Thesis

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BACHELOR THESIS TOPIC

Author of thesis:	**Monika Zakravačová**
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Guides to writing a thesis:

1. In the literature review part, the current state of geocaching issues will be analysed and described – rules of the game, history of geocaching in the Czech Republic and abroad.
   In addition to that, there will be presented applications of the geocaching game near the watercourses and its surroundings.
   There will be processed the current state and examples of the use of geocaching along the watercourses in the Czech Republic and abroad.
   Finally, the influence of recreation will be evaluated – impact of geocaching on the environment.
2. The selected area will be characterized in the practical part – modified/revitalized watercourse from the Czech Republic.
3. Using the method of public preferences – questionnaire, the primary data will be collected in the selected area focusing on the inhabitants' awareness in the use of geocaching game along the watercourses in the cities.
   In addition, the SWOT analysis will be elaborated focusing on the recreational potential of the selected area.
4. Based on the analyses and photo-documentation from the field, new geocaching trail along the watercourse will be proposed in accordance with the nature protection.
5. The Bachelor Thesis will be elaborated in the structure and scope according to the principles for the final works.
   The structure of the final thesis will be following: abstract, introduction, aim of the work, literature review, characteristics of selected territory, methodology, results, discussion, suggestions in using the results in practice, conclusion, list of references, list of abbreviations, tables, pictures, appendix.

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Declaration

I declare that I carried out this thesis: Geocaching as a form of recreation along the Morava river in Kroměříž, independently, and only with the cited sources, literature and other professional sources.

I agree that my work will be published in accordance with Section 47b of Act No. 111/1998 Coll. on Higher Education as amended thereafter and in accordance with the Guidelines on Publishing University Student Theses.

I understand that my work relates to the rights and obligations under the Act No. 121/2000 Coll., the Copyright Act, as amended, in particular the fact that Mendel University in Brno has the right to conclude a license agreement on the use of this work as a school work pursuant to Section 60 paragraph 1 of the Copyright Act.

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Brno 19th May 2017

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Monika Zakravačová

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Furthermore, I would like to express my gratitude to my supervisor Bc. Ing. Ivana Lampartová, Ph.D. for her guidance, useful advices, motivation and patience.

Finally, I thank all the respondents who provided the information needed to do the research.

Autor: Monika Zakravačová

Název bakalářské práce: Geocaching jako forma rekreace podél řeky Moravy v Kroměříži

Abstrakt:

Bakalářská práce se zabývá problematikou zvýšení povědomí o vodních tocích ve městech za pomocí hry Geocaching. Součástí teoretické části je základ o terminologii a typologii keší, popis hry a vývoj hry v České republice, v zahraničí a také vliv Geocachingu na životní prostředí.

V praktické části byla pomocí metody veřejných preferencí – dotazníkového šetření shromážděna data, která jsou zaměřená na povědomí obyvatel a využívání geocachingu podél vodních toků ve městech. Výsledkem práce je nově navržená trasa podél vodního toku v Kroměříži, která je v souladu s ochranou přírody a která bude geocachery vzdělávat na téma vodní toky.

Klíčová slova: Geocaching, vodní toky, keše, životní prostředí, řeka Morava

Author: Monika Zakravačová

Title of Bachelor Thesis: Geocaching as a form of recreation along the Morava river in Kroměříž

Abstract:

The Bachelor Thesis deals with the problem of increasing awereness of watercourses in the cities using the geocaching game. The theoretical part is the basis for terminology and typology of caches, game description and game development in the Czech Republic as well as abroad and also the impact of geocaching on the environment.

Using the methods of public preferences – questionnaire in the practical part, were collected data which are focused on the awareness of public in using geocaching game along the watercourses in the cities. The result of this work is a newly designed trail along the watercourse in the Kroměříž town that is environmentally friendly and that will educate the geocachers about the topic of watercourses.

Key words: Geocaching, Watercourses, Caches, Environment, Morava river

Content

1 Introduction

Geocaching is a game that has become in a relatively short period of time extremely popular on the global scale. The beginnings of geocaching can be attributed to the year 1999, when the USA removed all the barriers that greatly distorted the coordinates of where the final cache could be found. (Peters, 2009) This activity is mostly interesting because of the caches, where they are hidden. Whether it is in the busy city center or in a quiet place in the forest, the place must be somehow interesting for the geocacher.

This type of spending the free time combines modern technology with the nature. Caches are discovered and hidden by the geographic coordinates and they are sought with the GPS (Global Positioning System). For playing geocaching game you just need a Smart Phone and a spirit of hunting the treasure. With the annually increasing number of caches is quite difficult to find a suitable place to create a new one, but it is possible.

The area I chose to write the bachelor thesis is due to the fact, that I come from Kroměříž. This wondereful city is mostly visited by tourists mainly because of Archbishop's Chateau, adjacent Chateau Garden and Flower Garden, which are registered on the List of UNESCO (United Nations Educational, Scientific and Cultural Organization). Equally popular are also the three most famous churches and other cultural monuments and objects for which is Kroměříž so proud.

Because of this fact, I would like to increase the attractiveness in the area of the Morava River basin, where the nature has left a beautiful and tranquil countryside. In the area I chose, is already leading cycle route which connects Kroměříž with Olomouc on the north and then the Jeseníky Mountains. Otrokovice, Napajedla and Uherské Hradiště are connected with Kroměříž on the south and the cycle route continues with the other towns in Slovácko to Břeclav.

2 Aim of my work

The aim of my Bachelor Thesis is to increase the awareness of the watercourse in the city of Kroměříž using the geocaching game. The work is divided into several parts.

The first part is focused on the literary review like definitions, history of geocaching and rules of the game. There will be also noticed the connection between geocaching and the issues of regulations/revitalizations of watercourses and surroundings. There will be processed the current state of using the geocaching game along the watercourses in the Czech Republic and abroad. The chapter will be ended with the assessment of the impact of recreation – geocaching on the environment.

The second part is initially focused on the characteristics of the chosen area. Using the methods of public preferences – questionnaire, were collected primary data focused on the awareness of the population in the use of geocaching game along the watercourse in Kroměříž. Based on the analyses and photographs will be designed a trail with one final container to which the geocacher gets through the questions answered. The entire trail will be designed environmentally friendly.

The work will be ended with a proposal for the practical application of results, discussion and conclusion.

3 Literature Review

3.1 Definitions

3.1.1 Geocaching

Geocaching is a worldwide outdoor activity which relies on using a Global Positioning System (GPS), the Internet and good observation skills (McNamara, 2004). According to Ihamäki geocaching is a mobile outdoor activity made by the players. GPS is used in a new and continuously developing way creating innovative channels and services (Ihamäki, 2012).

The word geocaching is actually created of two parts. The prefix geo, for Earth, means the nature spirit of the game. Caching, from the word cache, what means a hiding place for storing the items temporarily (geocaching.com).

Geocaching is a game on the edge of sport and tourism (Holešínská, 2012). It requires as well as the physical exercise also the tactical one and the sense of direction. Players are moving in the physical space supported by GPS equipment what makes this sport dependent on the technology (Ihamäki, 2012).

The aim of the activity is to search the hidden treasure boxes, called caches, and share experiences from their hunt through the Internet. There are many types and forms of caches, additional activities and several variations of geocaching after a few years of its existence. Clearly defined rules that each participant must follow are gradually establishing (Holešinská, 2012). According to O'Hara (2008) a typical cache is a small waterproof container with the latitude and longitude coordinates published on a web site which can be hidden anywhere around the world. The official website where the coordinates are noted is www.geocaching.com or only for the Czech Republic www.geocaching.cz.

A cache contains a logbook for the signature and the date by those who will find the cache. The treasure inside the cache is in most cases low in value. There are only such small things like small toys, coins and travel bugs and participants exchange these items. If they want to take something from the cache they must leave something of similar or higher value (O'Hara, 2008).

Geocachers often tend to create very specific types of conteiners which vary by its difficulty, type and other details of the geocache. The important thing is to avoid the

unexpected discovery of a cache other than the one we were looking for. Because of this, a new geocache has to be placed at least 161 m away from the other psysical box (Cord, Roeßiger, Schwarz, 2015).

3.2 The History of Geocaching abroad

The history of geocaching is symbiotic with the history of GPS device which was firstly developed and used by the Department of Defence in the early 80's. This GPS receiver with the selective availability had accuracy for the civilian receivers approximately 100 meters. Using government systems without affection of selected availability the accuracy was one-foot (Dyer, 2004).

On May 2, 2000, thousands of GPS receivers around the world had an instant upgrade. It was because the government had planned to remove Selective Availability until 2006 to do so. For people who were interested in GPS technologies, this was a cause for celebration (geocaching.com). Since then, it was possible to determine very accurately both longitude and latitude co-ordinates (Marsh, 2011).

According to Peters (2009), the beginning of geocaching can be considered on May 3, 2000, USA, when Dave Ulmer created a first cache with the idea to test the accuracy of GPS technology.

Ulmer hid in the wood near Beavercreek a container, which contained a can of beans, a compass and a videotape and wrote on the community website sci.geo.satellite-nav coordinates with instructions to take some stuff and leave some stuff.

This idea excited many people who started to build and hide their own caches. The game started to expand and quite soon became the first cache outside the United States. It was on May 12, 2000, in New Zealand (Peters, 2009).

Mike Teague, the person who found the Ulmer's stash, created his own web pages where he started to gather the online posts of coordinates around the world. It was called "GPS Stash Hunt", but due to the negative connotations of the word "stash" it had to be replaced. The only right name was "geocaching" (www.geocaching.com).

3.3 The history of geocaching in the Czech Republic

The history of geocaching in the Czech Republic began in June 2001 when the first Tex-Czech cache was found in the place called Štramberský park. It was just a plastic bag, which has been exchanged by a box after a few years. Two years later, in June 2003, there was established website called www.geocaching.cz.

From year 2009, the Czech Republic has division by the regions. There is a requirement for all newly created caches that there must be filled the region in which they were created. For older ones, Groundspeak promised that will do it by the TrainTour Reviewer automatically. In this year was also organized the first Czech MegaEvent in Prague, which was attended by over 500 nicknames.

In the middle of February 2014, the number of caches published in the Czech Republic exceeded the border of 50.000 caches. One year later, in February 2015, the number of caches published exceeded the border of 60.000 caches, what means 10.000 of new caches by the last year (wiki.geocaching.cz).

Czechs belong to the fourth most active in the world. This can be also seen in the participation of hunting caches. The biggest Czech cache is hidden in capital, Prague, near Teresa statue at Marian Square depicting an allegory of the Vltava River. Teresa probably holds the world's record in most visited caches in the world. In September 19, 2011 had registered 8155 caught, while the Original Stash Tribute Plaque that Americans generally regarded as the most visited physical cache, visited only 6537 geocachers. Just behind Teresa's cache the second place is hidden near Wenceslas Square, located on the ramp of the National Museum. The largest cache is found in Hostýn. The cache, which is dedicated to the greatest Czech of all time, Joseph Drásal, is probably the biggest box in the world. Cache constitutes a cave with a capacity of over 50 m^3 (Kudy z nudy, 2011).

3.4 Rules of the game

The first step to becoming a geocacher is to create a free account at the official website www.geocaching.com. The registration is required to enable you to search for caches, database, to log the findings or just to browse online maps with marked locations (ceskygeocaching.wordpress.com).

Being invisible and unobtrusive is one of the main rules. The cache is often hidden in a cavity under a rock, in a stump or even hung on the tree. After opening the box, there will be a logbook, pencil and articles intended to exchange. Each geocacher signs the logbook, writes down his nickname from the website www.geocaching.com, the date and the finding time of the cache. From the cache, everyone can choose an item that likes but have to leave there something from your own. The rule is that you should exchange something of similar or higher value (ceskygeocaching.wordpress.com).

3.4.1   Regional rules for the Czech Republic

The local laws and rules for geocaching placement vary from place to place. These rules of the game are also adjusted according to individual continents and countries.

The placement of the caches in the Czech Republic is not allowed in the locations like on bridge structures, bridges or bridging technology. Another not allowed location of the cache is directly on the highway or road body and on railways with defined runway protection. To the sewerage system is also prohibited the placement of the cache. It is not only because of the terms of safety but also because of the hygiene and health reasons. There is a risk of infection and the possibility of stifling or toxic gases. Forbidden are then chimneys, transmitters, columns, government building, courthouses, jails, building security services and military areas and objects. The placement of the cash is not allowed directly to the cemetery and the grave, caves, kindergarten, primary school and playground. In some cases, an exception can occur if the placement of the cache will be enabled by school. Particular attention is paid to the places such as protected areas (with limited movement and access), which also have their special rules for caches in protected areas (wiki.groudspeak.com).

3.5   Types of caches and their size

Essential part in geocaching is the knowledge of terms, acronyms, types of caches and their properties.

The official website www.geocaching.com provides information about each cache. It includes difficulty of terrain, difficulty to find the cache, its size and type, main information and why is the cache placed there (Schneider, Jadczaková, 2016).

One of the main parameters in the search for caches is its type. In the type of cache depends on, for example, whether we go straight to the goal, if we have multiple locations or only one or whether it is necessary to solve coordinates in advance from home and last but not least, if we do not need any special equipment.

3.5.1 Types of caches

We can recognize the type of cache by its symbol. The cache is not always created as a physical box but it can also be for example an event for geocachers. In the table no. 1 is described the division of basic caches and their description.

Table 1: Types of caches with the description (source: https://www.geocaching.com), modified.

Symbol	Name	Description
	Traditional Geocache	The original and the easiest type of geocache with a logbook. Size may vary but minimally. This container will be at the given coordinates.
	Mystery/Puzzle Caches	First you have to solve difficult puzzles to get the final coordinates. These are unique geocaches which don't fit to another group.
	Multi-Cache	Usually two or more locations with the physical container at the end. At the first stage you will have a clue how to get to the second stage, and so on.
	EarthCache	By visiting this geocache people learn about the unique features of the Earth. EarthCache pages contain not only coordinates but also educational informations (about geologic processes, its resources...) For logging this cache you have to answer to questions from the hiding place.
	Letterbox Hybrid	Letterbox cache is based on using the clues instead of coordinates. If there is a stamp inside, it is not intended as a subject to exchange but is used to record other visitors.
	Event Cache	Geocacher "meeting". On the web page there is written when and where the gathering will take place.

Symbol	Name	Description
	Cache In Trash Out Event (CITO)	Environmental activity for the community-supported players. The main aim is to preserve environment while we enjoy geocaching – litter clean up, plant new trees and vegetation…
	Mega-Event Cache	Annually organized Event Cache that is attended by 500 and more people.
	Giga-Event Cache	It is an event attended by 5000 and more people which is usually held annually and could last several days. It belongs to the rarest geocache type.
	Wherigo Cache	GPS adventure creation tool (must load the program). It is similar to multi or mystery cach. The Wherigo Cache type will ultimately lead you to a final (physical) cache location.
	Geocaching HQ Geocache	This type of cach is located at Geocaching HQ in Seattle, Washington. The geocacher have to make an appointment at least 48 hours in advance for logging this cache.
	GPS Adventures Maze Exhibit	They are designed to teach people about GPS technologies and geocaching through interactive science experience.
	Lab Caches	Rare type of cache. Process of innovation and testing – often at a molecular level.

3.5.2 Size of caches

It is one of the most important property in the term of physical caches. The division according to size of caches is described in the table no. 2.

Table 2: The division of caches according to their size (source: wiki.geocaching.cz), modified.

Size	Description
Microcache	Mostly used in urban areas. Inside the microcache it is mostly just a small logbook, pencil and sharpener. Items for exchange only sporadically placed, if so, it is the size of a coin or a small badge. Microcache standard form is a capsule of 35mm film. Like its subspecies is given a **nanocache** which can hold only a strip of paper like a logbook and has size to 100 ml.
Small	Inside the cache fits logbook, pens and several smaller items on exchanges (small figurines or tourist signs). Size is from 100 ml to 1 liter.
Regular	Usual ideal size allows more opportunities for hiding it. Inside fits logbook, pens and several articles on the exchange medium sized (sunglasses, cuddly toy, CD). Internal volume is greater than 1 to 20 liters.
Large	This cache can even hold larger items like a book, but it is difficult to find shelter for the kind of cache, so they're not so common. Its volume is greater than 20 liters.
Other	Category other caches is focused on an unusual shape or size of the cache. It can be a magnetic film with a sheet of paper as a logbook.

3.6 Impact of geocaching on the environment

As it was already mentioned, the popularity of geocaching rises considerably. There are also associated additional risks with it, in particular those, for which suffer the environment.

In this chapter, the author evaluates positive and negative impacts of geocaching as an outdoor activity.

Patubo (2010) states that "there is only a little oversight of how geocaching is monitored and controlled, including environments like open spaces and along hiking

trails. Many participant-created caches are placed off-trail, and often enough, in environmentally-sensitive areas".

On the other hand, geocaching is inherently an activity environmentally friendly because is relatively new and therefore the principles of ecology and sustainability were taken into account when establishing the rules. The rules generally do not allow post the cache which damage public or personal property, whether it is natural or artificial object (Holešínská, 2012).

3.6.1 Positive impacts

As a benefit of geocaching we can consider mainly informative and educational nature of this activity. Caches which are found in natural environments function as a kind of virtual nature trails and information boards but their costs are significantly lower. Modern technology is advantageous in that and it gets the appropriate form among young tourists and visitors who do not pay attention to the classic information boards (Holešínská, 2012).

Organizations are also exhorting geocachers through the informal program called "Cash in Trash Out" (CITO) to be considerate of nearby cache. The main idea of this program is to collect garbage along the roads when you are searching for the cache. There may also be included accompanying activities such as editing paths, planting trees, etc. (Patubo, 2010).

3.6.2 Negative impacts

As negative impacts are mainly considered the damages to soil and vegetation trampled which reduces the porosity of the soil, its ability to soak and all this leads to damage of herbaceous vegetation and tree roots. Damaging rocks, expanding sidewalks and mountain biking paths has resulted in devastating erosion.

Interference of animals during geocaching game adversely affects reproduction and food intake which leads to weakening and death of individuals (Holešínská, 2012).

3.7 Geocaching in neighboring states

3.7.1 Slovak Republic

The history of geocaching in the Slovak Republic began in 2001 when one of the first geocacher called Lukič created the website devoted to this game. This website was not interconnected with the official web www.geocaching.com and it was necessary. There were problems with double logs of the caches and because of this the website has been redesigned in 2005 to taking over the data from the official website.

Nowadays, there are more than 11.000 caches in the Slovakia and the number is still growing. Žilina region is the region with the biggest amount of caches where is generally hidden about 1.888 caches instead of Nitra region where the amount of the caches is too low, about 711 caches (Jacolová, 2015).

3.7.2 Germany

Many German geocachers enjoy finding of terrain level 5 caches, which requires physical and very good mental skills. Many of these caches are located on the places where it is necessary to have specialized equipment like rock climbing gear or a boat. These caches are hidden in the trees or just on the rocks. Another type of cache that is popular in Germany is the multi-cache (www.geocaching.com).

3.7.3 Geocaching in Austria

On July 30 of 2001, the Italian geocacher Giorgio hid his cache on the Mount NIedere in Vorarlberg in Austria. This is how the geocaching began in Austria. Nowadays the cache isn't available anymore because is disappeared two years after it was hidden.

Geocaching in Austria is rapidly growing and the fact that there are about 3-5 caches logged every second and 18.000 caches hidden in Austria confirms this fact (www.geocaching.com).

3.7.4 Geocaching in Poland

November 1, 2001 the first cache was hidden in Poland and was called "Ndebele 1", which was only virtual one (no container), but has been published on geocaching.com. The oldest existing geocache in Poland is a container hidden on 2 June 2002 near Szczytno, which was restored after 10 years based on found packaging from it. The

oldest geocache in continuous operation with the original packaging is "The first cache Lubuskie" hidden on 29 March 2003 (pl.wikipedia.org).
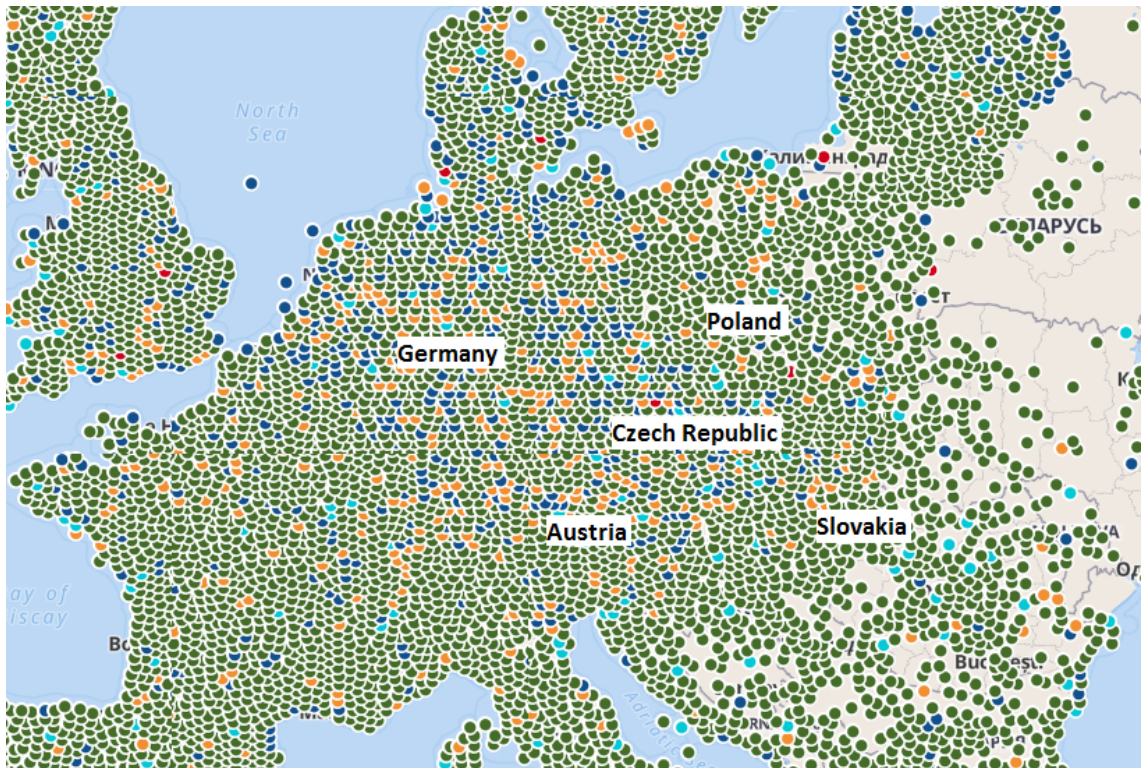

Picture 1:   View of the distribution of caches in the Czech Republic and its neighboring states (source: www.geocaching.com), modified.

3.8 Selected rivers in the Czech Republic

3.8.1 Prague – Vltava river

Vltava river originates under Černá hora in Šumava at altitude of 1.172 MASL and it is the main course in Prague. The bottom of the Vltava river in Prague has a gravelly boulder impurities and is deepend particularly around the wier and under road bridges. The canal was deepened artificially (Kozumplíková, 2016).

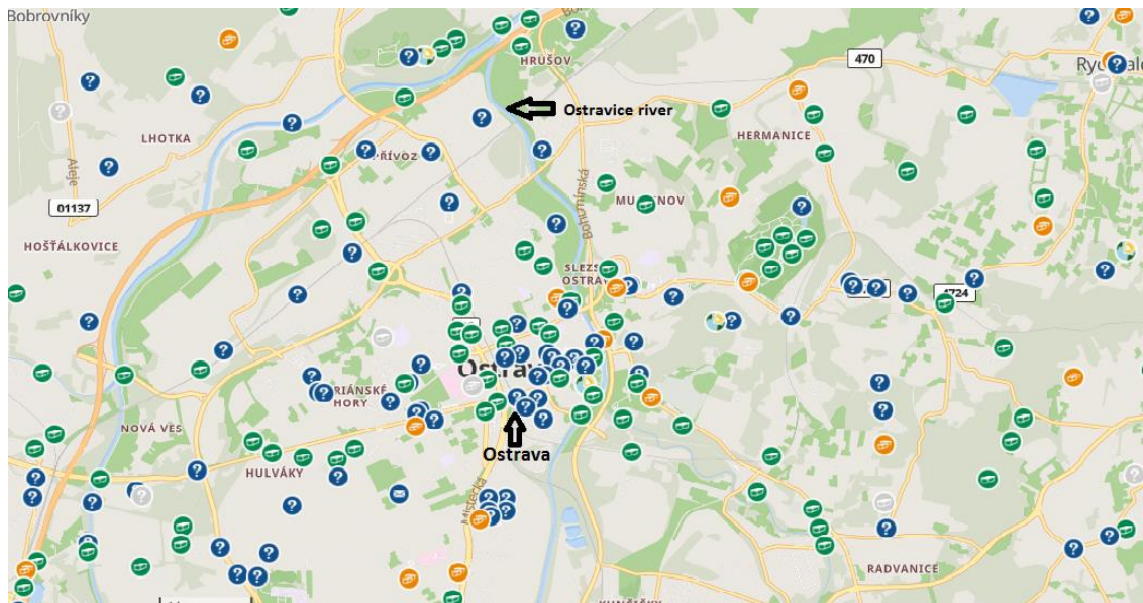There are about 2.993 caches in Prague and its surroundings of about 16 km.
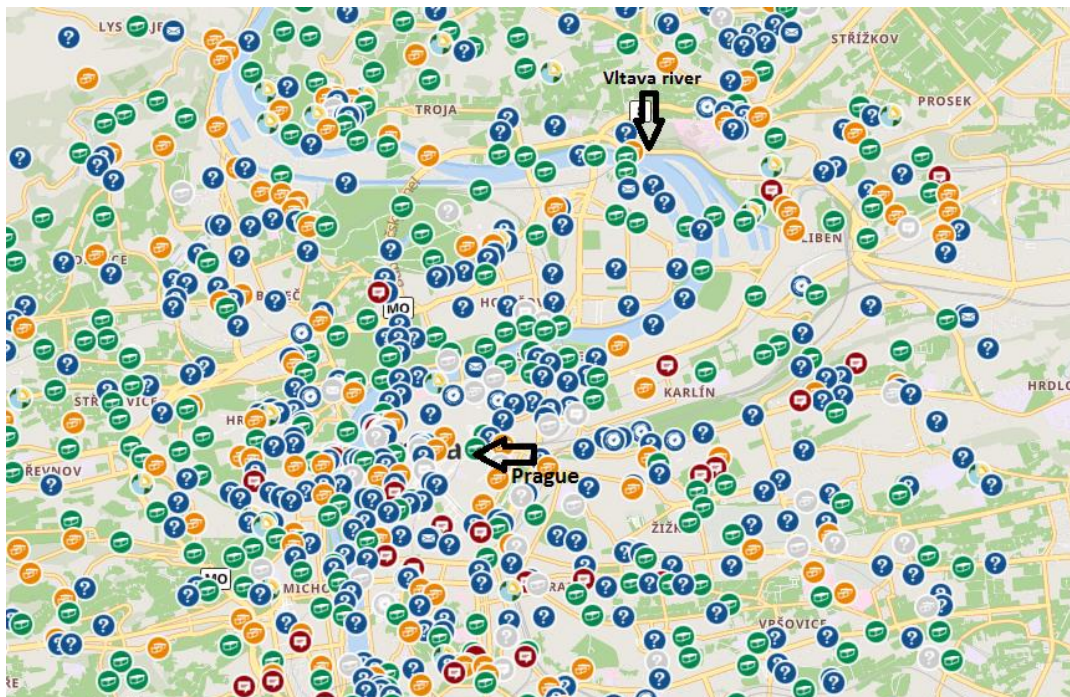
Picture 2:   Distribution of caches along the Vltava river in Prague (source: www.geocaching.com), modified.

3.8.2 Ostrava – Ostravice river

Ostrava got its name from the river Ostravice which divides the city into the Moravian and Silesian parts. The river belongs to the Odra river basin. The predominant substrate of the river bottom is gravel. There was also the excavation of sediments from the river bed during the revitalization of the river but the artificial deepening of the bottom was not the intention (Lampartová, Lorencová, 2016).

There are 1.073 logged caches in Ostrava and its surroundings of about 16 km.
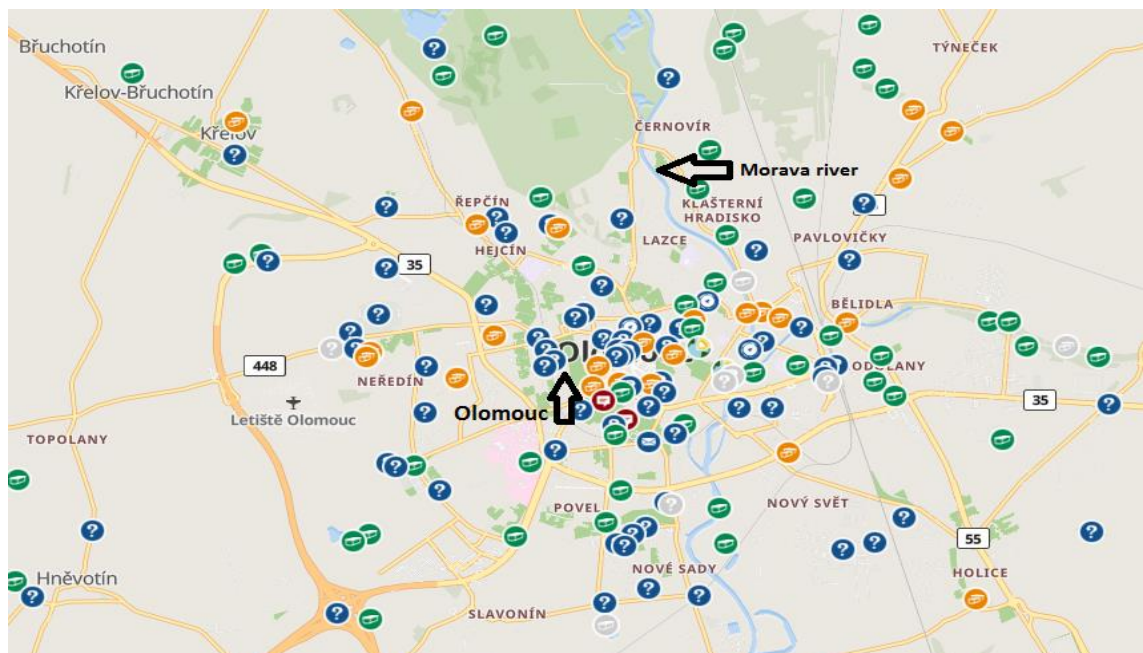
Picture 3:   Distribution of caches along the Ostravice river in Ostrava (source: www.geocaching.com), modified.

3.8.3   Olomouc – Morava river

Olomouc is the largest city located on the Morava river. It lies on the Upper valley of the Morava River. There was implemented a flood protection project in Olomouc which was held by Povodí Moravy, stateowned enterprise. The draft of this revitalization was to ensure the functional connection of nature conservation and flood protection of the city (Lampartová, Lorencová, 2016).

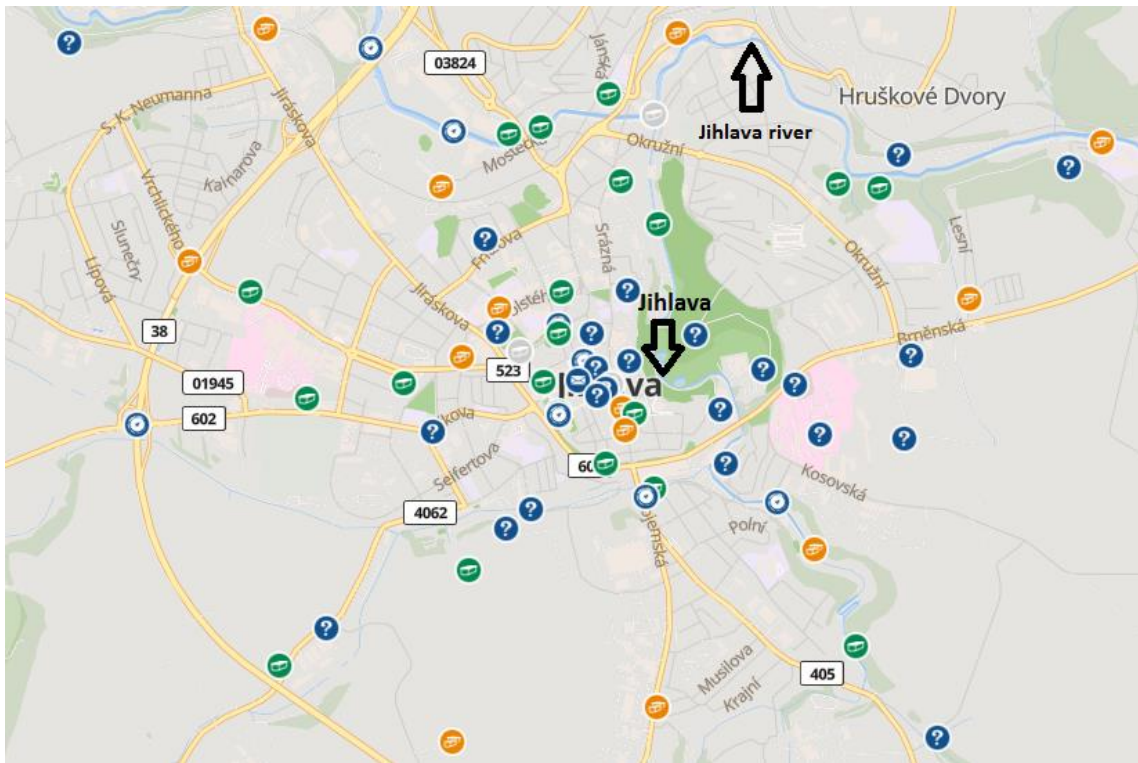There are about 757 caches in the city and its surroundings of about 16 km.

Picture 4:   Distribution of caches along the Morava river in Olomouc (source: www. geocaching.com), modified.

3.8.4 Jihlava – Jihlava river

Jihlava river creates historical border between Moravia and Bohemia and belongs to the Black Sea drainage area. Banks of the riverbed in the city are modified and adapted to the movement of people and they are mostly reinforced with stone backfill merging into lawns (Kozumplíková, 2016).

There are about 381 caches in Jihlava and its surroundings of about 16 km.

Picture 5:   Distribution of caches along the Jihlava river in Jihlava (source: www.geocaching.com), modified.

3.8.5 Karlovy Vary – Ohře river

Karlovy Vary is a statutory city in western Bohemia and ranks among the most visited SPA city in the Czech Republic. Ohře river represents for the city mainly recreational and aesthetic element which is complemented by shipyards and restaurants in the centre and cycle routes and pedestrian zones in other parts of the river (Schneider, Lacina, 2016).

There are 1164 caches in Karlovy Vary and its surroundings of about 16 km.
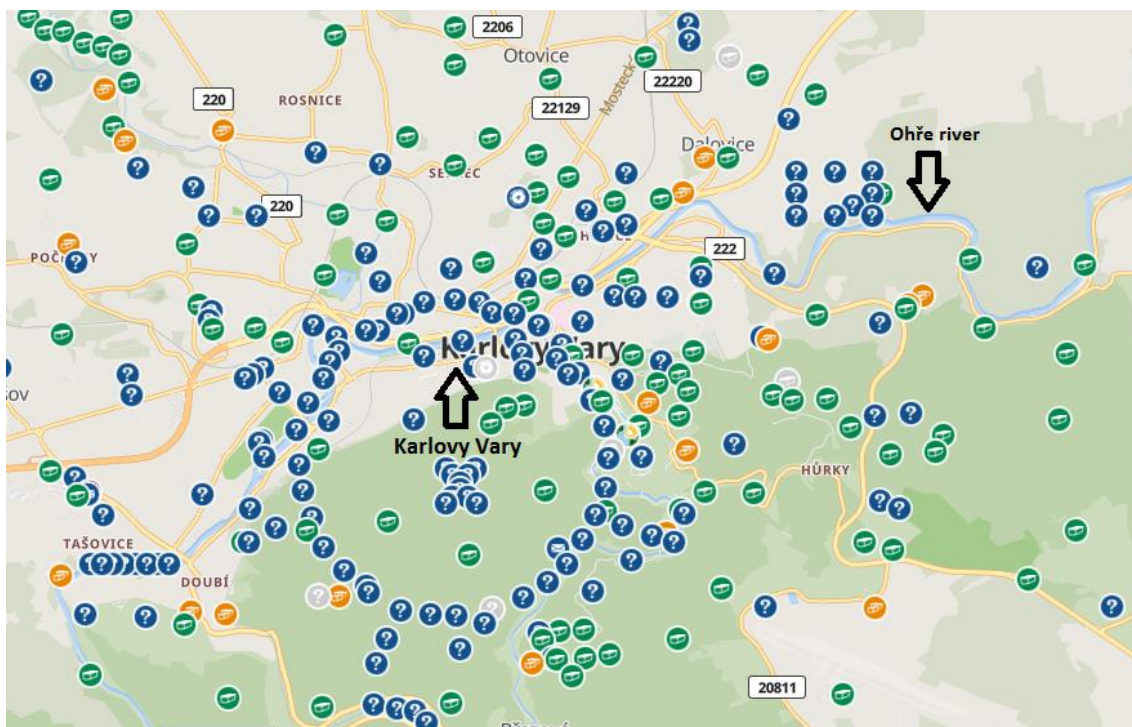
Picture 6:   Distribution of caches along the Ohře river in Karlovy Vary (source: www.geocaching.com), modified.

4 Characteristics and location of selected town in the Czech Republic

4.1 Kroměříž – Morava river

The Morava River flows through the Kroměříž city from the northwest to the southeast. There is a regulated river flow, moderate arches alternate short straight sections.

Between the cities Kroměříž and Otrokovice flows the river through a controlled channel in the southeast. The regulation itself is part of the water project called the Baťa Channel. The river flows through the municipality Tlumačov, Kvasice a Bělov. There is a small protected area called Tlumačovská Small Pond near the river flow, nature reserve Zástudánčí and natural monument Bank of the Morava River and many bridges (reka-morava.sije.cz).

There are about 406 caches in Kroměříž and its surroundings but as we can see on the picture below, the distribution of caches around the Morava river is too low. Because of my intent of this work, there will be created new geocaching trail on the route Kroměříž – Kvasice. The second reason why is chosen this town is that the author come from Kroměříž and therefore this place is very well known.
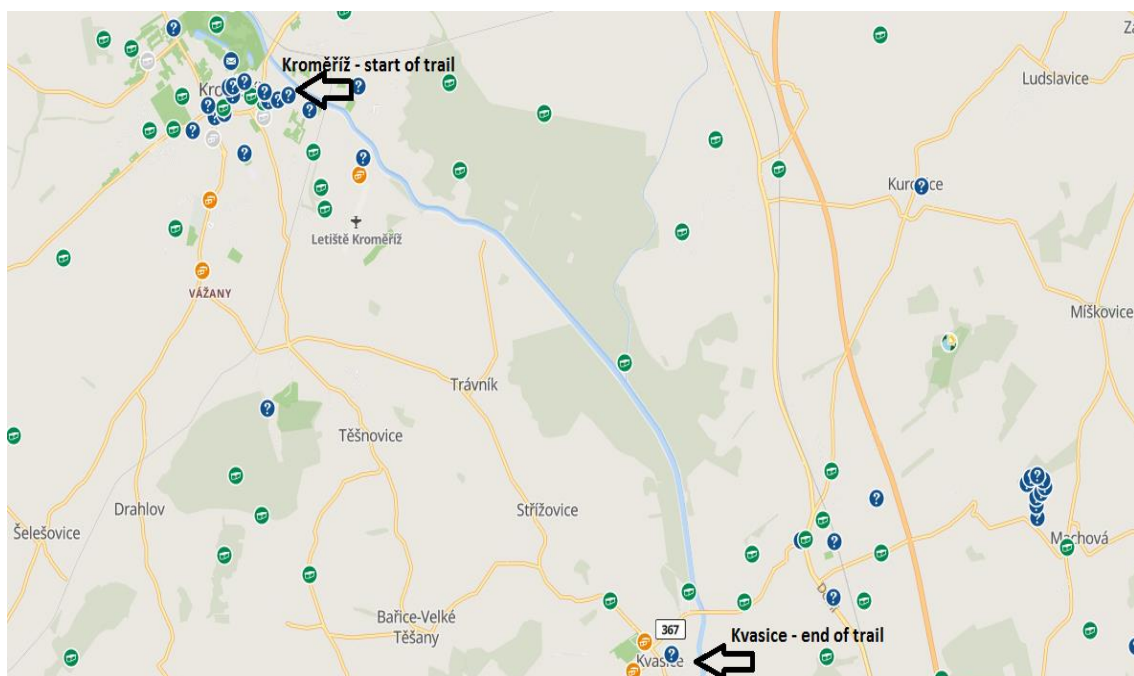
Picture 7:   Distribution of caches on the route Kroměříž – Kvasice before creation of new geocaching trail (source: www.geocaching.com), modified.

4.1.1 Geocaches along the watercourses in the Czech Republic

For the second year, geocaching enthusiasts have opportunity to enjoy adventures from geocaching also along the Moravian rivers. In the scope of Povodí Moravy, there are 15 containers (geocaches) prepared near the selected dams and other interesting places along the Baťa Channel. Furthermore, all the geocaches are placed safely to be easily accessible to the families with children (www.pmo.cz).

Unique lifting bridge in Uherský Ostroh, wetlands in Plumlov or wine trail in Mikulov along the New Mills can be seen during searching for the geocaches. In addition, in each of the cache, there is a small practical gift for the successful finder which has an educational form. Povodí Moravy would like to show to people that their activity is not linked only to the protection against the floods, but lies in the comprehensive care of the watercourses and the environment. Their project "Discover Morava River with geocaching" received an award in the competition Czech Award for the Public Relation this year (see picture no. 1 in annexes). In the category of entertainment and sport was on the third place. There was appreciated particularly the creative solution in the finding the caches along the Morava River basins (www.pmo.cz).

4.2 Kroměříž

Kroměříž was founded and developed in an advantageous geographic area with very favourable natural conditions on the banks of the lowland area of the Morava River. It is famous mainly because of its magnificent parks, beautiful churches and baroque castle (www.mesto-kromeriz.cz).

Since 1978, the Kroměříž town is urban conservation area and in 1997 was declared as the most beautiful historic town in the Czech Republic. One year later, in 1998, the Archbishop's Palace along with the Flower and the Chateau gardens were entered into the UNESCO World Heritage Site (www.kromeriz.eu).

4.3 Morava River

The Morava River, which is the largest Moravian River springs at the southern foot of the Kralický Sněžník at an altitude of around 1,300 meters above the sea level. At this point, there is the European watershed Danube, Oder and Elbe. Morava River therefore

belongs to the Danube basin. The direction of the river is in its upper and middle reaches of the southeast, after reaching Lowermoravian valley turns to the southwest and in the border zone between the Czech Republic and Slovakia is heading south. In the section from Rohatce the confluence with the Thaya River is the border of the Czech Republic and Slovakia, from the confluence with the Thaya forms a natural border between Slovakia and Austria (www.batuvkanal.info).

The Morava River is therefore a traditional thoroughfare of life in Moravia. Their banks were causing colonization and economic exploitation to the adjacent areas. When settlement was land, it caused deforestation to the areas around rivers because of the agricultural development. With that, as people aware of the importance of the waterway transport and its usability, advanced flow control in accordance with the arrangements to expand the possibility of navigable rivers (www.batuvkanal.info).

Picture 8:   The Morava river in Kroměříž (photo by: Zakravačová).

4.3.1 Hydrology

The main flow of the Morava River basin area is the same name Morava River. From the hydrological view the territory of the Morava River basin belongs to the Black Sea

drainage area, water filters through the Morava River into the Danube. The main headwater area features mountains in the northeastern part of the basin – Jeseníky, Beskydy and White Carpathians.

The end of winter, rarely in autumn, are the least aqueous months. Over the period of winter and spring months (December to May) runs of 50 to 60 % of the annual amount of runoff. The main source of the water levels is the water from melting snow (www.pmo.cz).

Picture 9:   Hydrology of the Morava river basin (source: www.pmo.cz), modified.

4.3.2 Climatology

From the climatological point of view, this area is very varied, given its large height span from the highest positions of Hrubý Jeseník to strictly lowland character at the lower reaches of the Morava River. There are warn, slightly hot and cold climatic zones in the whole area of the Morava River basin.

The average long-term annual air temperature in the Morava River basin is 8.1 °C, the coldest month is January with an average temperature of air -2.6 °C, the warmest month is July with an average temperature of 17.7 °C (www.pmo.cz).

4.3.3 Pedology

There are prevalent cambisols in the greatest extend in the area of the Morava River basin occurring in approximately half of the total surface of the area, as well as black soil, brown soil and fluvisols (www.pmo.cz).

5 Methodics

The following diagram presents step-by-step methodological steps in the solution of presented problematics.

1.	**Analysis** **Comparation** **Synthesis** ➡ of literature sources
2.	**Field research in a selected location**
3.	**Application and evaluation of SWOT Analysis**
4.	**Application and evaluation of public preference method**
5.	**Design of a new geocaching trail in a selected locality of the Morava river in Kroměříž**
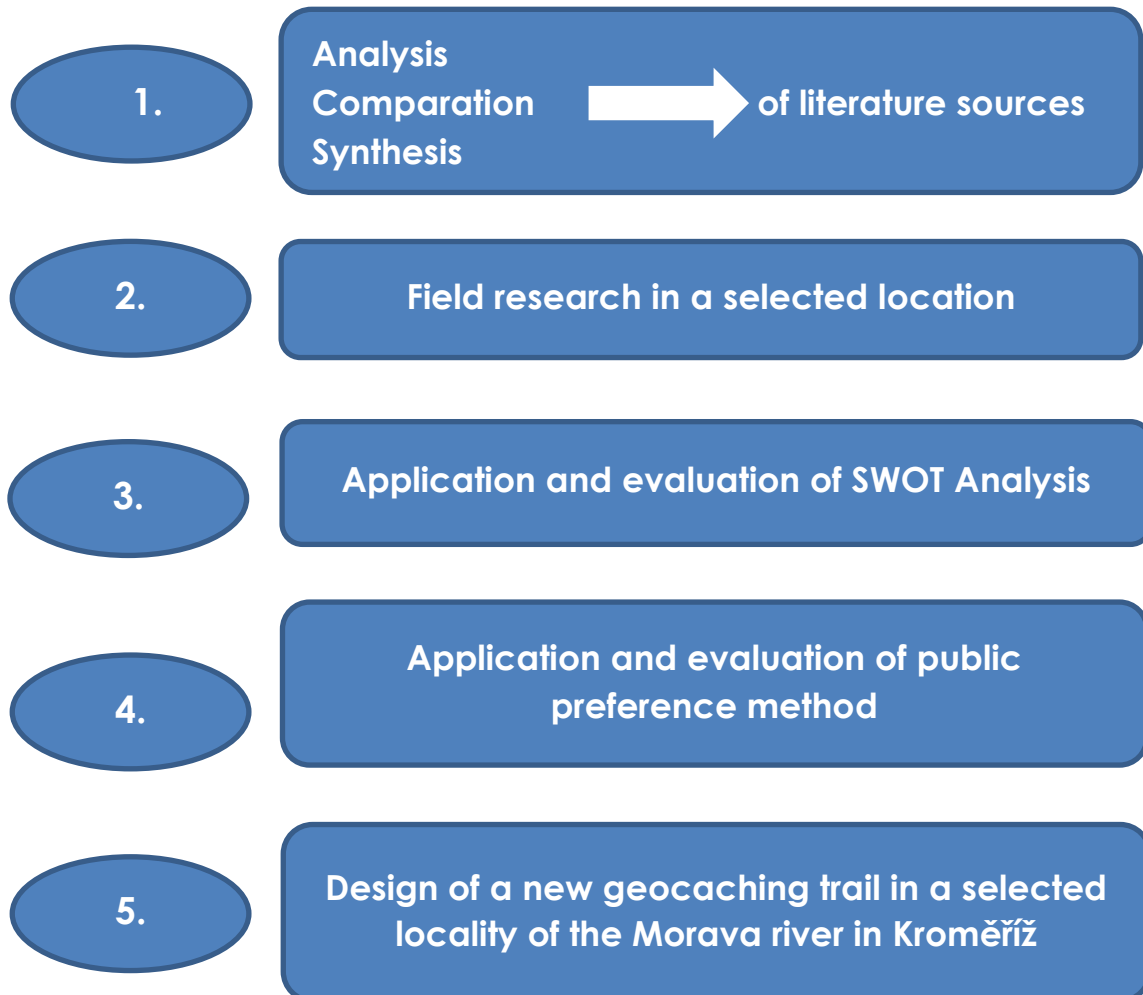
Picture 10:   Graphical diagram of the Bachelor Thesis methodology solution.

The Bachelor Thesis is made from two main parts. The first part is the literature review and the second part is the practical part with the results.

The author used to process general principles of qualitative and quantitative research during collecting the data. In both the methods are some deficiencies. In the case of quantitative research which is processed by using the method of public preferences, questionnaire, the advantage is in quick and straightforward data collection but the disadvantage may be the generalization of the results.

5.1 Theoretical part

In the case of processing the literature research it was necessary to study materials available. As geocaching does not have a long history, the sources from which the work draws are mainly foreign and Czech data sources and the server www.geocaching.com. There are listed general informations about geocaching, its history, rules of the game and basic terminology and typology of the caches at the beginning of the work. Part of the literature review is also dedicated to the chapter of geocaching impact on the environment and mentions both positive and negative impacts.

5.2 Practical part

5.2.1 Questionnaire

During the processing of my bachelor thesis was secondarily used the method of public preferences – questionnaire.

The aim of the questionnaire was to increase the awareness of the population in the use of geocaching game along the watercourses in the cities, in my case the Morava River in the town Kroměříž.

As a research tool was used questionnaire created by the author of the thesis (see appendix). It is divided into two parts, where the first part includes sociodemographic characteristics of respondents which deals with data like gender, age, education level, and others. The second part is researching own questions dedicated to the awareness of the geocaching game and modification of watercourses, as well as an examination of whether the residents want to create new geocaching trail in the selected area.

Data collection of the questionnaire was carried out from November 2016 to March 2017 in both paper and electronic form (via portal www.survio.com). The target group were mainly residents of Kroměříž during personal collection of the research data along the watercourse and its surroundings. The questionnaire was distributed as well to the Informational Centre of Kroměříž.

The questionnaire was made of total 16 questions set out deliberately in the form of closed or semi-open questions. The time limit for completing the questionnaire was determined from $^3/_4$ to 5 minutes, while $^1/_4$ of respondents answered within the time limit of 2 minutes.

5.2.2 SWOT analysis

SWOT analysis of the recreational potential has been processed for the selected part of the Morava river in Kroměříž. There is rated an internal environment that consists of the strengths and weaknesses of the revitalization project in the selected area and the external environment which includes the opportunities and threats to the environment in terms of recreation for residents and visitors of Kroměříž.

The goal of the SWOT analysis is primarily the evaluation of the proposals and measures to increase the recreational potential of the selected area.

6 Results

6.1 Evaluation of questionnaire

This chapter presents the results of the method of public preferences – questionnaire in the selected area of the Morava river in Kroměříž.

There were discarded some questionnaires from the evaluation report because those in which respondents answered that geocaching do not know even what it is would be useless.

Based on the elimination of inappropriate questionnaires were therefore in total evaluated 90 of them. The questionnaires were evaluated only from the inhabitants of Kroměříž.

For better clarity, the socio-demographic characteristics of respondents is sorted in the following table.

Table 3:   Results of socio-demographic characteristics of respondents.

Question	Answer	Share
Gender	Female	65 %
	Male	35 %
Age	Younger than 18	3 %
	18 - 29	66 %
	30 - 39	13 %
	40 - 49	12 %
	50 - 59	5 %
	60 and over	1 %
Level of education	Secondary education with a certificate of apprenticeship	7 %
	Secondary education with graduation	47 %
	Higher professional education	24 %
	University education	22 %
Employment status	Student	56 %
	Employed	30 %
	Entrepreneur	10 %
	Pensioner	4 %

The questionnaire was completed more by women than men in the proportion of 65 % women to 35 % men. In terms of age, most of the respondents were in the 18 – 29 age

(66 %) followed by the category of 30 – 39 years (13 %) and in quite similar numbers by the category of 40 – 49 years (12 %).

The highest number of respondents have secondary school with graduation (47 %) followed by higher professional education (24 %) and university educated respondents (22 %).

These numbers show that the questionnaire was mainly completed by students in total of 56 % in proportion with employed people by 30 % and 10 % of entrepreneurs. Pensioners are represented only by 4 % of the respondents.

Further, the questionnaire implies that less than half of the respondents go to search for caches occasionally (43 %). Approximately 38 % of them go 1x and more per month and the rest of respondents are very active and go 1x and more per week (19 %).

The following graph no. 1 describes how often respondents go to geocache.
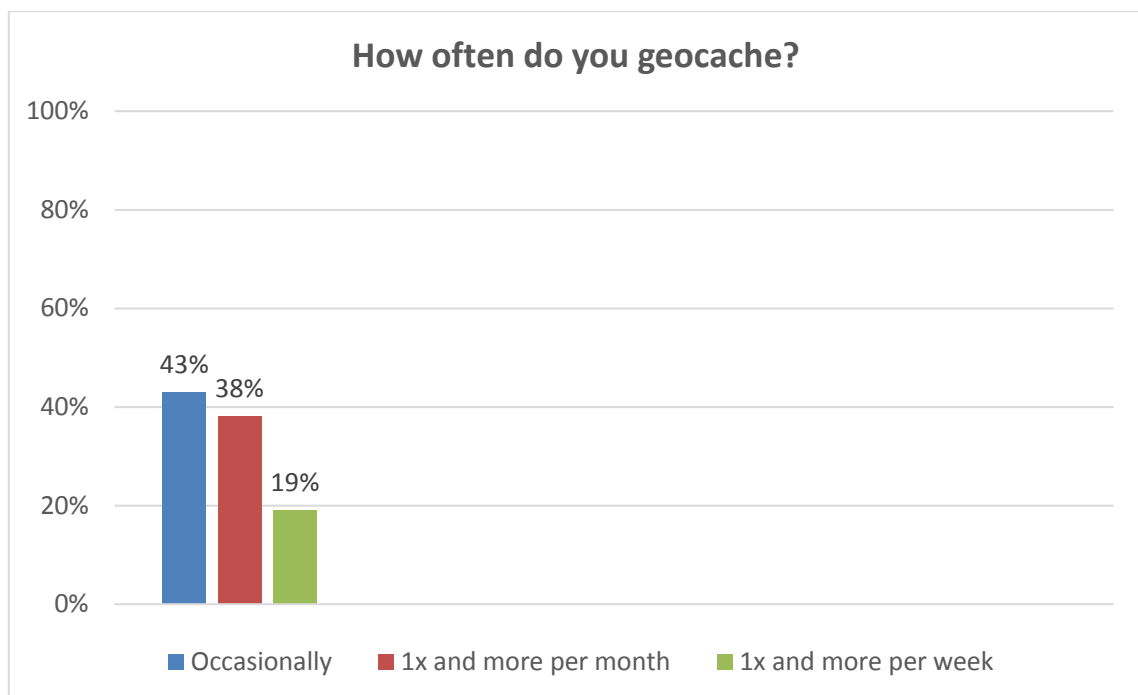
Graph 1:   How often respondents devote themselves to geocaching.

Most of the respondents go to search for caches with their friend (44 %) or their partner (25 %), almost 21 % of respondents collect caches with their family members and only 10 % go alone.

The Traditional Geocache is the most popular one when searching for them (67 %). The Multi-Cache has the second place with 29 % of the respondents and on the third place is the Mystery Cache with only 4 %

In the following graph no. 2 is shown the popularity of the caches by respondents.

Popularity of caches
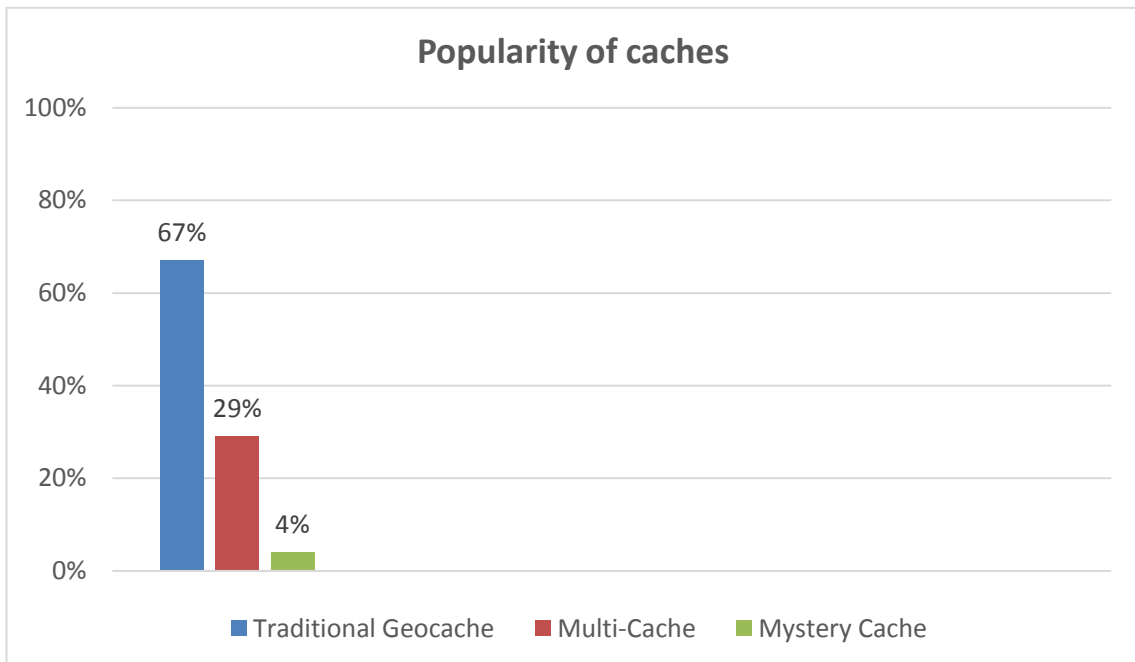
Graph 2:   The popularity of caches by respondents.

The question in the context of how the respondents move and how far when they geocache was mostly answered by bicycle (45 %) or by foot (32 %) and mostly travel around 0 – 5 km in the place of residence and close surroundings (41 %). Almost the same number (40 %) has the category 5 – 20 km of travelling to go for searching the caches. The other numbers were in the small proportion. From the questionnaire was released that only 4 % of the respondents go to search the caches abroad, either in the Slovak Republic or Austria.

The greatest motivation to play geocaching game is, according to the respondents, the desire to find a treasure (38 %) followed by exploration of new places and getting outside by 34 % of the respondents. Spending time with friends, family and others motivate 28 % of the respondents.

The following graph no. 3 shows what motivates people to play geocaching game in percentage.
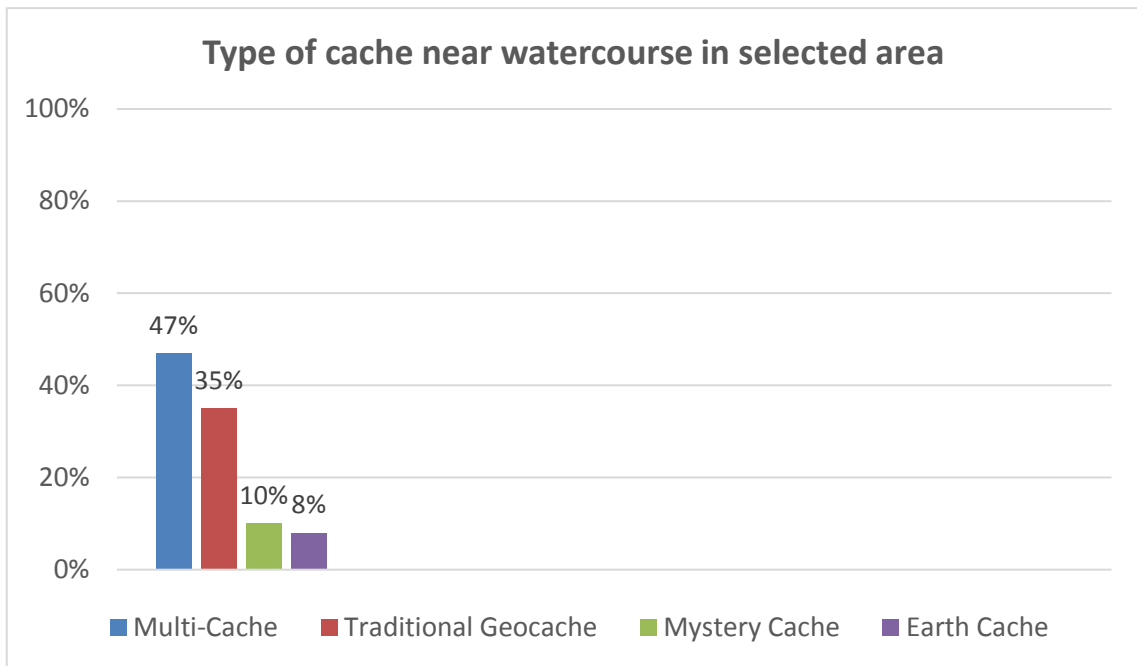
What is your motivation?

Graph 3:   Motivation of respondents to play geocaching game.

The following questions no. 14 and 15 were crucial because the respondents were asked if they even want the establishment of new caches in the selected area and in the area of watercourses in Kroměříž. The answers were positive in 82 % of the respondents and the rest 18 % of them were negative.

It follows that the establishment of new geocaching trail along the Morava river in Kroměříž will be beneficial for the inhabitants.

Also, a very important question was question no. 15 which dealt with finding out what type of cache they would like to hunt near the watercourse. The largest percentage was represented by Multi-Cache (47 %) followed by Traditional Geocache (35 %). 10 % of the respondents would like to establish Mystery Cache and Earth Cache was represented only by 8 %.

Graph no. 4 shows the preferences of respondents in choosing the final type of cache which will be established near the selected watercourse.

Type of cache near watercourse in selected area

47%
35%
10% 8%

Multi-Cache Traditional Geocache Mystery Cache Earth Cache

Graph 4:   Preferences of respondents in choosing the final cache near the watercourse in selected area.

The last question was asking the respondents where they would like to search for caches near the watercourse. More than half of them (52 %) would like the establishment of new caches near the bicycle path which is leading next to watercourse. Another 26 % of respondents would like to have it near the informational boards and 22 % of them in the forest which is adjacent to the watercourse.

The respondents' preferences are highlighted in the following graph no. 6.

What place would you like to search for caches?

52%
26% 22%

Near the informational boards

In the forest which is adjacent to the watercourse

On the cycle path which is leading next to the watercourse
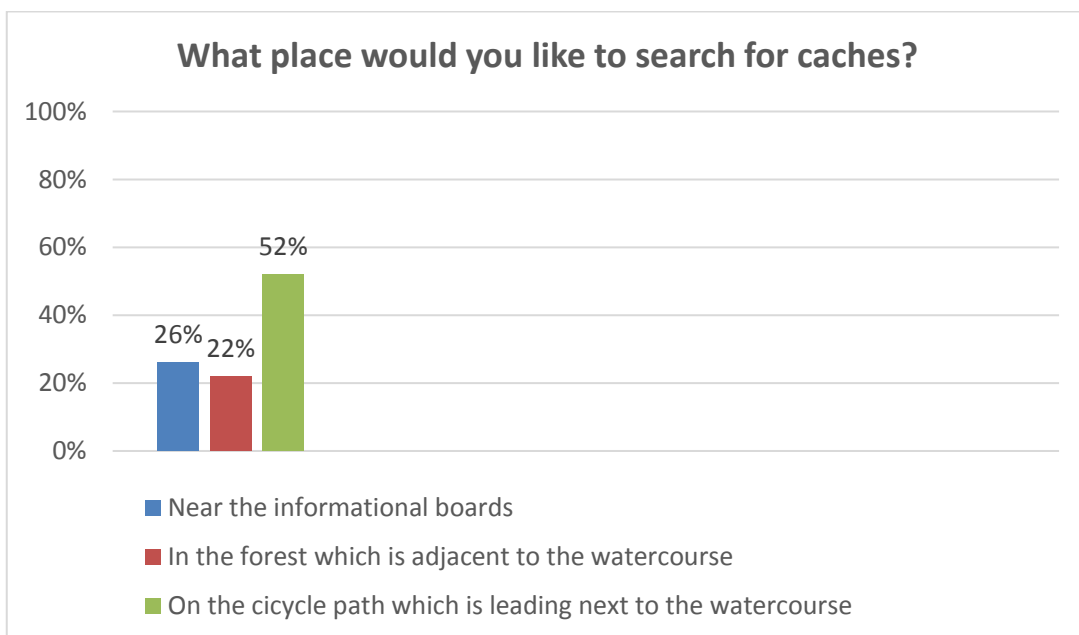
Graph 6:   The respondents' preferences where they would like to search for the caches.

6.2 SWOT analysis of selected area

There was made a SWOT analysis of possibilities for recreation, sport and relaxation in the model area of the Morava river in Kroměříž (see table no. 4). The analysis has been prepared on the basis of field research in the selected area and information obtained from the survey. The purpose of the SWOT analysis was to create an overview of proposals and suggestions for measures that lead to increase recreational potential in the model area of the Morava river in Kroměříž.

Among the strengths is included, for example, good infrastructure and informational and educational boards along the river. Into the weaknesses is included primarily inadequate lighting. Opportunities of the location therefore consist mainly of, for example, increase of public awareness of selected area and increase of social security. On the contrary, the threat may be extremely high turnout in this area or natural disaster such as floods.

Table 4:   SWOT analysis of selected area along the Morava river in Kroměříž.

Strenghts	Weaknesses
➢ Information and educational boards ➢ Good transport infrastructure ➢ Suitable conditions for cycling, in-line skating and walking ➢ Already established cycle path ➢ Culture and monuments (UNESCO) ➢ Near the center of Kroměříž	➢ Lack of lighting along the entire length of the route ➢ Insufficient cultural events that would attract the attention of a wider public
Opportunities	**Threats**
➢ Increase of public awareness ➢ Education of citizens ➢ Improvement of sanitary facilities ➢ Improvement of social security ➢ Subsidies from EU for the establishment of new caches, equipment on the trail (rest places, waste bins, informational boards…) ➢ Sponsorship/maintenance by local action group	➢ Floods ➢ Vandalism ➢ Extremely high turnout ➢ Insufficient capital maintenance

## 6.3 Design of new geocaching trail in the selected area

The last chapter will be devoted to the proposal of a new geocaching trail in the selected area. The whole trail is approximately 8 km long from the point no. 1 to the point no. 6 (see picture no. 11). It will take 32 minutes by bike and 2 hours and 1 minute by foot.

The trail is suitable especially for the cyclists, in-line skaters and pedestrians. The author would not recommend the designed trail for the handicapped people because of the difficulty in terms of the distance.

The proposed trail is designed in one direction. For those, who would like to go back in another way, there is a bridge which is approximately 300 m far away from the final point no. 6., the possibility to go across the bridge, turn left and go back on the other riverside. The disadvantage to go this way is in unsupported path in this direction.

According to the results from the questionnaire, the chosen type of the cache will be Multi-Cache which is the special one because of the stages you have to go through to get the final coordinates and find the container (cache). The answers from the stages must be carefully recorded as they will be checked in the final.

On the picture 11 below is shown the whole trail with 6 stop points.
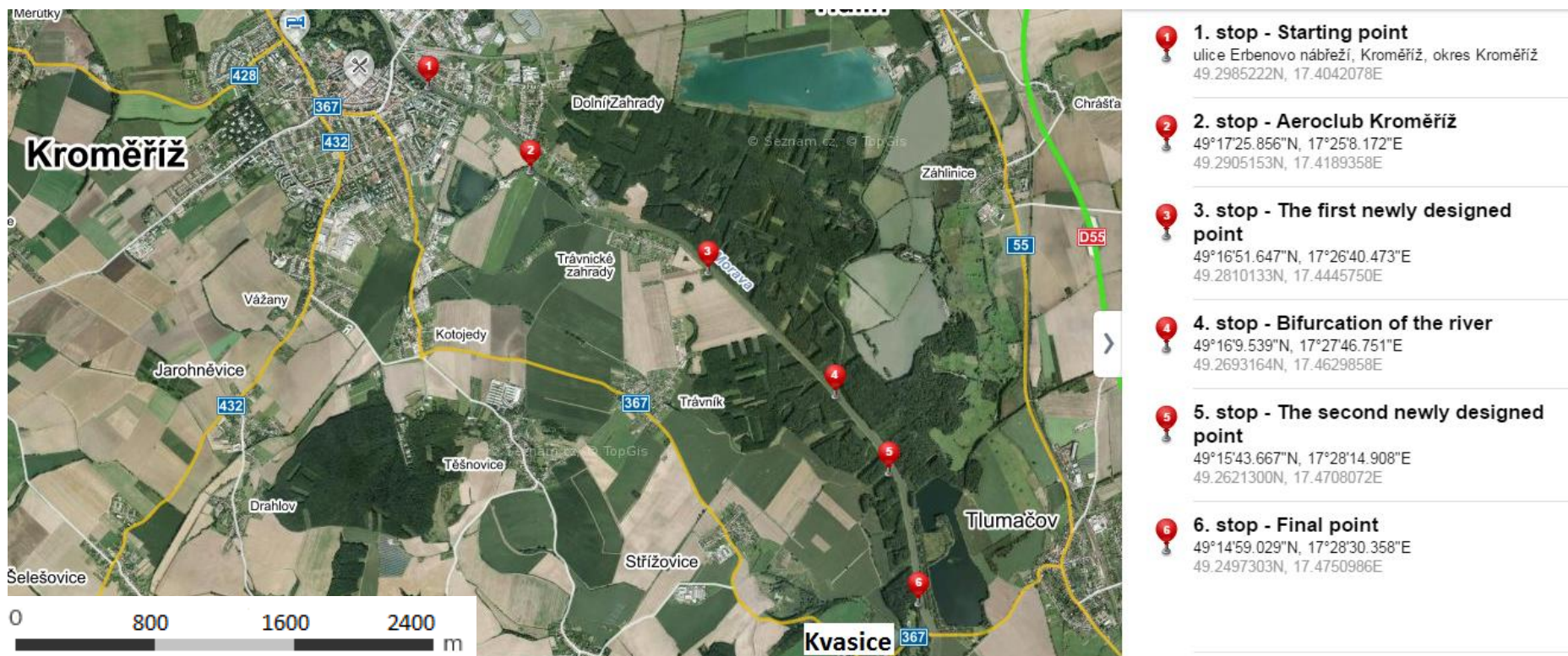
Picture 11: Map of newly designed geocaching trail along the Morava river from Kroměříž to Kvasice (source: https://mapy.cz), modified.

6.3.1 1. stop – Start of the trail

The beginning of the trail will be on the street called Erbenovo nábřeží. It is located near the Central Bus Station and it is next to the second bridge from the city centre.

The first board informs us about the Kroměříž town (see picture no. 2 in annexes). As an improvement at this stop, the author proposes at least two benches for the rest.

The distance to the next point no. 2 is 1,5 km. It takes 6 minutes by bike and 22 minutes by foot.

Picture 12:   Start of the trail on Erbenovo nábřeží (photo by: Zakravačová).

Task no. 1:

Find on the map a river that flows as a right-hand tributary to the river Morava near Trávnické zahrady near Kroměříž and write its name.

Answer: Kotojedka.

Clue: Search for a small tag of rectangular shape, size 5x3 cm. The clue is a number on the tag.   →

<div style="border:1px solid">

49°14´

www.geocaching.com

</div>

6.3.2   2. stop – Aeroclub Kroměříž

The second stop is in proximity to the Aeroclub Kroměříž. There is also a rest place with two benches to relax and small table. This informational board tells us where the Morava river originates and which cities it flows through.

The distance to the next point no. 3 is 2,3 km. It takes 9 minutes by bike and 35 minutes by foot.

Picture 13:   Second stop near the Aeroclub Kroměříž (photo by: Zakravačová).

Tasks no. 2:

Read carefully the text on the board and find on the map where the river originates. Write down the answer.

Answer: Kralický Sněžník.

Clue: Search for a small tag of rectangular shape, size

5x3 cm. The clue is a number on the tag.   →

59.02
www.geocaching.com

### 6.3.3 3. stop – The first newly designed point

This stop will be situated between the second and fourth stop to increase the recreational potential of the trail and missing rest places.

There will be a table with two benches as it can be seen on the picture no. 14 below. There will be also a wrapped text with the photos on the table that will educate visitors about the Morava river.

The distance to the next point no. 4 is 1,9 km. It takes 7 minutes by bike and 28 minutes by foot.
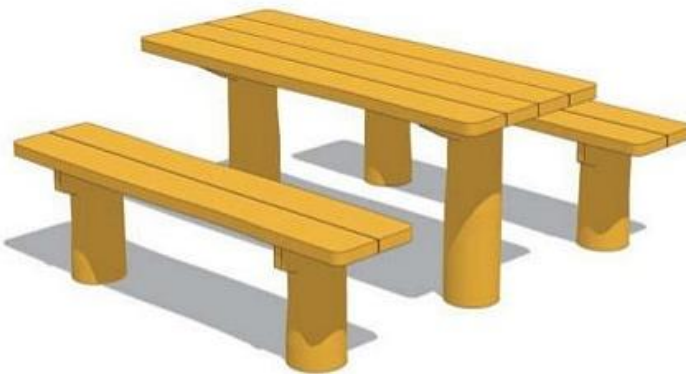
Picture 14:   Newly designed table with two benches (source:www.google.cz).
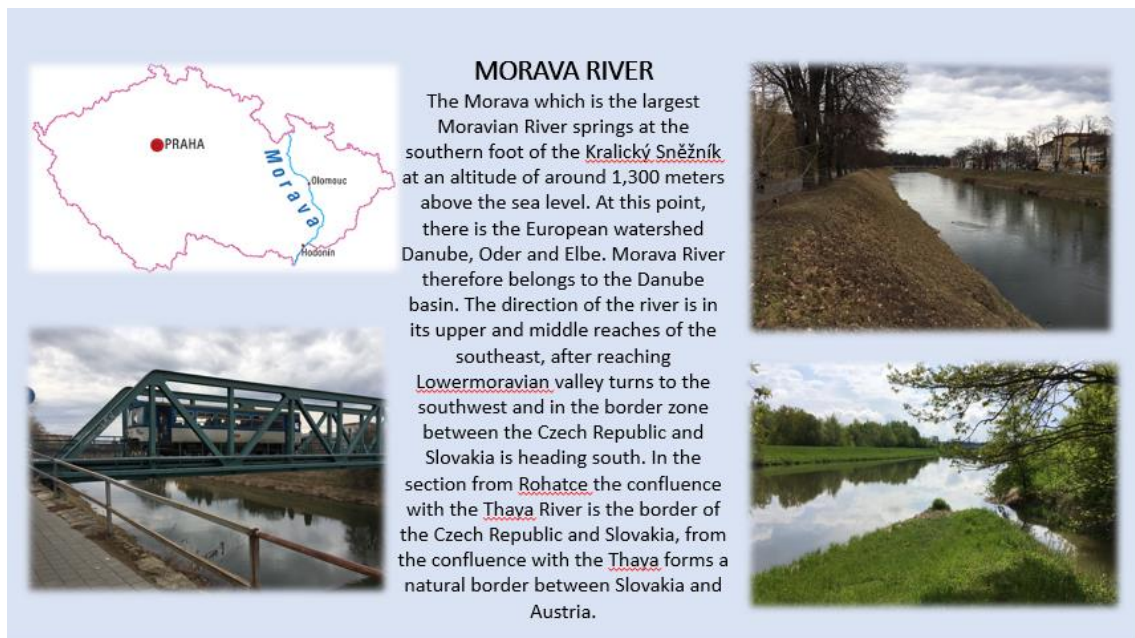
Picture 15:   Draft text that will be placed on the table (made by: Zakravačová).

Task no. 3:

Read the text and answer the question.

What is the name of the river which creates natural border between Slovakia and Austria?

Answer: Thaya river.

Clue: Search for a small tag of rectangular shape, size 5x3 cm. The clue is a number on the tag.   →

> **9"N, 17°**
> www.geocaching.com

6.3.4   4. stop – Bifurcation of the river

The fourth stop to get the final coordinates is again the informational board which is located on the trail where the river is bifurcated into two arms. The equipment of this stop is sufficient There is a waste bin, two benches and bicycle stand (see picture no. 3 in annexes).

The distance to the next point no. 5 is 0,992 km. It takes 4 minutes by bike and 15 minutes by foot.

Picture 16:   Third stop with bifurcated river into two arms (photo by: Zakravačová).

44

Tasks no. 4:

Find on the map how is called the river which is bifurcated to the right arm of the flow.

It is the one just behind you.

Answer: Rusava.

Clue: Search for a small tag of rectangular shape, size 5x3 cm. The clue is a number on the tag.   →

<div style="border:1px solid #000; display:inline-block; padding:8px; text-align:center">

28´30.
www.geocaching.com

</div>

6.3.5   5. stop – The second newly designed point

This stop will be the last but one. It was designed to increase the informational potential of the newly designed geocaching trail in the selected area along the Morava river.

There will be designed an informational board which will informs us about the Baťa Channel and the state-owned enterprise Povodí Moravy.

The distance to the final point no. 6 is 1,4 km. It takes 6 minutes by bike and 21 minutes by foot.

Picture 17:   Newly designed informational board (source: www.google.cz), modified.

BAŤA CHANNEL
Between the cities Kroměříž and Otrokovice flows the river through a controlled channel in the southeast. The regulation itself is part of the water project called the Baťa Channel. The river flows through the municipality Tlumačov, Kvasice a Bělov. There is a small protected area called Tlumačovská Small Pond near the river flow, nature reserve Zástudánčí and natural monument Bank of the Morava River and also many bridges.

POVODÍ MORAVY
Povodí Moravy provides management, operation and maintenance of watercourses and water facilities in the Morava River basin.
The river basin management is divided between three entreprises with headquarters in Náměšť nad Oslavou, Olomouc and Uherské Hradiště. The total company operating on the territory is divided to 7 regions and 67 municipalities with extended powers.

Picture 18:   Draft text which will be placed on the informational board (made by: Zakravačová)

Tasks no. 5:

Read the text and write down in what cities are the headquarters of Povodí Moravy.

Answer: Náměšť nad Oslavou, Olomouc, Uherské Hradiště.

Clue: Search for a small tag of rectangular shape, size 5x3 cm. The clue is a number on the tag.   →

358"E
www.geocaching.com

6.3.6   6. stop – Final point

This is the final stop. The cache will be hidden here. There will be written answers of all the task you went through inside the cache.

Task no. 6:

Sort the clues by order of the stops and get the final coordinates.

Final coordinates:

49°14´59.029"N, 17°28´30.358"E

Picture 19:   The place that is intended to hide the cache (photo by: Zakravačová).

7 Proposal for practical application of results

The suggestions outlined in this chapter are based on the previous field research, results from the questionnaire and photo-documentation of selected area.

This bachelor thesis may be beneficial for the public in terms of the related words of geocaching and watercourses. The work offers an overview of literature references dealing with the topic which can be used as an inspiration for the public in case of begin to be interested in geocaching or watercourses issues. The location which offers opportunities for the leisure time can improve the quality of life of the residents and can contribute as well for next development and investment of the city.

It was researched by the author that the newly designed geocaching trail will be beneficial as well for the state enterprise called Povodí Moravy which has in its scope also proposals for creating caches along the Morava river to attract more people to the watercourses.

It can be concluded that the newly designed geocaching trail in the selected territory will be beneficial as well for the town in order to promote Kroměříž and surrounding towns in the future. Furthermore, it will increase the awareness of the inhabitants and tourists of the Morava river. It is highly advisable to encourage the recreation of people near the watercourses in the cities.

Last but not least, the bachelor thesis can be beneficial for the students who deal with the issue of watercourses and geocaching in accordance with recreation along the rivers.

8   Discussion

Geocaching is a game that requires modern technological devices with GPS navigation that nowadays most of the people have. High demands and often continuous work commitment make us constantly available. Geocaching provides to spend our leisure time in nature and combines it with the fulfilment of the necessary work responsibilities through our mobile phones. As the pace of work is steadily increasing, geocaching may be a form of short-term leakage form work while remains online.

The Bachelor Thesis deals with the topic of geocaching game and watercourses in the cities and its interconnection. The main aim of the work is to increase the recreational potential and the awareness of the inhabitants in the term of the Morava river in Kroměříž and to avert the visit only of the center and the monuments in the town.

Nowadays, two new environmental concepts are being promoted by the EU interested in urban landscapes. They are called "Green infrastructure" (land) and "Blue infrastructure" (water). These ecosystem-based approaches bring number of benefits to the urban environment and its inhabitants, such as reducing flood risk, improving water and air quality, increasing biodiversity, reducing dust and noise in cities, and others. The individual components are interconnected temporally, spatially and functionally (Lampartová, 2016).

The problem with this game is that many geocaching players are unaware of the impact of their behaviour on the surrounding nature, such as soil and plant damage and thus caused erosion, walking not in the paths designed to this purpose, disturbing animals and mainly water pollution.

There are many works dealing with the term geocaching and its issues. One of them is Geocaching in Protected Landscape Area in Beskydy (Tabáčková, 2016). The work evaluates the properties of the caches and the environment in which they were based. It is focused in detail on the caches that were established within the Protected Landscape Area and it defines possible negative impacts on the nature and its landscape. On the other hand, the presented work is focused on the increasing awareness of people in the term of watercourses using the geocaching game. However, both of the works deal with the term geocaching, description of caches and their impact on the environment.

Next work dealing with the similar topic is Evaluation of regulation of the Isar river in Munich in relation to recreational use of the area (Kalasová, 2016). The work is focused on the relationship between revitalization of watercourses and its recreational potential on the rivers in urban areas. On the other hand, the presented work deals with the issues of the Morava river used as place for recreation. There are also described the other rivers along the cities in the Czech Republic. Both works describe hydrological and other conditions of the selected river.

The author is convinced that with the growing awareness of this game, the geocaching rules will be respected as well and the behaviour of the geocaching players will be getting better.

9 Conclusion

The work is divided into two main parts. The theoretical part and the practical part.

The first part, literature review, is focused on the definitions of the term geocaching, its history and geocaching development in the Czech Republic as well as abroad. There is also mentioned geocaching in the neighboring states. There are listed rules for the Czech Republic because they differ from country to country. Part of the chapter is the description of the types of caches and their size which is a very important fact when searching for them. The chapter also includes the geocaching impact on the environment which is divided into positive and negative impacts.

Part of the work is devoted to the selected area, thus the Kroměříž town and the Morava river where is in more details described hydrology, climatology and pedology of the river.

The practical part is divided into two parts. The first part of the chapter is the evaluation of the questionnaire. It includes analysis and subsequent evaluation of the sociological survey where the assumptions that were expected were confirmed. The inhabitants of the city were addressed and the questionnaire was also distributed to the information center of the Kroměříž town. The second part is devoted to the aim of the work – design of new geocaching trail. The entire geocaching trail was described in detail, complemented by photos with the tasks that need to be completed to get the final coordinates and the final cache.

In the chapter devoted to the discussion, there is comparison of presented Bachelor Thesis with another works of similar topic.

The whole Bachelor Thesis is supplemented by pictures, tables and graphs for better clarity. There is questionnaire in the appendix attached that was created to obtain the primary data of the research.

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List of Abbreviations

CITO   Cash In Trash Out

GPS   Global Positioning System

UNESCO   United Nations Educational, Scientific and Cultural Organization

List of Pictures

List of Tables

List of Graphs

Graph 1: How often respondents devote themselves to geocaching.

Graph 2: The popularity of caches by respondents.

Graph 3: Motivation of respondents to play geocaching game.

Graph 4: Preferences of respondents in choosing the final cache near the watercourse in selected area.

Graph 5: The respondents' preferences where they would like to search for the caches.

List of Annexes

Annex 1: Questionnaire.

Annex 2: Photos of the selected area.

- ➢ Picture 1: Czech Award for the Public Relations.
- ➢ Picture 2: Text on the first informational board about Kroměříž town.
- ➢ Picture 3: The equipment on the fourth stop.

Annexes

Annex 1: Questionnaire.

Dear Respondent,

please take your time to fill up the following questionnaire which is the basis for the practical part of my Bachelor Thesis.

This work will deal with increasing awareness of watercourses in the towns and its surroundings using the geocaching game, in my case in Kroměříž town.

Completing the questionnaire will take you about 5-7 minutes.

Thank you for your time,

Monika Zakravačová

1. **Please indicate your gender:**
   a) Female
   b) Male

2. **What region do you live in? Please, write down the town (city) you come from.**
   a) South Bohemia region
   b) South Moravia region
   c) Karlovy Vary region
   d) Hradec Králové region
   e) Liberec region
   f) Moravia-Silesia region
   g) Olomouc region
   h) Pardubice region
   i) Pilsen region
   j) Prague
   k) Central Bohemia region
   l) Ústí region

m) Vysočina region

n) Zlín region

3. Which range includes your age?

a) Younger than 18

b) 18-29

c) 30-39

d) 40-49

e) 50-59

f) 60 and over

4. What is your highest level of education?

a) No education or incomplete primary education

b) Primary education

c) Secondary education with a certificate of apprenticeship

d) Secondary education with graduation

e) Higher professional education

f) University education

5. Which of the following categories best describes your employment status?

a) Student

b) Employed

c) Unemployed

d) Maternity leave

e) Entrepreneur

f) Handicapped

g) Pensioner

6. Do you know geocaching game?

a) Yes

b) No

7. **If your answer to question 6 is positive, how often do you go to hunt?**

a) 1x or more per week

b) 1x or more per month

c) Occasionally

d) I have never been hunting

8. **With whom do you go to geocache?**

a) Alone

b) With friends

c) With partner

d) With family members

9. **Which type of geocaches do you prefer to hunt?**

a) Traditional Geocache

b) Mystery Cache

c) Multi-Cache

d) EarthCache

e) Other - …

10. **How do you move when you go to geocache?**

a) Walking

b) By bicycle

c) By bus

d) By train

e) By car or motorcycle

f) Other - …

11. **Where do you often hunt?**

a) In nature

b) In the city

c) In historical and cultural parts

d) Other - …

12. How far do you travel to go geocache?

  a) 0 – 5 km (in the place of residence and close surroundings)

  b) 5 - 20 km

  c) 21 – 60 km

  d) 61 km and more

  e) Abroad (please write the country) - …

13. What is your motivation to play geocaching game?

  a) Explore new places and get outside

  b) Spending time with friends, family…

  c) Desire to find the treasure

  d) Other - …

14. Will you be interested in establishing new caches in the chosen area?

  a) Yes

  b) No

**15. What type of cache would you like to hunt near the watercourses?**

  a) Traditional Geocache

  b) Mystery Cache

  c) Multi-Cache

  d) EarthCache

16. On what place would you like to search for caches near the watercourse? Alternatively, write down the place you would like to visit when searching for caches.

  a) Near the informational boards

  b) In the forest which is adjacent to the watercourse

  c) On the bicycle path which is leading next to the watercourse

  d) Another place - …

Annex 2: Photos of the selected area.
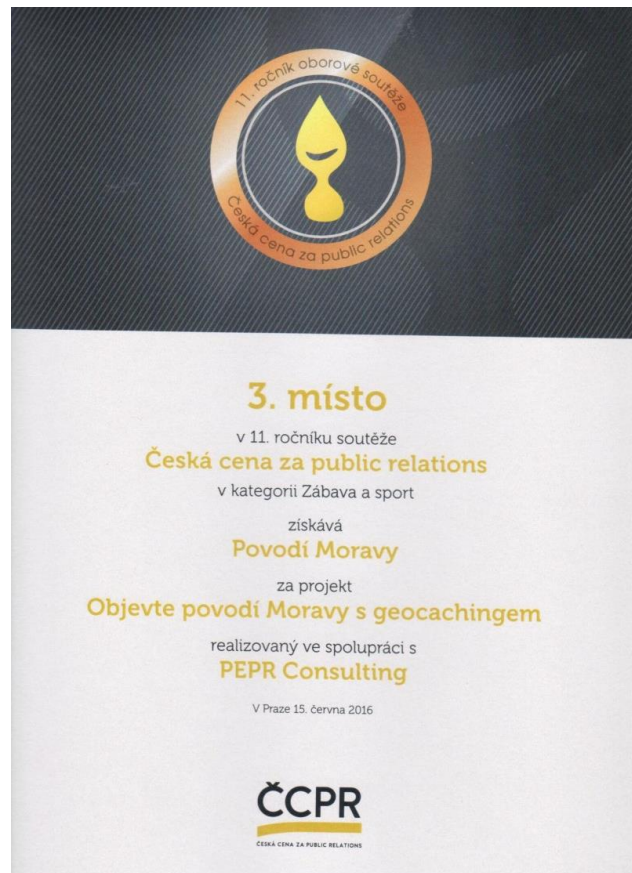
Picture 1:   Czech Award for the Public Relations (source: www.pmo.cz).

Picture 2:   Text on the first informational board about Kroměříž town (photo by:
               Zakravačová).

Picture 3:   The equipment on the fourth stop (photo by: Zakravačová).