Project Overview Template Project Characteristics

# Document version

Table 1: Document version

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Nr. | Date | Version | Altered chapters | Type of altering | Author |
| 1 | 01.04.2023 | 1.0 | all | Creation | Edah Šahinović |
| 2 | 30.6.2023 | 1.1. | Work Packages | Modification | Edah Šahinović |
| 3 |  |  |  |  |  |
| 4 |  |  |  |  |  |
| 5 |  |  |  |  |  |

# Project information

*Please provide important facts for your project, e.g. acronym, title, proposed period, principal investigator and contractor.*

Table 2: Overall project information

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Project |  | | | |
| Acronym | ParcelInsights | | | |
| Title | Automated parcel-based reports for different environmental conditions based on open-source technologies | | | |
| Period | Start: | 14.03.2023 | End: | 30.06.2023 |
| Principal investigator | Edah Šahinović | | | |
| Contractor | Mag. Dr. Manfred Mittlboeck | | | |

# Project Content and Project Goals

|  |
| --- |
| Content & Goals |
| Project description *(~100-150 words)* |
| ParcelInsights is intendent to be a web-based platform able to generate PDF reports on the basis of a detailed combination of environmental parameters in the specific land parcels in the region of Upper Austria. The platform is based on open-source Python libraries (e.g. Flask, OWSLib, GDAL, Geopandas, and ReportLab) used to create a simple and intuitive interface for the end-user requesting reports by adding as input the parcel unit ID or a map. The report includes textual interpretation, maps, graphic depictions of the relevant parameters, and tabular forms which provide a snapshot of the parcel topography, geological information, and natural hazards. |
| Project purpose, benefits and target group description *(~100 words)* |
| The aim of the ParcelInsights project is to streamline generating reports for GIS and non-GIS individuals associated with the report requesters and institutions. The automation of this process is centred around parcel units requested by the end-user. The successful implementation of the tool results in a reduced workload and costs, as well as transparency, which facilitates quicker information transfer based on the environmental conditions. |
| Project objectives (please also include a listing of the sub-goals) *(~100 words)* |
| 1. Development of an open-source web-based tool to generate parcel reports in PDF forms;  2. Development of an intuitive and user-friendly interface;  3. Utilisation of Python libraries to process data and generate PDF reports;  4. Assist the end-user with the process of obtaining data and interpreting the relevant parcel information; |
| Non-Goals |
| 1. Integration of the proprietary software; 2. Including non-environmental parcel information in the PDF report. |

Table 3: Project Content and Project Goals

# Frame of the project

Table 4: Frame of the project – Part 1

|  |
| --- |
| Context |
| Up-to-date status |
| The structure of the project and the relevant tools have already been established. The core geographical information is already defined to include the following conditions: topographical features, natural hazards, geological properties of the parcel. |
| Project setting |
| The project is a part of a larger I3: Integrated Interdisciplinary Interactive Project at the Department of Applied Geoinformatics at the Paris Lodron University of Salzburg. |

Table 5: Frame of the project – Part 2

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Time frame of the project | | | | | |
| Start: | | 14.03.2023 | | **End:** | 30.06.2023 |
| Important Dates | | | | | |
| 1 | 09.05.2023 | | Midterm presentation | | |
| 2 | 20.06.2023 | | Final poster presentation and submission | | |
| 3 | 30.06.2023 | | Submission of the project achievements | | |

# Resources & Budget

Table 6: Resources and Budget – Part 1

|  |
| --- |
| Project Team |
| Project Lead |
| Edah Šahinović |
| Project Team |
| Edah Šahinović |

Table 7: Resources and Budget – Part 2

|  |
| --- |
| Resources |
| Personal costs |
| N/A |
| Project costs |
| N/A |
| Other Costs |
| N/A |

# Project structure, description and risk matrix

*Please provide a description about your work plan (work breakdown structure) your work packages in tabular and graphical form.*

## Work packages overview

Table 8: Work packages overview

|  |  |  |
| --- | --- | --- |
| WP | Name of the Work Package | Time Frame [to – from] |
| 1 | Project Setup | 14.03.2023 – 01.04.2023 |
| 2 | Data | 01.04.2023 – 10.04.2023 |
| 3 | Methods | 11.04.2023 – 20.04.2023 |
| 4 | Implementation | 21.04.2023 – 05.06.2023 |
| 5 | Evaluation | 06.06.2023 – 15.06.2023 |
| 6 | Presentation | 16.05.2023 – 30.06.2023 |
| 7 |  |  |

## Work Breakdown Structure (WBS)

Figure 1 Work breakdown Structure

## Detailed work plan

*Please document the goals, content and expected results for each work package. Provide information on the planned approach and methods you want to apply as well as the expected results (including the planned milestones and deliverables). As a first work package please use ‘project management‘.*

Table 9: Detailled Work Plan – WP1

|  |  |  |  |
| --- | --- | --- | --- |
| WP 1 | Project setup | Duration | 14.03.2023 – 01.04.2023 |
| Project Lead | **Project team** | | |
| Edah Sahinovic | Edah Sahinovic | | |
| Objectives | | | |
| Outlining of the topic, reviewing of the existing literature and setting up the project management | | | |
| Content & Tasks | | | |
| Conduct a comprehensive research on the topic of generating environmental parcel reports using web-based GIS platforms | | | |
| Expected results | | | |
| Having a complete overview of the topic, state-of-the-art solutions and a clear aim of the intended project. | | | |
| Milestones & Deliverables | | | |
| M1 Project conceptualization and management  D1 Project abstract  D2 Project abstract extended | | | |

Table 10: Detailled Work Plan – WP2

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| WP 2 | Data | Duration | | 01.04.2023 – 10.04.2023 |
| Project Lead | | | **Project team** | |
| Edah Šahinović | | | Edah Šahinović | |
| Objectives | | | | |
| Obtaining the data relevant for the project | | | | |
| Content & Tasks | | | | |
| Identifying the sources for the topographical, natural hazards and geological maps for the region of Upper Austria, Austria. | | | | |
| Expected results | | | | |
| Having all the relevant datasets integrated and reachable. | | | | |
| Milestones & Deliverables | | | | |
| M1 Data integration  D1 Datasets published to relevant OGC Web Feature servers | | | | |

Table 11: Detailled Work Plan – WP*3*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| WP 3 | Methods | Duration | | 11.04.2023 – 20.04.2023 |
| Project Lead | | | **Project team** | |
| Edah Šahinović | | | Edah Šahinović | |
| Objectives | | | | |
| Identifying all the Python modules required for the project. | | | | |
| Content & Tasks | | | | |
| Integrating all Python modules within the virtual environment set up for this project. | | | | |
| Expected results | | | | |
| Ready to use Python modules regarding spatial data query, retrieval, analysis and visualization and other modules complementary for this task. | | | | |
| Milestones & Deliverables | | | | |
| M1 Module integration  D1 Set up the virtual environment containing all the necessary modules | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| WP 4 | Implementation | Duration | | 21.04.2023 – 05.06.2023 |
| Project Lead | | | **Project team** | |
| Edah Šahinović | | | Edah Šahinović | |
| Objectives | | | | |
| Technical implementation | | | | |
| Content & Tasks | | | | |
| Implementing all the components of the project: OGC web service component, analysis component, mapping component, reporting component, website component and creating the metadata. | | | | |
| Expected results | | | | |
| Ready to use website with its core functions: user interface and deliverable PDF report. | | | | |
| Milestones & Deliverables | | | | |
| M1 Request and retrieve OGC Web Services data  M2 Integrate all the components necessary for delivering a most basic working version of the intended website  D1 For each layer generated deliver a page report containing information as maps, tables and text  D2 A fully functional web site | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| WP 5 | Evaluation | Duration | | 06.06.2023 – 15.06.2023 |
| Project Lead | | | **Project team** | |
| Edah Šahinović | | | Edah Šahinović | |
| Objectives | | | | |
| Verification, validation and communication of the results | | | | |
| Content & Tasks | | | | |
| Validating the outcome elements of the final PDF-based report. | | | | |
| Expected results | | | | |
| Validated outcomes of the tested report. | | | | |
| Milestones & Deliverables | | | | |
| M1 Verification and validation  D1 Factivity of the report | | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| WP 6 | Presentation | Duration | | 16.06.2023 – 30.06.2023 |
| Project Lead | | | **Project team** | |
| Edah Šahinović | | | Edah Šahinović | |
| Objectives | | | | |
| Presenting final results and submission of the project. | | | | |
| Content & Tasks | | | | |
| Compiling a final presentation, leading a discussion about the overall project and submitting a whole project. | | | | |
| Expected results | | | | |
| Fully functional website presented to the class and available for public use in form of repository on GitHub | | | | |
| Milestones & Deliverables | | | | |
| M1 Project finalization  D1 Final presentation  D2 Submitted project | | | | |

## Milestone plan

*Please provide a summary of the planned milestones and provide an according overview graphic.*

Table 12: Milestone plan

|  |  |  |
| --- | --- | --- |
| MS | Name | Date Completion |
| M1 | Project conceptualization and management | 20.03.2023 |
| M2 | Data integration | 10.04.2023 |
| M3 | Module integration | 20.04.2023 |
| M4 | Website implementation | 05.06.2023 |
| M5 | Verification and validation | 15.06.2023 |
| M6 | Project finalization | 30.06.2023 |

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Figure 2 Milestones

## Gantt Chart

Table 13: Milestone plan

*Calendar

Description automatically generated with low confidence*

## Risk Matrix

Table 14: Risk matrix

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No | Risk | Potential adverse impact | Risk level\* | Risk management strategy |
| 1 | No suitable open-source functions to overcome specific tasks | Damage on project components or overall project work | High | Search for alternatives, functional combinations or own solution |
| 2 | Incompatibilities between outputs | Extra processing time | Low | Converting outputs to another suitable format |
| 3 | Derived output dataset coarse resolution compared to the size of a parcel | No meaningful or single insight about environmental condition(s) of a parcel | Low | Solutionless |
| 4 | Non-existent or unreachable datasets | Impossibility to use intended datasets into analysis and document reports | Medium | Search for alternative dataset and submit on own GeoServer for use |
|  |  |  |  |  |

# Additional comments

*Add additional comments if necessary.*

Table 15: Additional comments

|  |
| --- |
| Comments |
|  |

# Approval

*Please provide further information if necessary.*

Table 16: Approval

|  |  |  |  |
| --- | --- | --- | --- |
| Freigabe | | | |
| Date: | dd.mm.yyyy | **Date**: | dd.mm.yyyy |
|  | |  | |
| Signature principal investigator | | Signature project lead/contractor | |

# Attachments

*Attachment 1: Gantt chart (biweekly updated).*