Bachelor / Master Project Guide

This document provides the detailed steps if you plan to do your *Bachelor* or *Master* project at the Chair for Data Analysis and Visualization. On *our BA/MA projects website*, you can typically find all topics that we currently offer. Mostly, the first seminar session of each semester is a great opportunity to get in contact with the resp. project supervisors. Contact the responsible supervisor if you have identified a topic you are **interested** in. Alternatively, you can proactively **propose an individual topic** you would like to work on by contacting a supervisor who works on topics close to your topic. To find a suitable topic for a project, you must meet all deadlines mentioned below. We expect you to work independently on your project. The registration and submission deadlines of *BA Projects* and *MA Projects* are stated on the *Department of Computer and Information Science* website.

Note that the listed guidelines *only serve as an orientation and may not be binding*. Organizational requirements *depend on the specific project and supervisor*. Your supervisor *may provide examples of the documents you have to submit* regarding your project (previous project proposals, milestone plan, final report, etc.) for your reference. Ask your supervisor to *create a DBVIS GitLab account for your project* or if you have further questions.

1. **Find advisor, frame topic & set clear goals**

   - **Get familiar** with the topic of your project. Then, you need to **frame and work out the project details** independently. Please **discuss the research direction** with your advisor.
   - Set **clear goals** (in agreement with your supervisor) that you want to achieve **until the end of the project** that show your **contribution** (novelty, visualizations, analysis goals, etc.).

2. **Write Project Proposal** and set up **Detailed Milestone Plan**

   - The project proposal should contain a specific **Research Question** (RQ), clear **project goals**, and **first ideas** (and sketches) on how you aim to address the stated RQ.
   - The proposal usually consists of 2-4 pages → **use overleaf** and send the project link to your advisor so he/she can track your **progress**.
   - Make **regular backups** using GitLab/GitHub, if necessary (or OverLeaf History).
     You are responsible if you lose your data due to missing backups etc.!
   - Set up a **detailed milestone plan** (incl. project phases' start/end dates) **before** project registration.
   - If you want, you can use *the provided LaTeX/Overleaf Template* to create the Milestone plan!
   - Your advisor must confirm your proposal/plan before you can start working on your project.
   - **Submit final project proposal** and the **milestone plan** to GitLab (or e-mail, depending on the advisor).

3. **Project Registration**

   - Define a specific (tentative) **project title** (get it confirmed by your supervisor)
   - Typically, your **project reviewer** is **Prof. Dr. D. A. Keim** or **Dr. J. Fuchs**.
   - Please use the respective BA or MA **project registration template** to register your project.

4. **GitLab Repository (gitlab.dbvis.de)**

   - If your project includes **programming tasks** (usually, it does), your advisor will **provide a GitLab repository** for your project to track your coding progress and may provide comments and hints if issues arise.
   - **If applicable** (varies between different BA/MA projects), your project may start by using a given **framework** that already includes necessary **plugins**, **packages**, **datasets**, **data loading functionality**, etc.
   - Please use **GitLab issues** to track your progress. Especially for sharing your progress through visual means such as **screenshots** or **GIFs** and adding them to issues as documentation facilitates to discuss implementations, e.g., visualizations.

5. **Regular Project Supervisor Meetings**

   - During **regular (e.g., bi-weekly) meetings** you will **discuss issues**, **status progress**, and **next steps**.
   - Before **every** meeting, make sure to create a **detailed agenda** by using, e.g., a GitLab issue or a Power-Point presentation. This will also help you later to **write the final report** about all **you have achieved** during your project. Supervisors **can cancel/abort** meetings if you are **not properly prepared**. Your supervisor will let you know how meeting details are handled.
   - You are **responsible** for the **content of the discussion** in the meetings, and you need to **be prepared to ask questions** if you need help *(if not already clear through GitLab issues)*.
   - In general, you first need to **try to solve your problems on your own** (spend some time. Usually you can find anything online!), **BEFORE** asking your supervisor.

6. **Student Project Presentation**

   - You must **present your work** to the group and other students after 50-80% of the project period.
   - The advisor will organize this presentation once your project status is ready to present → feedback on the project presentation should be included before the students write the final report.
   - If you want (you do!) to receive **audience feedback** about your presentation, please use the *DBVIS Feedback System* to **create a custom questionnaire template** to **receive specific feedback** about your project. Please **share** your feedback questionnaire URL **at the beginning** of your presentation.
   - Typically **20-25 min presentation + 5-10 min discussion** (max. **30 min** total).

7. **Write Final Report**

   - The final report include the **progress** during the project and **all results** (e.g., use *ACM Template*).
   - The **background section** of the final project report is a great **starting point for the Related Work section of the final thesis** → ensure that your chosen RW is suitable for your topic!
   - A **code documentation/manual** about your code is very helpful and appreciated (you can use docs generator instead of writing it manually).
   - At the project end you MUST **submit your code and used dataset(s)** (e.g., preferably via **GitLab**, a **single zip file**, or **cloud.uni.kn**), and the final report **as PDF via E-Mail** to your supervisor.
   - Typically, the final report strongly focuses on the **technical details of your developed prototype**. You should also **present specific Uses Cases** (examples), to demonstrate the **contribution** of your prototype. *But this highly depends on the project topic and what you did. It may not be applicable to unusual topics.*
   - Identify **potential future work** and give an **outlook** on your thesis topic.

8. **Relevant Project Deadlines**

   Project Start: **Submit Project Registration Form** (signed by examiner and student): requires **project title, milestone plan, and project proposal**

   2-4 weeks before project end: **Project Presentation** (20min + 10min). Audience: Examiner, Supervisor, and other students.

   Project End: Submit **Final Project Report** (incl. **Documentation** & **Implemented Code** via *GitLab* or .zip file)

9. **Write BA/MA Thesis**

   We recommend discussing topics and perspectives **early** with your supervisor to continue your thesis in our group. They will also provide **guidance and suggestions** for a suitable second reviewer you require for defending your thesis.