


Instructions and Information on the Project


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1 Registration and team building

Follow the GitHub Classroom invitation from the CampUAS course to the lecture. If you are not yet registered in GitHub, you must do so now in the first step.





Sign in to GitHub
to continue to GitHub Classroom

Username or email address

Password [Forgot password?](#)

[Sign in](#)

Figure 1 GitHub sign-in

In the next step, select your name from the list and join the specified classroom.

Join the classroom:

ExampleClassroom

To join the GitHub Classroom for this course, please select yourself from the list below to associate your GitHub account with your school's identifier (i.e., your name, ID, or email).

[Can't find your name? Skip to the next step →](#)

Identifiers	
Albert Einstein	>
Bruce Lee	>
Bud Spencer	>
Isaac Newton	>
Jeanne d'Arc	>
Kleopatra	>
Marie Curie	>
Queen Elizabeth	>

Figure 2 Choose your own name

Before you can accept the invitation to the project, you must create a team or join a team (only a limited number of teams and team members are possible).

Remember that once you have joined a team, this cannot be undone afterwards. So be absolutely sure which team you join! Communicate with your fellow students in advance.

The following is an example of a team selection or creation page.

ExampleClassroom


Accept the group assignment — ExampleProject

Before you can accept this assignment, you must create or join a team. Be sure to select the correct team as you won't be able to change this later.

Join an existing team

ExampleTeam1 1

student



PeterPan23C

OR Create a new team

Figure 3 Team creation/assignment

You will then be asked to accept the assignment to the selected project group. Confirm this with „Accept this assignment“.

ExampleClassroom

Accept the assignment — ExampleProject


Once you accept this assignment, you will be granted access to the `exampleproject-OliverTwist` repository in the [FRA-UAS](#) organization on GitHub.

Figure 4 Project group assignment

Your membership has been accepted; you must now wait a little and refresh the page.



You accepted the assignment, **ExampleProject**. We're configuring your repository now. This may take a few minutes to complete. Refresh this page to see updates.

 Your assignment is due by **Nov 11, 2024, 11:11**

Note: You may receive an email invitation to join [FRA-UAS](#) on your behalf. No further action is necessary.

Figure 5 Acceptance of the membership


You should then be shown a link to your project.



You're ready to go —
ExampleTeam1

You accepted the assignment, **ExampleProject**.

Your team's assignment repository has been created:

 <https://github.com/FRA-UAS/exampleproject-exampleteam1>

We've configured the repository associated with this assignment ([update](#)).

 Your assignment is due by **Nov 11, 2024, 11:11**

Note: You may receive an email invitation to join [FRA-UAS](#) on your behalf. No further action is necessary.

Figure 6 Link to the repository

You should make a note of the link displayed or bookmark it in your browser (note: the link shown here is only an example).

You are now in the GitHub repository of your project, which your entire team has access to. **During the project, work exclusively in the repository intended for this purpose. If you work in a different repository, this cannot be evaluated!**

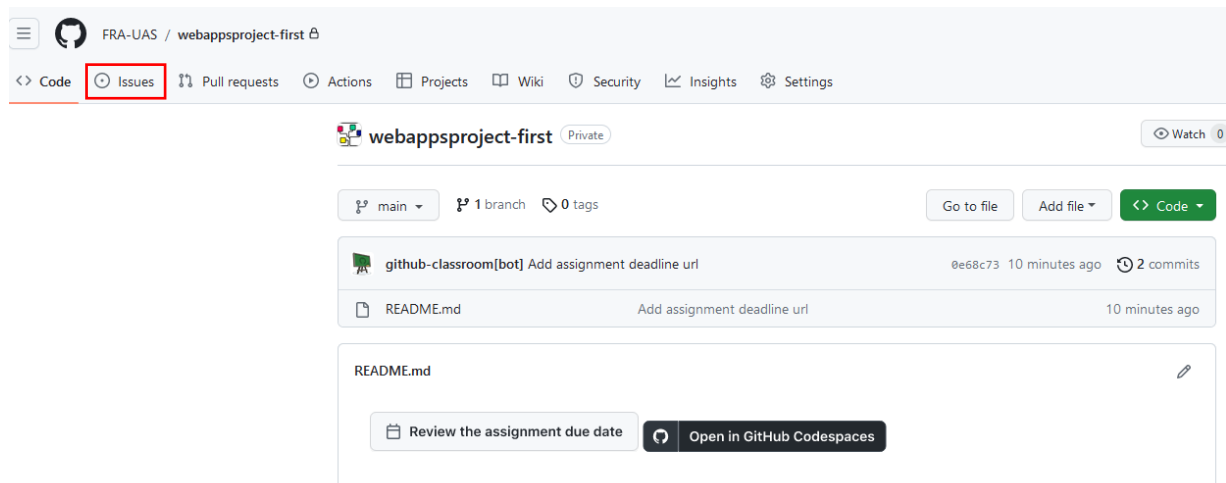
1.1 Project description

The project description is in your GitHub repository under ProjectDescription.md.

1.1.1 Project planning

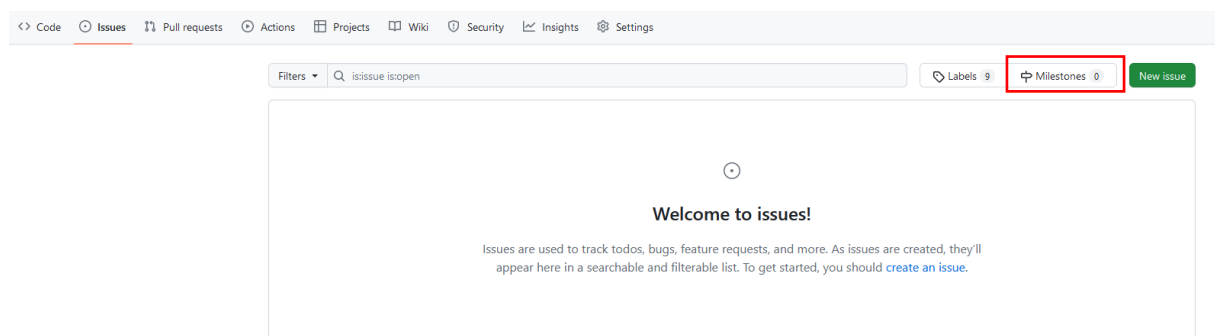
A central point of your project work in the team is project planning. This always takes place at the start of the project and is monitored and updated throughout the entire project duration. Planning is the basis for a successful project and, therefore, also for a corresponding evaluation. The following is a brief explanation of how to carry out project planning.

The following image shows an overview of an exemplary repository.



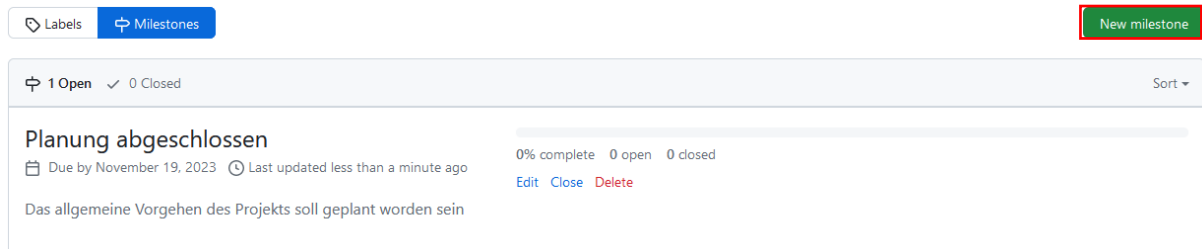
You will find the Issues tab (work packages) in the top menu bar. Here, you should define all topics or problems that must be solved during the project. Create a kind of work plan to track problems and discuss issues. With GitHub Issues, you can express ideas with GitHub Flavored Markdown, assign and mention contributors, respond with emojis, clarify with attachments and videos, and reference code such as commits, pull requests and deploys. With task lists, you can break down large issues into tasks, further organize your work with milestones and labels, and track relationships and dependencies.

Open the Issues view. And then switch to the milestones.



Initially, you should roughly subdivide your project based on the milestones' results. Exemplary milestones could be planning completion, design completion or prototype development. Remember to give the milestones a completion date and a more detailed description. Create the milestones in consultation with your team.

The following image shows how to create a new milestone. Create all the milestones you have worked on in consultation with the team.



Labels Milestones New milestone

1 Open 0 Closed Sort

Planung abgeschlossen

Due by November 19, 2023 Last updated less than a minute ago 0% complete 0 open 0 closed

Edit Close Delete

Das allgemeine Vorgehen des Projekts soll geplant worden sein

Name the milestones as meaningfully as possible. A designation such as Milestone 1 or First Step is not meaningful and, therefore not sufficient.

New milestone

Create a new milestone to help organize your issues and pull requests. Learn more about [milestones and issues](#).

Title

Entwurf festgelegt und abgeschlossen

Due date (optional)

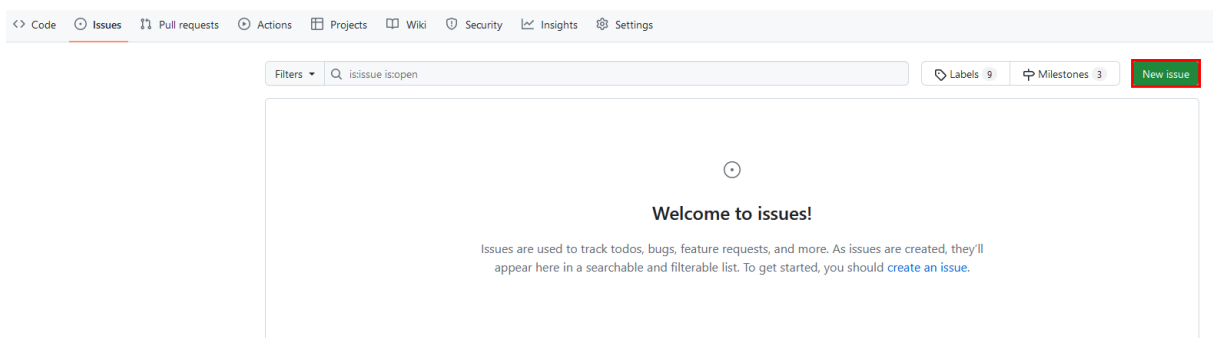
26.11.2023

Description

Design und Architektur der Anwendung müssen festgelegt sein

Create milestone

Once you have created the milestones as a rough plan for your project, you should now create your work packages for fine-grained project planning. Now, create these work packages using issues.



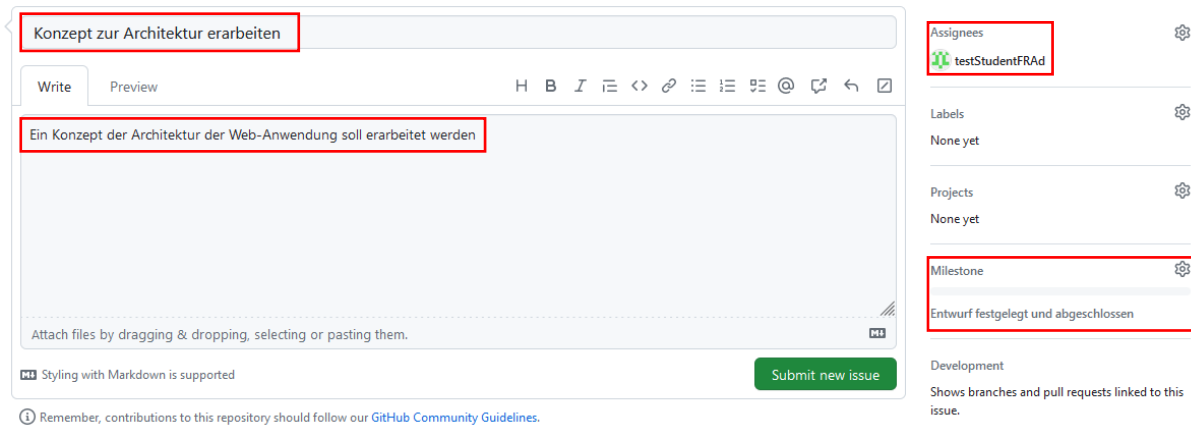
Code Issues Pull requests Actions Projects Wiki Security Insights Settings

Filters | is:issue is:open Labels 9 Milestones 3 New issue

Welcome to issues!

Issues are used to track todos, bugs, feature requests, and more. As issues are created, they'll appear here in a searchable and filterable list. To get started, you should [create an issue](#).

On the right-hand side, you can define the assignees of the work package (see Assignees below). Under Labels, you can use an existing label or create your own. However, you can also adapt and change this during the project. The only important thing here is the assignment to a milestone.



Konzept zur Architektur erarbeiten

Write Preview

Ein Konzept der Architektur der Web-Anwendung soll erarbeitet werden

Attach files by dragging & dropping, selecting or pasting them.

Styling with Markdown is supported

Submit new issue

Remember, contributions to this repository should follow our [GitHub Community Guidelines](#).

Assignees

testStudentFRAd

Labels

None yet

Projects

None yet

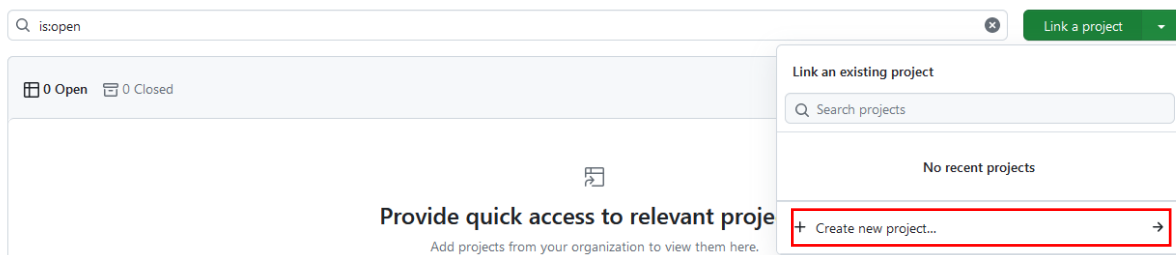
Milestone

Entwurf festgelegt und abgeschlossen

Development

Shows branches and pull requests linked to this issue.

Once you have created several work packages for all your milestones, a project should now be created. Milestones always consist of several work packages.



is:open

0 Open 0 Closed

Provide quick access to relevant projects

Add projects from your organization to view them here.

Link a project

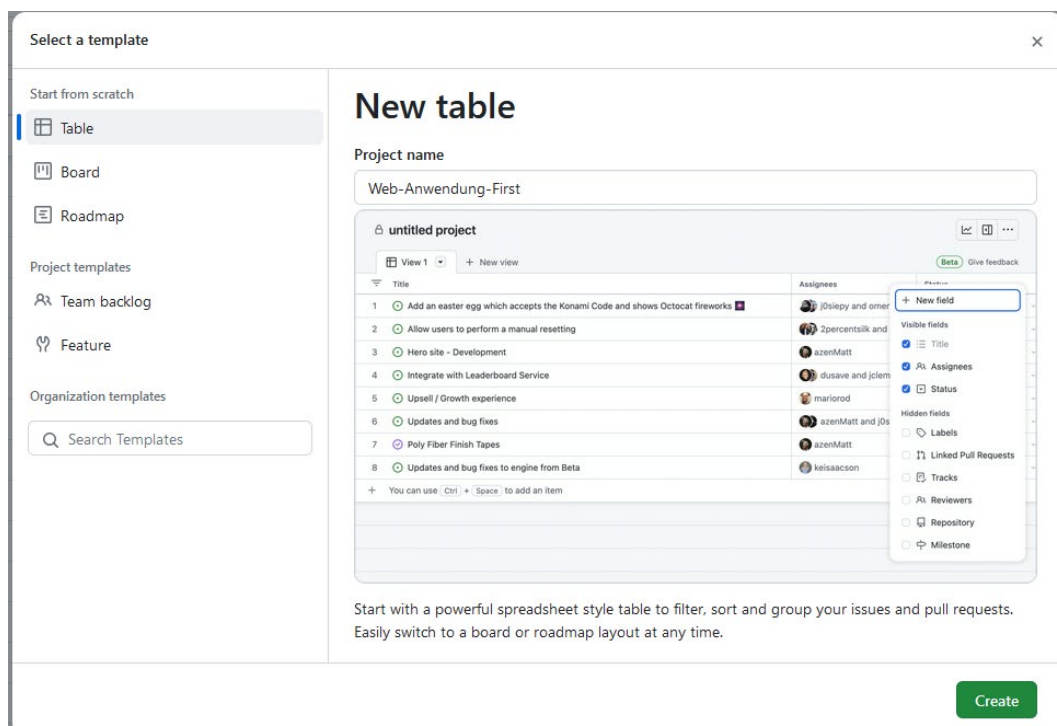
Link an existing project

Search projects

No recent projects

+ Create new project...

Create a new project and give it a meaningful name first, e.g. the name of your project. Leave the selection set to Table.



Select a template

Start from scratch

Table

Board

Roadmap

Project templates

Team backlog

Feature

Organization templates

Search Templates

New table

Project name

Web-Anwendung-First

untitled project

View 1 + New view

Beta Give feedback

Title

Assignees

+ New field

Visible fields

Title

Assignees

Status

Hidden fields

Labels

Linked Pull Requests

Tracks

Reviewers

Repository

Milestone

Start with a powerful spreadsheet style table to filter, sort and group your issues and pull requests. Easily switch to a board or roadmap layout at any time.

Create

Then switch to the project view.

Search: is:open Link a project

1 Open 0 Closed Sort

Web-AnwendungFirst Private ...

#9 updated 2 minutes ago

Here you can now add your previously created work packages by clicking on the + symbol under Title. And call up Add item from repository.

Web-AnwendungFirst

View 1 + New View

Filter by keyword or by field

Title

+ Start typing to create a draft, or type # to select a repository

Create new issue

Add item from repository →

You will now see the individual work packages in the table view. Here you can assign the current status to the work packages, e.g. Todo, In Progress or Done. You can also define additional statuses if required. You can add further fields, such as labels or milestones, using the + symbol in the top line of the table.

Title	...	Assignees	...	Status	...	+
1 Testing der Funktionalitäten #6				Todo		+ New field
2 Programmierung der Anwendung #5				Todo		Visible fields
3 Aufgabenbereiche der Teammitglieder festlegen #4				Todo		<input checked="" type="checkbox"/> Title
4 Klärung der Projektanforderungen #3				Todo		<input checked="" type="checkbox"/> Assignees
5 Erstes Projekttreffen #2				Todo		<input checked="" type="checkbox"/> Status
6 Konzept zur Architektur erarbeiten #1		testStudentFRAd		Todo		Hidden fields
+ You can use Control + Space to add an item						<input type="checkbox"/> Labels
						<input type="checkbox"/> Linked pull requests
						<input type="checkbox"/> Reviewers
						<input type="checkbox"/> Repository
						<input type="checkbox"/> Milestone

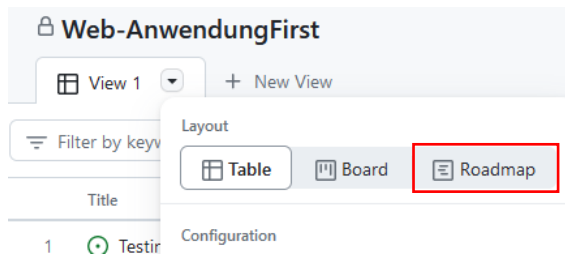
Next, save the table by clicking on Save.

Web-AnwendungFirst View 1 + New View Discard Save

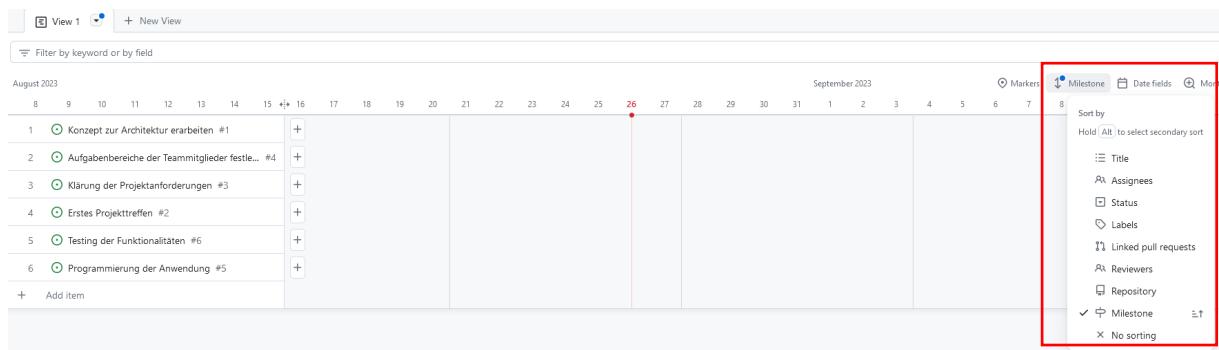
Filter by keyword or by field

Title	...	Assignees	...	Status	...	Labels	...	Reviewers	...	Milestone	...	+
1 Testing der Funktionalitäten #6				Todo						Prototyp erstellt		

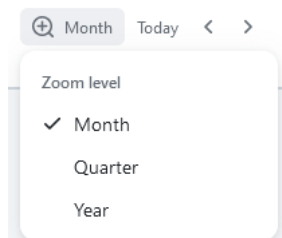
Then use the drop-down menu under View 1 to switch to the roadmap view. (Note: You can change the name of the view at any time!)



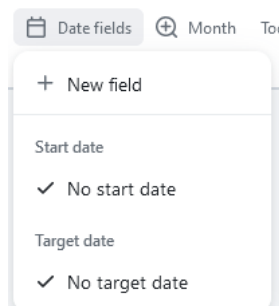
Here you can start by sorting the work packages according to milestones if you wish.



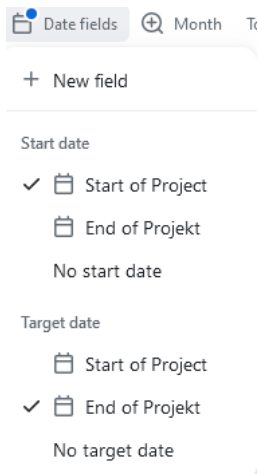
You should now define the timeline for the individual work packages. First, adjust the timeline by clicking on Month and selecting the desired time frame display, e.g. Quarter.



Now create two fields via the Date fields selection.



A field that defines the start of your project and a field that defines the end of your project needs to be defined.



Date fields

+ New field

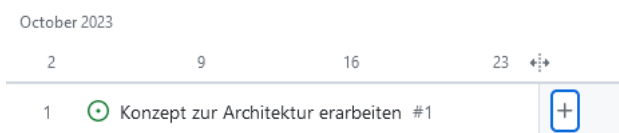
Start date

- ☒ Start of Project
- ☐ End of Projekt
- ☐ No start date

Target date

- ☐ Start of Project
- ☒ End of Project
- ☐ No target date

Now select the respective + symbol in the line behind the first work package.

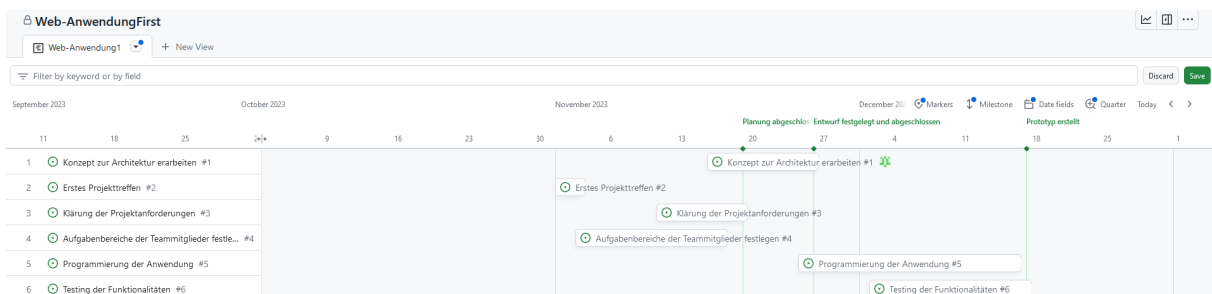


October 2023

2 9 16 23

1 ☒ Konzept zur Architektur erarbeiten #1

You can then arrange this on the timeline and define the duration of the work package by specifying the start and end dates. You can also display the milestones by selecting Markers. After the initial planning of your project, a roadmap overview such as this should have been created.



Always remember to keep the project overviews up to date as your project progresses. This includes, for example, adjusting the status of the work packages or adding new work packages.

2 Dates and project schedule

The project duration is approx. 10 weeks, excluding winter and Christmas vacations.

Project start: 04.12.2023

End of project: 25.02.2024 23:59 p.m.

Submissions must be made by no later than 25.02.2024 23:59 p.m.

In addition to the project planning in GitHub, a working implementation or configuration that meets the project description is required. A presentation of all team members involved in the application must also be created with Panopto or a similar application and submitted in CampUAS by the submission date.

- Setting up a complete 5G environment (**You define the scope in the team**)
 - 5G Core (5GC)
 - User Equipments (UEs) and Radio Access Network (RAN)
 - Data Network with Applications (DN)
- Project planning in GitHub
 - What are the tasks to work on?
 - Which group member works on what?
 - When are these tasks to be performed?
 - What is the progress?
 - Who is responsible for what?
- Documentation and Analysis in GitHub
 - README.md (written and formatted documentation)
 - PCAP-files (captured Wireshark traces)
 - Figures (e.g. MSCs, flow charts, wireshark traces)
- Linux use (no Windows-Subsystem for Linux!!!)
- GitHub Classroom must be used
 - Don't create your own repositories; use the one automatically generated
 - private Repository per Group
- Continuous project plan (milestones and work packages)
- README.md
 - Format of documentation (formatting/consistency)
 - Outline of the document, e.g.:
 - Introduction, Requirements and Planning, Realization and Analysis, Conclusion, References (primary sources)
 - Spelling and grammar
 - Representation (e.g. readability of figures)
- Project structure in GitHub, e.g.
 - Documents
 - Configurations
 - Scripts
 - Figures
 - Traces
 - User guide
 - Presentation slides

Project Presentation incl. Demo

- Submission in CampUAS via Panopto
- Preparation of Slides
- Preparation of Demonstration
- Presentation
 - think about the time
 - equally distributed across all group members
 - clear structure
- Demonstration
 - recognizable for the viewer
- What do you want to tell us?

3 Project Assessment

The project and the final evaluation are based on the following criteria:

1. Project continuity (continuous working method) 15%
 - Only recognizable continuous performance can be evaluated
 - A realistic work plan is essential
 - Realistic structure of the workload
 - Individually assessable
2. Project planning 25%
 - Continuity (see point 1)
 - During the entire duration of the project
3. Project Documentation 20%
 - Continuity (see point 1)
 - Who contributed what (GitHub Commit?)
 - Quality of the documentation
 - Complexity/volume
4. Project Repository 25%
 - Project structure
 - README.md
5. Project Presentation incl. Demo 15%
 - Style
 - Structure
 - Integration in the presentation?
 - Special features?
 - Adherence to time?
 - Equally distributed among group members?
 - Content (Were important aspects explained?)
 - Special features?