

Are you passionate about analytics and eager to work on a real-world software project that impacts global users? This IDP Project focuses on developing a **comprehensive analytics dashboard** to track user behavior and engagement for a software application - BoxOrganizer (more information below). Designed primarily for **one student**, but extendable to **two or three students**, the project offers hands-on experience in dashboard creation, data integration, and insight generation. Gain valuable technical and non-technical skills while contributing to an impactful solution that scales globally.

## Project Description

### Objective:

Develop a **detailed and interactive analytics dashboard** that integrates directly with company platforms to automate data updates and generate actionable insights.

### Key Focus Areas:

- Tracking and visualizing **user engagement metrics**.
- Building **seamless integrations** with internal platforms for real-time updates.
- Designing an intuitive **multi-page dashboard** with in-depth analytics and custom insights.

### Challenges:

- Designing a user-friendly, scalable dashboard structure.
- Retrieving event-based analytics data
- Implementing advanced analytics features and ensuring technical reliability
  - Event clustering
  - Path analysis, Time-on-Task Analysis etc. (ideally presented in a visual format)
  - Time-Series-Analysis (with forecasting)

### Why This Matters:

In software development, **user analytics** is critical to understanding and optimizing customer experience. By addressing this challenge for the BoxOrganizer software, you'll contribute to a **global product strategy** while honing your technical expertise.

## Draft Timeline (3 Months)

### Month 1:

- **Onboarding:** Get familiar with the software, customer behavior, and analytics needs.
- **Concept Development:** Design and align on the dashboard's structure and key metrics.

### Month 2 - 3:

- **Implementation:** Build the dashboard, integrate data pipelines, and refine through iterations.
- **Finalization:** Prepare the report, document design decisions, and present your findings.

## Deliverables

- An **individually deployable multi-page analytics dashboard** with deep dives into key user metrics.
- A **testing framework** to verify deployed algorithms
- A **report** detailing design decisions, challenges, and solutions (IDP Project mandatory element @TUM)
- A **final presentation** to showcase the project's outcomes.

## Required Skills and Qualifications

### Technical Skills:

- Proficiency in **Frontend Development** (e.g., TypeScript, Javascript, Git, AWS).
- Strong experience with **React.js**
- Hands-on experience with data-visualization libraries (D3.js, Recharts, etc.)

### Non-Technical Skills:

- Strong **analytical thinking** and problem-solving abilities.
- Effective **communication skills** to collaborate with stakeholders.
- **Self-management** and the ability to work independently.

### Preferred Experience:

- Previous projects with **Frontend development**
- Familiarity with **user engagement metrics** and analytics frameworks.
- Familiarity with **advanced analytics methods**

## Company/Product Background

BoxOrganizer is a user-friendly app designed to help individuals organize, catalog, and manage their belongings using an inventory system (currently around 2000 active monthly users). It offers features like item categorization, QR code labeling, and data backup, enabling users to locate and track their items easily. Additionally, the app includes advanced functionalities such as multi-device synchronization, cloud backups, and sharing projects with others. For more information, see here: <https://boxorganizer-website.vercel.app/>

## Application Process

### Required Materials:

- A **CV** or a link to your **LinkedIn profile**.
- A short **motivation statement** (max 1/2 page), addressing:
  - Your relevant **skills** for this project and motivation.
  - How the project fits into your personal development plan
- Current **Transcript of Records** (to align courses taken with IDP Project context)
- (OPTIONAL) A **portfolio with screenshots and descriptions** of previous UI designs / work

### Submission Details:

- Applications are now open!
- Send your application to: [nicolas.leyh@tum.de](mailto:nicolas.leyh@tum.de) (PhD candidate @TUM CSO).