**Project Brief: Real-Time Event Dashboard for BAS World**

**Course:** Second-Year Project (Class S3-CB03)  
**Duration:** September 23rd – January 24th  
**Sprints:** 5 sprints (3 weeks each)  
**Project Lead (Product Owner):** Rob Eijgelshoven, BAS World  
**Instructor:** Raja Gorentla, Fontys University of Applied Sciences  
**Available Class Hours:**

* Monday: 13:00 – 16:00 OIL
* Tuesday: 13:00 – 16:00 Classroom 3.43

**Project Overview**

BAS World has recently introduced events on its website that capture key actions performed by visitors. These events include specific details, such as time stamps, actions taken, and other relevant metadata. Although the event generation system is active, the information is not yet being transmitted to a central location.

The challenge for your student teams is to design and build a real-time event dashboard that monitors, processes, and displays these events. This dashboard will provide insight into user interactions on the website, allowing BAS World to track and analyze event data in real-time.

**Objectives**

By the end of the project, each team should:

1. **Create an API or service** that receives events (simulated through a queue or stub) and processes the data accordingly.
2. **Develop a back-end system** that stores and organizes event data.
3. **Design and implement a front-end dashboard** that displays the event data in real-time.
4. Optionally, implement a **Docker container** and deploy the system on AWS using SNS/SQS (stretch goal).

**Project Phases**

* **Phase 1: Event Data Simulation**
  + Since no active event queue exists yet, your team must simulate or stub a system that generates and posts events to a queue.
  + BAS World can provide a **data schema** that outlines the structure of the event data. This schema will serve as a starting point for understanding what data each event contains.
* **Phase 2: API and Data Processing**
  + Develop a service or API to receive events, validate data, and store it appropriately in a database.
* **Phase 3: Front-End Dashboard**
  + Create a web-based dashboard that visually represents the event data in real-time. The design, structure, and data points to be displayed are up to each team to decide based on the client’s needs.
* **Phase 4: Deployment (Stretch Goal)**
  + If your core system is fully functional ahead of schedule, you can attempt to deploy it in a Docker container and run it on AWS using SNS/SQS. This is an optional task meant to push your understanding further.

**Agile Workflow and Meetings**

The project will follow an Agile methodology, likely using Scrum. Rob will act as the Product Owner (PO), and you will be expected to work in short iterations (Sprints) with regular reviews and planning meetings. The key sessions include:

* **Project Kick-Off:** A meeting with the PO to align on the project's goals and initial scope.
* **Sprint Reviews and Planning:** At the end of each sprint, teams will demonstrate their progress to the PO, who will provide feedback. These reviews will **always take place on Tuesday afternoons**.
* **Final Presentation:** In week 18, each team will present their final product and reflect on their process, challenges, and achievements.

**Tools and Technology**

Teams have full autonomy in selecting their tools and technology stack. However, it is crucial that choices are justified and meet the project’s requirements for functionality and scalability.

**Learning Goals**

* Develop a real-world solution by organizing as a development team.
* Collaborate effectively within a team, making use of Agile methodologies.
* Engage with the client (Product Owner) to understand needs and provide regular feedback.
* Demonstrate technical proficiency by building a web application with real-time data processing.
* Optionally, deploy and scale a project using Docker and AWS (stretch goal).

**Evaluation Criteria**

You will be evaluated on the following aspects:

* **Functionality:** How well does your system process, store, and display the event data?
* **User Interface:** Is the front-end intuitive and does it meet the needs of BAS World?
* **Team Collaboration:** How well did your team organize, communicate, and deliver on the project?
* **Professionalism:** Were you able to respond to feedback from the Product Owner and adapt to changes in the project?
* **Stretch Goal (Optional):** Successfully deploying the application using Docker and AWS.

**Contact Information**

* **Product Owner (BAS World):** Rob Eijgelshoven, rob.eijgelshoven@basworld.com
* **Instructor (Fontys):** Raja Gorentla, r.gorentla@fontys.nl