# Reconstruction of UPR course enrollment system using a Web Application.

## Background Context:

**University of Puerto Rico uses an old, non-user friendly and unrealible system for the students to enroll courses.**

## Current State:

**Students speends lots of time "just trying to access" the course enrollment system beacuse it crashes. This, sometimes lead to students not being able to select certain courses and delay the whole process for the University.**

## Objectives:

- **Provide students with a course enrollment web application.**
- **Create a new and reliable cloud infrastruture.**
- **Lower maintance costs.**

## Root Cause Analysis:



Students waste time trying to access the course enrollment system.

Why?

The enrollment system is unable to handle heavy workloads.

Why?

Is using 20 year old technology.

Why?

It can be hard and take some time to migrate to another technology.

Why?

Design and develop a reliable cloud infrastructure that can handle heavy workloads while at the same time provide the user with a friendly web application.

## Countermeasures:

- Design a reliable cloud infrastructure that can take heavy workloads while at the same time have lower costs.

- Design a web application that users can understand at first glance.

- Use technologies such as Lambda(function as a service) to lower the costs and have a reliable system.

- Develop a secure login system using JWT(JSON WEB TOKENS) for better security across the users.

- Use API Gateway throttling system to maintain stability on the systems.

- Use AWS Aurora Serverless Database to have lower costs while at the same time handling heavy workloads

## Impact:

- Reduce the amount of time students spend trying to enroll courses.
- Reduce the risk of delaying classes start date due to a system crash.
- Provide users with a user friendly web app that they can access without downloading third party softwares.

## Follow-Up:

- Keep improving the user experience.

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