Departamento de Informática

A Cloud-based Platform for Seamless Management of Research Projects

Proposta de Projeto

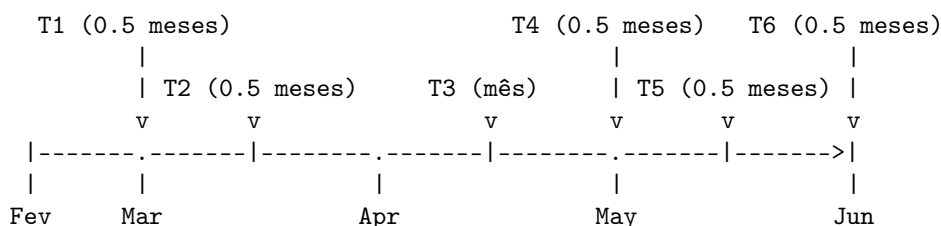**Orientador:** Tiago M. C. Simões (tiago.simoes@it.ubi.pt)

Objectives

Cloud computing was early defined by the National Institute of Standards and Technology (NIST) as follows "Cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction"[1-3].

Typically, a cloud application is defined as an Internet-based application that partially or entirely runs in the cloud. The interaction between the application and the user is accomplished through a Web or mobile interface where the procedure related to the processing of the data is achieved on a cloud computing solution (e.g., IBM Cloud [4], Google Cloud Platform [5], Amazon Web Services [6], or other). This work will focus on the study and development of a cloud-based solution to seamless management research projects. The platform should be able to track, manage, and provide an overview of the progress of ongoing research projects by a research lab or a team.

Workplan

T1 Preliminary investigation and initial requirements specification (0,5 months);

T2 Technological background study (0.5 months);

T3 Requirements analysis (1 month);

T4 Design and implementation (1 month);

T5 Testing and evaluation (0.5 months);

T6 Report writing [7] (0,5 months).

Schedule

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 T1 (0.5 meses)                    T4 (0.5 meses)   T6 (0.5 meses)
       |                                |                |
       | T2 (0.5 meses)    T3 (mês)     | T5 (0.5 meses) |
       v          v            v        v        v       v
|-------.-------|--------.-------|--------.-------|------->|
|       |       |        |       |        |       |       |
Fev    Mar              Apr              May             Jun
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Academic Prerequisites

Intermediate knowledge about algorithms, Web technologies, and cloud computing related solutions.

Evaluation Elements to Deliver

In addition to the report, the student must deliver the code and documentation developed under the scope of this project.

Expected Outcomes

* An overview about cloud computing solutions;

* A cloud-based application to manage research projects;

* A Project report [7].

Bibliography

1 Jadeja, Y., Modi, K.: Cloud computing - concepts, architecture and challenges. 2012 International Conference on Computing, Electronics and Electrical Technologies (ICCEET), 2012.

2 Regenscheid, A., & Scarfone, K. (2011). Recommendations of the national institute of standards and technology. NIST special publication, 800, 155.

3 Tiago M. C. Simões et. al. Interchanging Cloud Providers Instances Through Ubiquitous Devices. SpringerLink. pp. 49–56, 2014.

4 IBM Cloud, DevOps, `https://www.ibm.com/cloud/free/`. Last access: February 12, 2020.

5 Google Cloud Platform, App Engine, `http://cloud.google.com/`. Last access: February 12, 2020.

6 Amazon Web Services (AWS), `https://aws.amazon.com/`. Last access: February 12, 2020.

7 C. Collberg and S. Kobourov. Self-plagiarism in Computer Science. Communications of the ACM. 48(4): 88 - 94, 2005.