

# Unified Platform of Active Methodology

Project presentation



P U M A

# INTRODUCTION

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- The Production Engineering course at the University of Brasilia (UnB) has adopted the PBL methodology.
- The course presents in its curriculum seven project subjects that have applied PBL, called Production System Project (PSP). In this context, PUMA was created. PUMA is a platform.
- The first stage of development started in 2018 and was funded by the University's Distance Learning Center (UnB).

## UNIFIED PLATFORM OF ACTIVE METHODOLOGY

**P** – Platform

**U** – Unified

**M** – Methodology

**A** – Active



# PUMA OBJECTIVES

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## Specific objectives

### General objective

To develop a system that allows the automation of the active methodology process (PBL) adopted in the Production Engineering course.



- Disseminate the results of the best projects
- Maintain a base of stakeholders and increase capture
- Evaluate the satisfaction of stakeholders with the projects delivered
- Automate the students' evaluation process
- Evaluate the evolution of the students' performance regarding the techniques and cross-cutting competences in the disciplines of PSPs
- Measure the efficiency of the teaching methodology (PBL)





# DISCLOSURE - MODULE 1

It aims to capture stakeholders and work with projects in problem solving through the PBL methodology

- ✓ Dissemination of PBL initiatives, of the bests projects and news
- ✓ Public notice disclosure for submission of project proposals
- ✓ Management of the dissemination page

## PROJETO DE SISTEMAS DE PRODUÇÃO (PSP)



As disciplinas de PSP que adotam a metodologia PBL, tem como objetivo fazer o aluno "aprender na prática", aplicando os conhecimentos teóricos da Engenharia de Produção na resolução de problemas reais. Os PSPs resolvem problemas vinculados às áreas técnicas de Probabilidade Estatística, Sistema de Informação, Planejamento e Controle da Produção, Gestão da Qualidade, Engenharia do Produto e Gestão Estratégica. Os estudantes trabalham em equipes e participam de todas as etapas dos projetos, desde o planejamento até o encerramento. Além de promover a geração de novas soluções, os

Developed:  
In Testing and improvement



## SUBMISSÃO DE PROPOSTA DE PROJETO

Qual o tema de sua proposta?

Qual problema deseja resolver com este projeto ?

Qual objetivo você quer alcançar com este projeto? \*

Área de Aplicação \*

Análise de Banco de Dados

Link do PDF \*

Tipo de Submissão \*

Pessoa Física ☒

Pessoa Jurídica ☐

Enviar Projeto

\* Campo Obrigatório

# PROJECT MANAGEMENT- MODULE 2

**01.** It aims to identify the problematics of the stakeholders and select those which will be solved by PSP students

- ✓ Submission and evaluation of proposals
- ✓ Selection of proposals (Acceptance or Rejection)
- ✓ Send feedback to the stakeholder with the result of the evaluation

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In Testing and improvement



# PROJECT MANAGEMENT-

## MODULE 2

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**O2.** The second objective is to structure the discipline for the students to take action in the selected projects

- ✓ Assembly of discipline
- ✓ Dissemination of themes and problems
- ✓ Team selection according to the projects/themes
- ✓ Direct the problem to be solved at the specific discipline

To be developed





# Manter PEER

Ativação













Competência

☐

Comunicação

Ver itens

Ativação	Sub-itens	Ação	Pesos
<input type="checkbox"/>	Tempestividade das informações	 	1 
<input type="checkbox"/>	Meios de comunicação utilizados	 	1 
<input type="checkbox"/>	Comunicação interpessoal	 	1 
<input type="checkbox"/>	Linguagem abordada	 	1 

Novo sub-item

## EVALUATION - MODULE 3

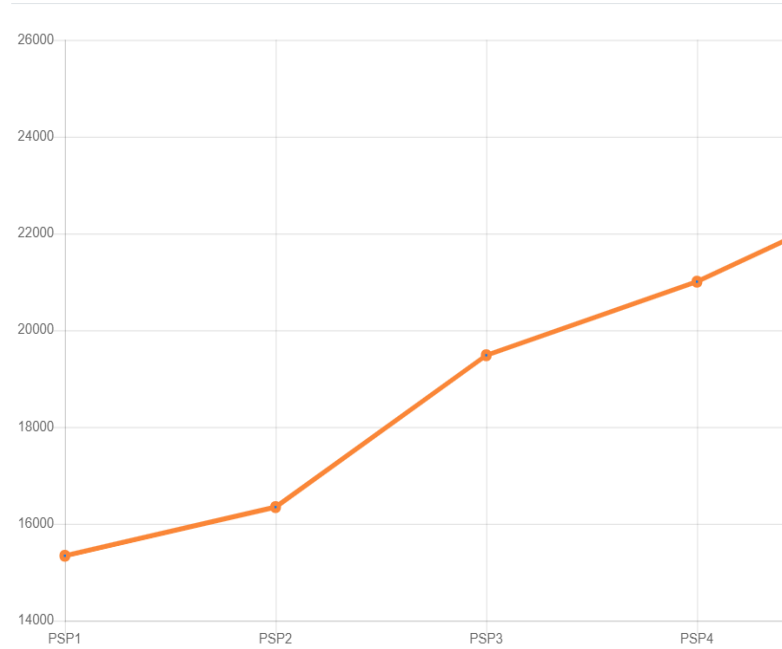
**01.** The goal is to measure the performance of the students' cross-cutting competences, through a peer evaluation and to generate the individual final score of each student

- ✓ PEER Configuration
- ✓ PEER Filling
- ✓ PEER Calculation
- ✓ Automatic calculation of the final grade considering the PEER evaluation

To be developed:  
Partnership with Tunisia



## Meu Desempenho - Liderança



## Meus Projetos

PSP	Título	Problema	
PSP1	Dok Brasília Hotel	A partir de avaliações de clientes realizadas no...	N
PSP5	Melhoria Contínua - Sabin	O projeto tem o intuito de promover melhoria...	N
PSP6	Sinalizador de Asma	As crises costumam ocorrer a noite nas crianças...	P
PSP7	Fábrica de refrigeradores	A proposta aqui é criar uma plano de negócios para...	E:

## EVALUATION - MODULE 3

**02.** This objective is to measure the performance of students and professors, the PBL methodology, in addition to manage stakeholders and the access to the platform

PBL methodology assessment:

- ✓ Evaluation of students' performance by cross-sectional competences throughout the disciplines
- ✓ Evaluation of students' performance in each PSP discipline, separately
- ✓ Professors' performance assessment
- ✓ Stakeholders feedback
- ✓ User management

To be developed



# PAPERS

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- Evaluating direct and indirect results of the active methodology in learning: proposal of an integrative design in 360° via unified platform. In: 10th International Symposium on Project Approaches in Engineering Education (PAEE'18).
- Unified Platform of Active Methodology (PUMA): Development Steps of the Module Divulcation and Request Projects In: 11th International Symposium on Project Approaches in Engineering Education (PAEE'19)
- Unified Active Methodology Platform: A Multidisciplinary Project. Submitted in The International Conference on Information Technology & Systems (ICITS'20)

# PAPERS

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- Paper in progress:

“Application of text mining techniques to assign project proposals in a Project Based Learning(PBL) context”

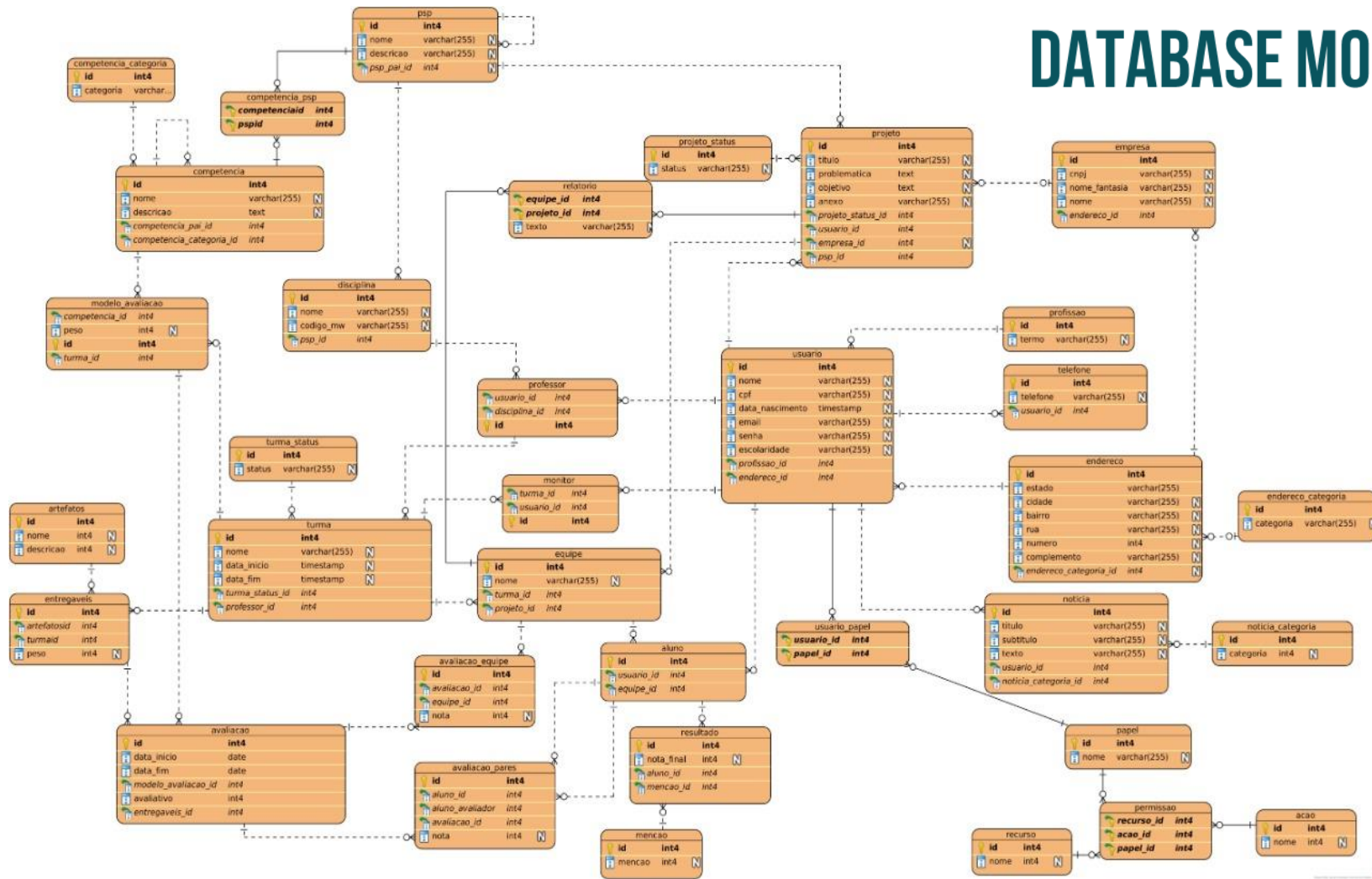
# PARTNERSHIPS

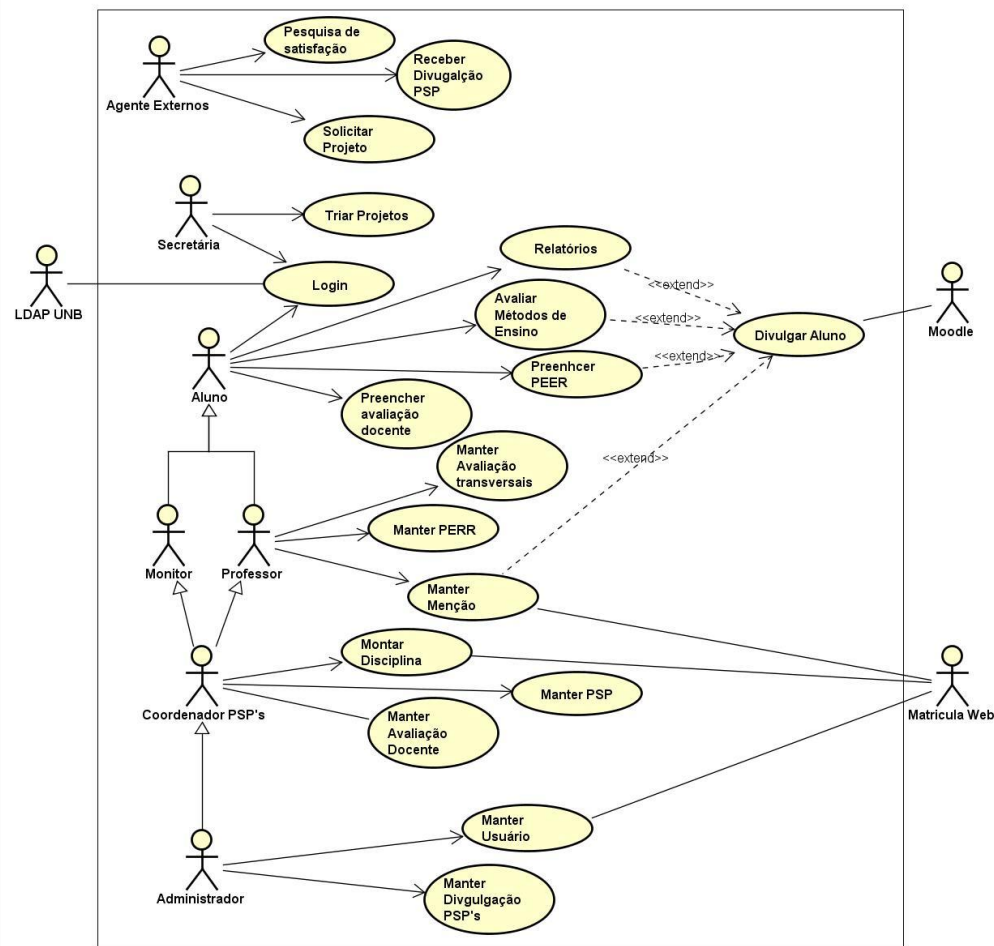
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- TUNISIA – 1º/2020: the functionality of the PEER Assessment Module will be developed by Tunisian students in partnership with UnB students
  
- POSSIBLE PARTNERSHIP WITH AALBORG UNIVERSITY– SUGGESTIONS:
  1. Refinement of the modules already developed and the ones to be developed
    - joint study groups
    - advancement researches in the students' evaluation area
    - tests in disciplines (at Aalborg University and at UnB)
  2. Participation in the publications and dissemination of PUMA

<b>Programming Language</b>	API: Node.js (JavaScript) Back-end: PostgreSQL 10 Front-end: React.js (JavaScript)
<b>Version control tool</b>	GitHub
<b>Continuous Integration Tool</b>	Travis CI
<b>Website Domains</b>	<a href="http://pumaunb.com.br/">http://pumaunb.com.br/</a> <a href="http://pumaunb.com/">http://pumaunb.com/</a>
<b>Prototype</b>	Bootstrap 4 (HTML) <a href="http://producaounb.com.br/pumav01/">http://producaounb.com.br/pumav01/</a>
<b>Operational System (OS)</b>	Ubuntu Server 18
<b>RAM memory</b>	2GB
<b>Disk Space</b>	100GB

# DATABASE MODELING





# USE CASE

In the prototype, there are many functionalities that haven't been implemented yet, for example, choosing themes and creating teams.



# THANK YOU!



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