

# Team Building through Student's Preferences and Competences (TBSPC): implementation on a PBL platform

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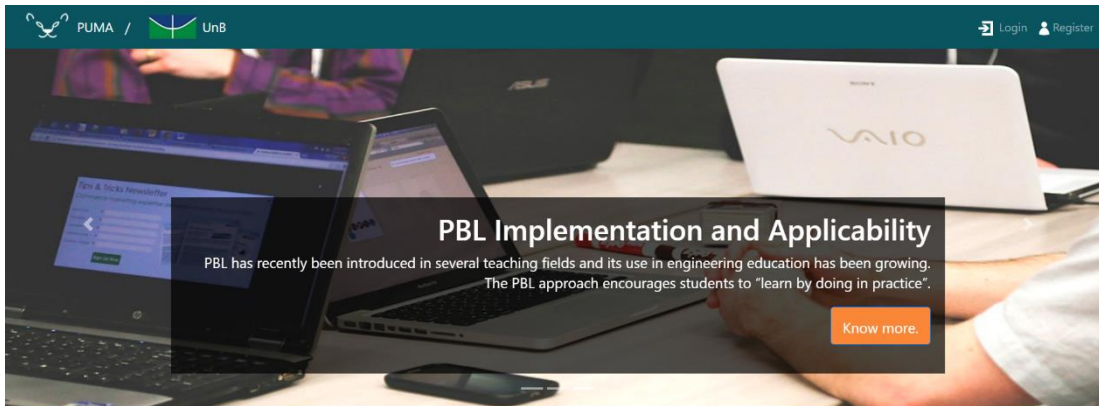
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# Introduction



## PRODUCTION SYSTEMS DESIGN (PSP)



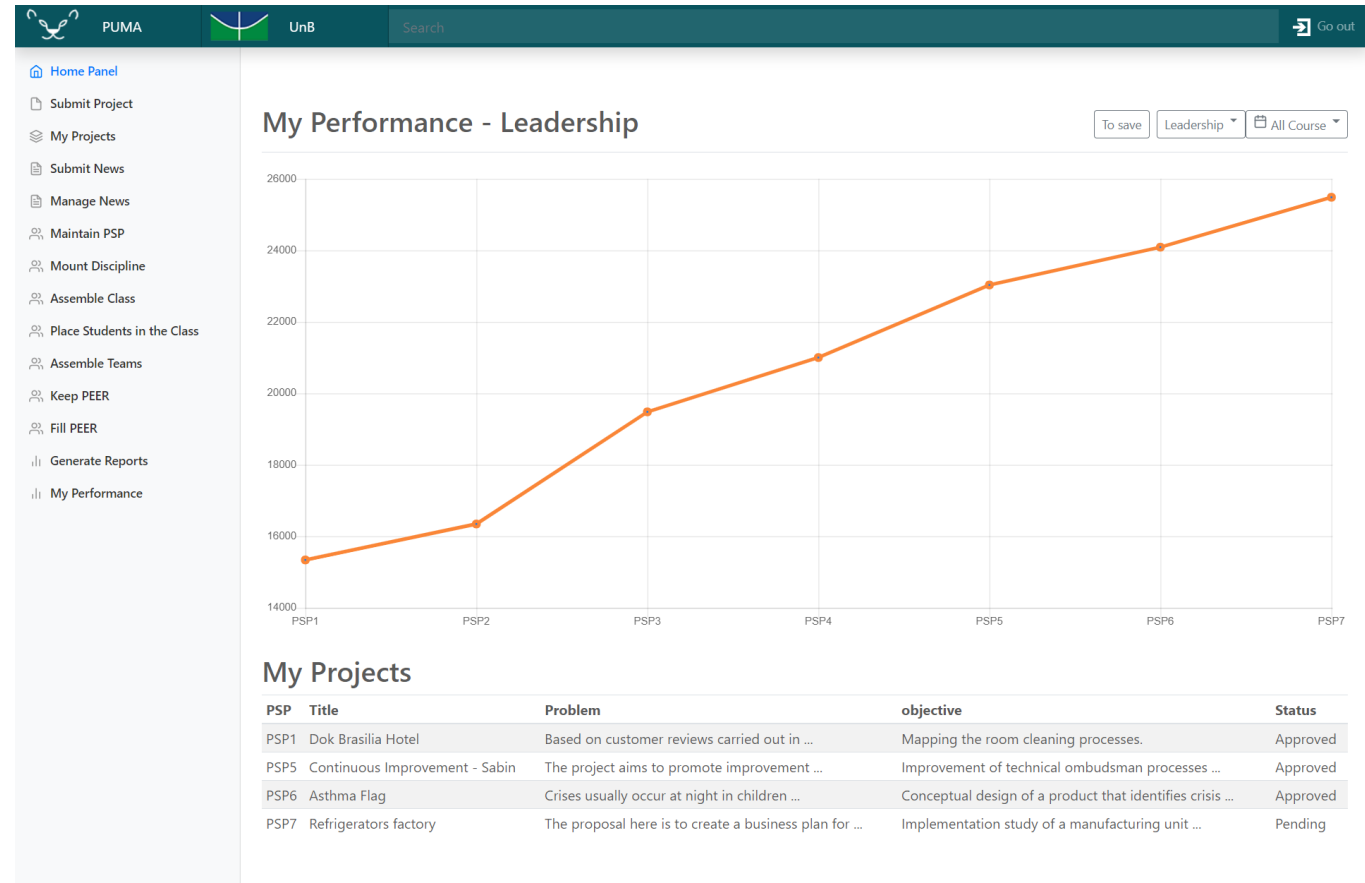
The PSP disciplines that adopt the PBL methodology, aim to make the student "learn in practice", applying the theoretical knowledge of Production Engineering in solving real problems. PSPs solve problems related to the technical areas of Statistical Probability, Information System, Production Planning and Control, Quality Management, Product Engineering and Strategic Management. Students work in teams and participate in all stages of the projects, from planning to closure. In addition to promoting the generation of new solutions, PSPs provide a complete project management experience.

**360**  
Accomplished Projects

**200**  
Companies Served

**OUR SOLUTIONS**  
The projects take place every six months, depending on the area of operation of each anchor discipline.

## Best Projects



The PUMA Platform

Project Based Learning (PBL) is a teaching method in which students learn by actively engaging in real-world and personally meaningful projects.



# Introduction



UnB adopts the PBL method



PBL is part of the main education  
vision at Esprit

Partnership  
started at PAEE  
in 2019

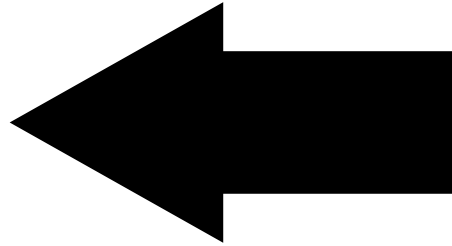
UnB and Esprit  
developed the  
module in  
partnership



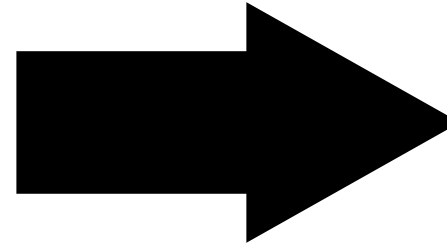
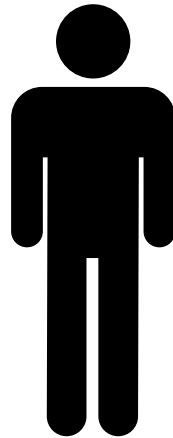
**Partnership between UnB and Tunisia**

# Student-Centric PBL Approach

**Facts**



The choice of teams is usually made manually by the teacher, through criteria that many times result in lack of coherence and equity between the project teams



**Problematic**

The overall group performance due to manual management is affected by conflicts, communication gaps and transparency

# Research problem

How to automate the Team Building process  
through Student's Preferences and  
Competences

thus, **improving the application of the PBL**  
methodology



# Objective

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- This article aims to present the development of PUMA's Team Building through Student's Preferences and Competences (TBSPC) module
- It allows students to contribute in the PBL team pre-creation and post-creation phases based on some settings formerly configured by teachers.
- This makes PBL teams coherent, complementary and congruent with the project.

# Literature review

These are some popular platforms which teachers and students can use to manage all aspects of their PBL delivery, including built-in collaboration, planning and assessment tools:

01



02



03



# Project foundry



- **Helpful, yet complex, management tool for project-based learning**
- **The learning curve can be steep when setting up and managing students' PBL experience.**
- **lack of communication between students**

# Novare PBL Platform



- Lack of the teacher/student communication
- Dedicated more for teachers
- No event or calendar management

# CrowSchool

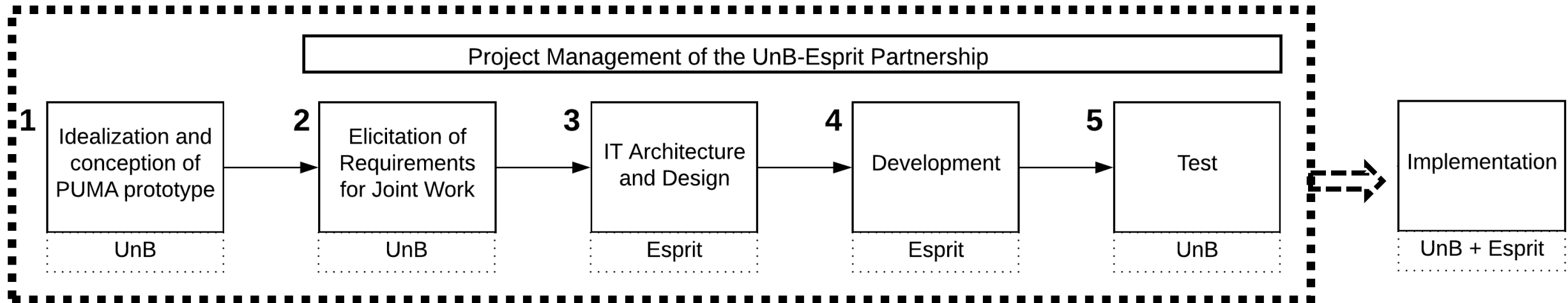


- There is no intervention of the student in any decision
- No communication at all between users
- Absence of the possibility of online evaluation and organizing groups

# Research methodology

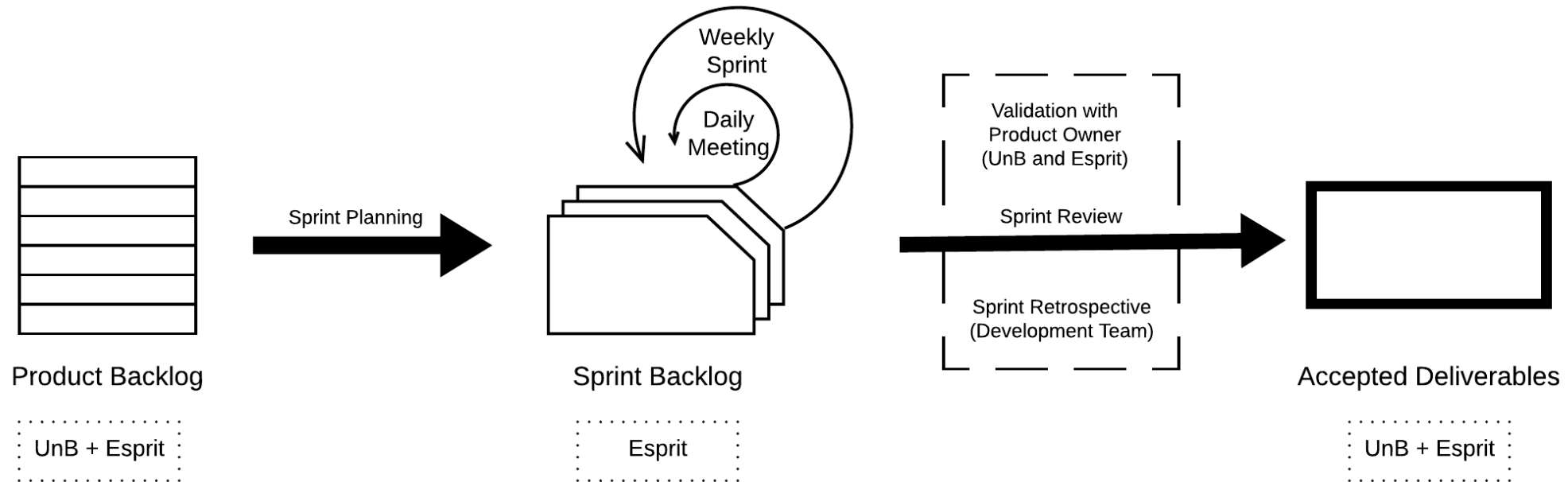
- Case Study
- Qualitative approach

This project had the participation of students and teachers from both universities.



# Research methodology

- Agile Methodology
- SCRUM, with **incremental characteristics**



Scrum Methodology applied in the project

# PUMA's Team Building module

# Main Functionnnalities

**Users  
management**



**Projects  
management**



**Group & Vote  
Management**



**Documentation  
Management**



**Statistics and  
history**



**Events and  
Workshops  
management**



**Communication  
Module**



# Non-Functional requirements




# Teacher's Predefined Settings

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- Number of students per project: Integer
- Students number Tolerance Overhead: +/- Integer
- Student's redundancy in different projects and Teams: Binary
- Team and Project creation assignment: By Students or by Teachers
- Team Leader assignment: By students or by teachers
- Deadline for Team Erasure: Time
- Voting System
  - Dictatorial (Team Leader)
  - Absolute Majority
  - Veto Right

# PUMA - Pre-Creation Team Building

## Create Your Profile

 Let's get some information to make your profile stand out


\* = required field

Developer

Give us an idea of where you are at in your career

acnrit

## Add An Experience

 Add any developer/programming positions that you have had in the past

\* = required field

\* Job Title

\* Company

**Registration/Profile/Background**

# PUMA - Pre-Creation Team Building

**Add Group**

ADD A GROUP

\* = required field

Edups

flame.png

Browse

ADD A PROJECT

\* = required field

A collaborative project-based learning platform

"The project consists of the development of a collaborative project-based learning platform. This

**Add a Project**

# PUMA - Pre-Creation Team Building

## Assigning a Team Leader

Assign team Leader

Select a team leader

Team Leader

**Name:**NizarMJ

Members

# PUMA - Post-Creation Project Management

## Voting System Interface

### Voting History

2020/05/31

Nader

Title: vbnc

Object: voccc



0 vote(s)

### Group Posts

Welcome

Create post

Create a post

SUBMIT



NizarMJ

test

Posted on 2020/06/08



DISCUSSION



leave a comment..



NizarMJ

new post

Posted on 2020/05/05



DISCUSSION 0



leave a comment..

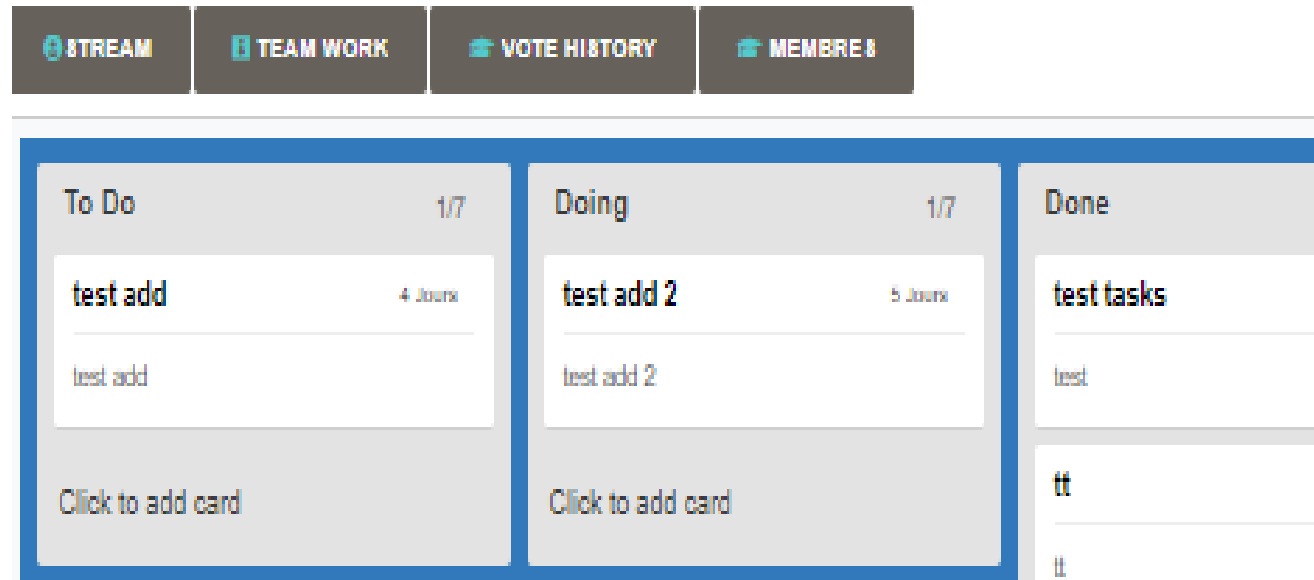
### Voting Requests

\* Title

## Voting History

# PUMA - Post-Creation Project Management

## Trello KANBAN Integrated Board



# Conclusion

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- ✓ The objective of this research was achieved
- ✓ This study requires future work with some improvements
  - Stakeholders consideration and visibility
  - Automatically dealing with special cases
  - Adding other Teamwork methods other than Kanban
  - Combining the Team-Building with the Peer-assessment module
- ✓ The module developed will be carried out in three to five courses in Brazil and Tunisia
- ✓ The joint work between Brazil and Tunisia is the key to transform these latent possibilities into one unified concrete result.



# Thank you!