International Interdisciplinary Congress on Renewable Energies, Industrial Maintenance, Mechatronics and Informatics
Booklets

RENIECYT 1702902 CONACYT

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Title: Development of a web management system for the internship process at the TecNM campus Lerdo

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Editorial label ECORFAN: 607-8695
BCIERMMI Control Number: 2021-01
BCIERMMI Classification (2021): 271021-0001

Pages: 12
RNA: 03-2010-032610115700-14

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Content

Introduction

Methodology

Results

Conclusions

References

Introduction

The Instituto Tecnológico Superior de Lerdo has a quality management system, which is currently based on the ISO 9001: 2015 standard. This system is a model that allows to provide a quality educational service to students.

As part of the quality management system, the TecNM campus Lerdo has a procedure for the management of the professional internship process

The professional internship is an educational strategy of a curricular nature, which allows the student to undertake a theoretical-practical, analytical, reflective, critical and professional project.

Methodology

The internship process management system (SIGEPRORE) in its versions 1.0 and 2.0 has been developed under the responsibility of a team of less than 10 people, in which the interaction between the members and the fast development of small functionalities is privileged, freeing the end users for their test, in order to obtain feedback in the short term; when a problem has been reported, all team members contribute to the solution and one or two developers take care of its implementation, without affecting the development process.

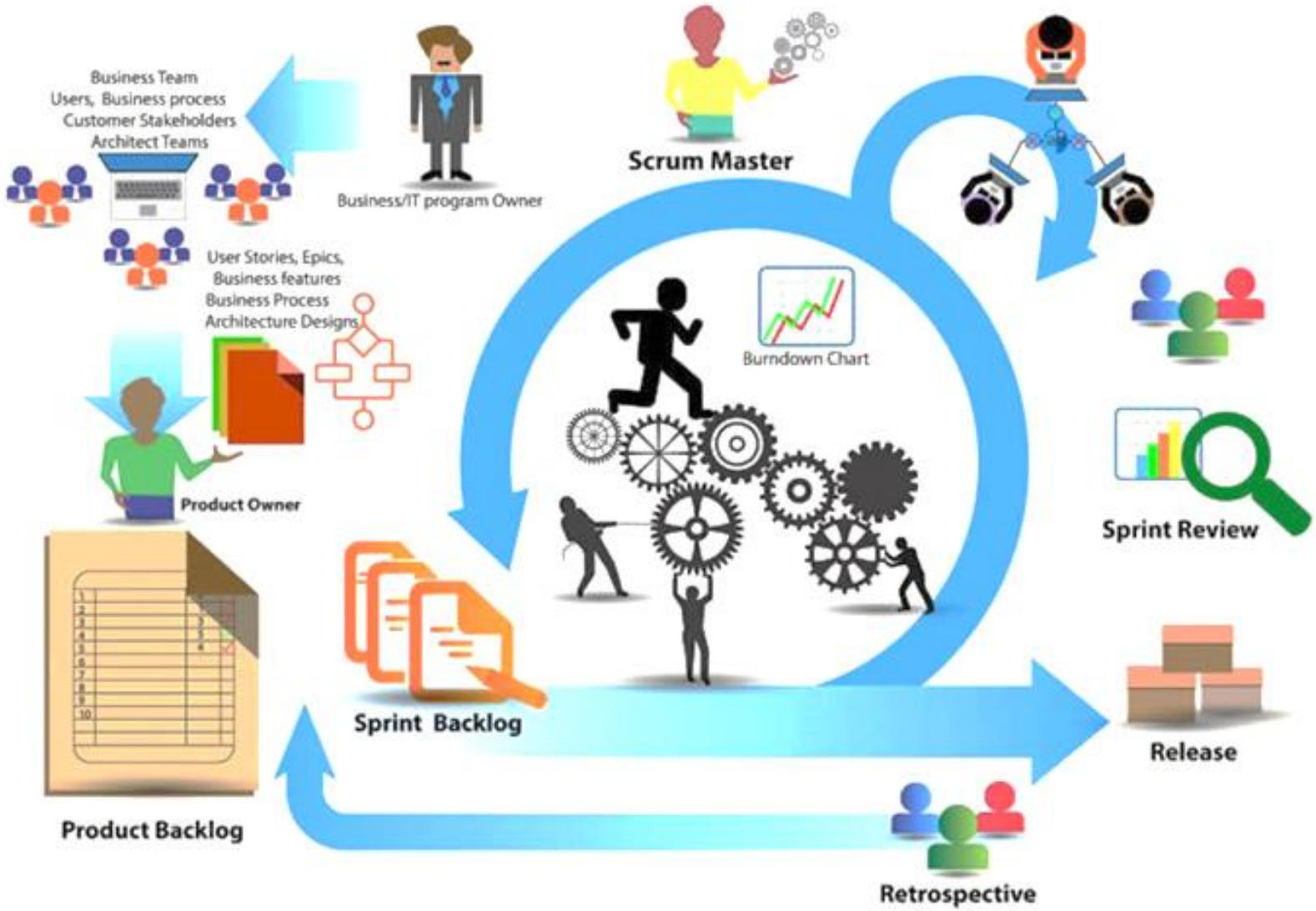


Figure 1. Agile Methodology – SCRUM Process
Source: (Antevenio, 2020)

Results

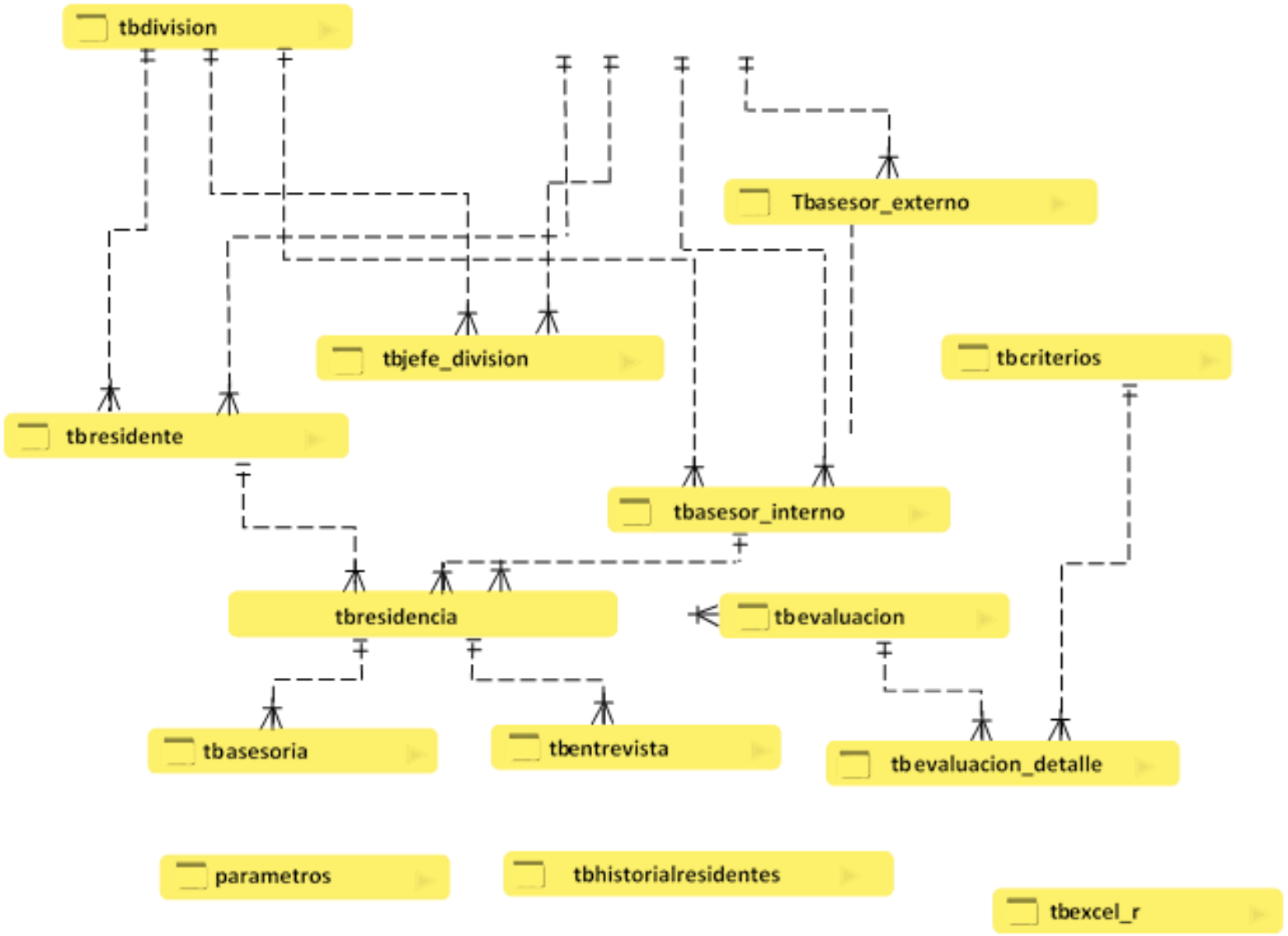


Figure 2. Entity Model – SIGEPRORE Relationship 2.0. *Source: own elaboration*

Head of Division

Academic Director

Internal Advisor

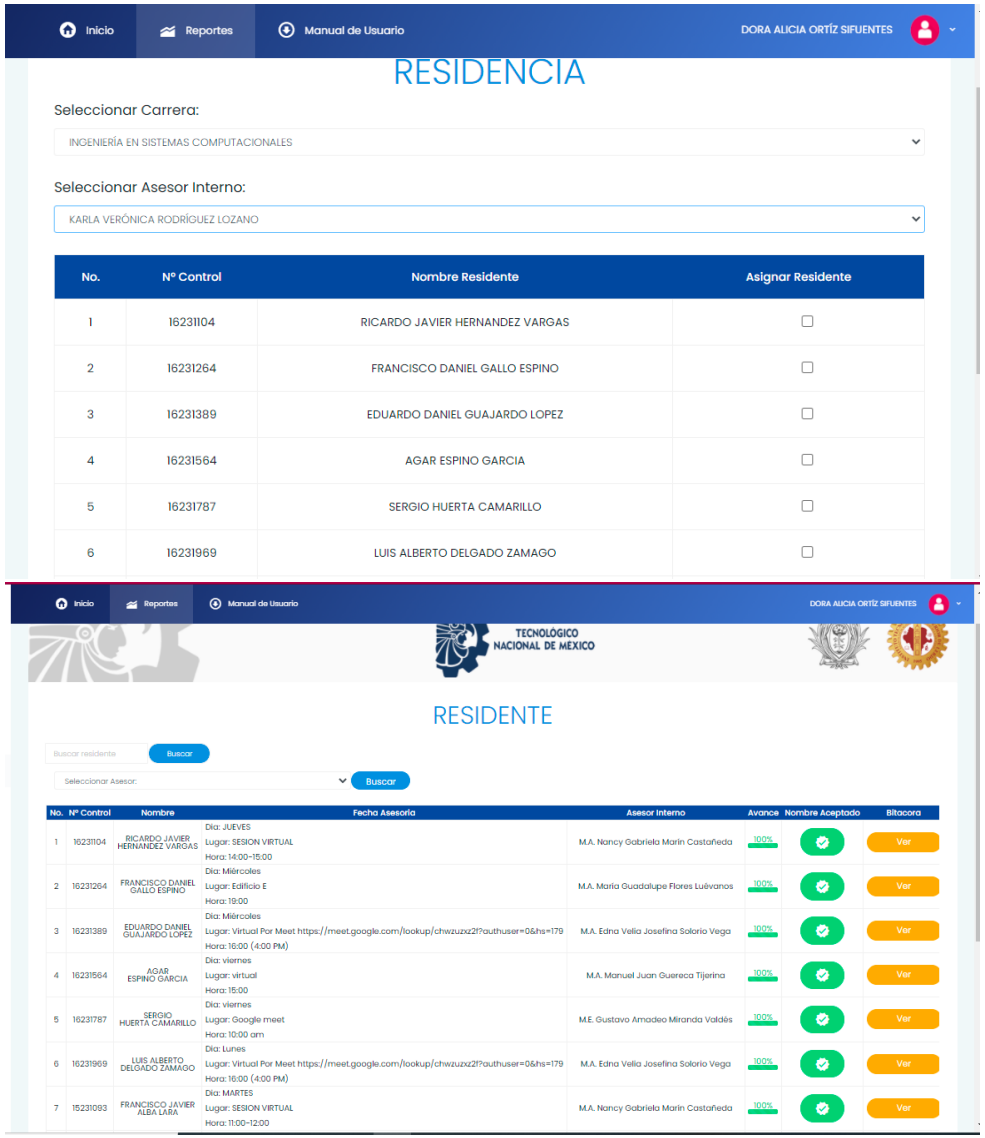
External Advisor

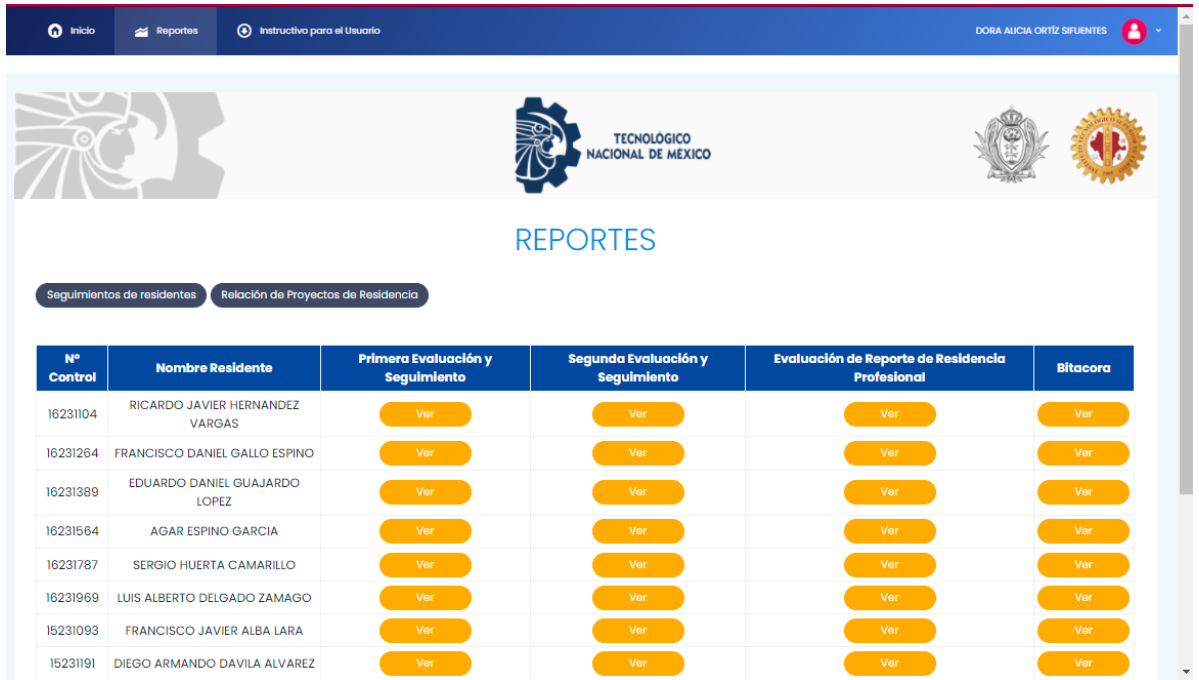
Intern

In order to store and manipulate the data, the MySQL® management system was used. The Entity-Relationship model of the database is formed by 12 tables, one of them is the internship table, which stores all the data of the professional internship; this table is related to other entities corresponding to the different actors of the system.

Head of Division

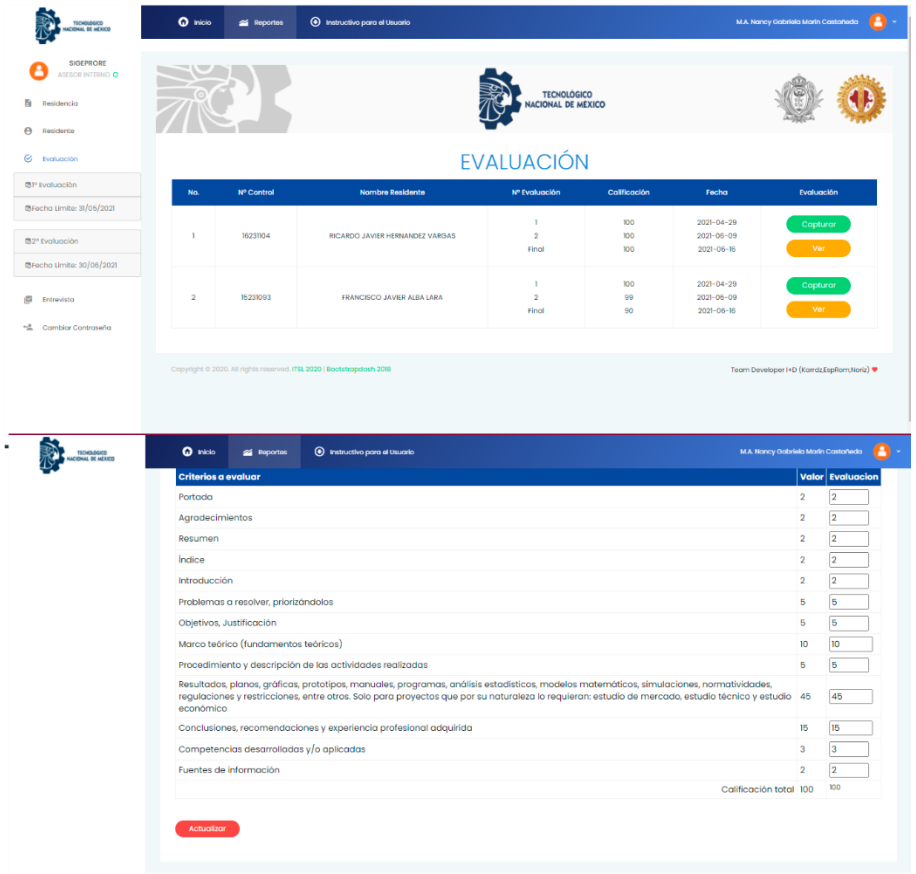
- Assign interns to the internal advisor in a unitary and/or multiple way. The system will inform users and proceed to send mail with access instructions.
- Accept project´s name. Change the name of the project and the internal advisor on extemporaneous dates.
- Monitor the progress of the intern through the log and the evaluations generated by the advisors.
- Download the reports defined in the quality guideline.View the history of interns to update the status of their degree.

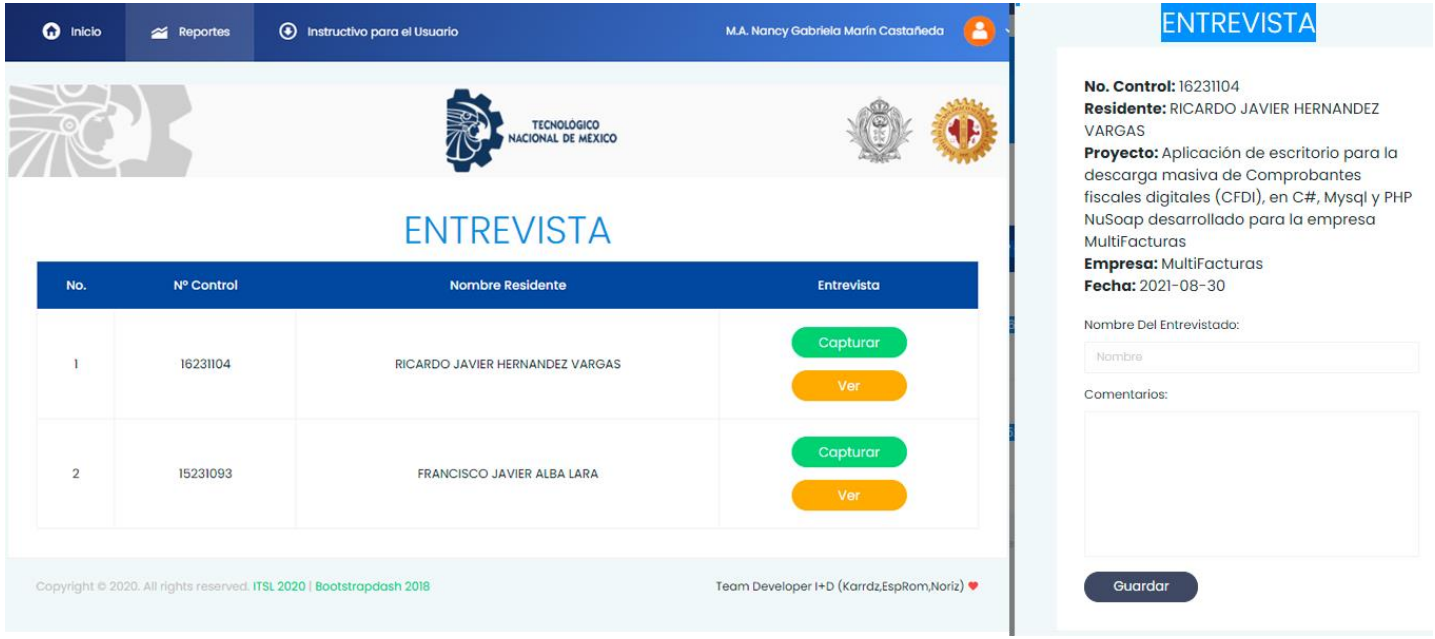




Internal Advisor

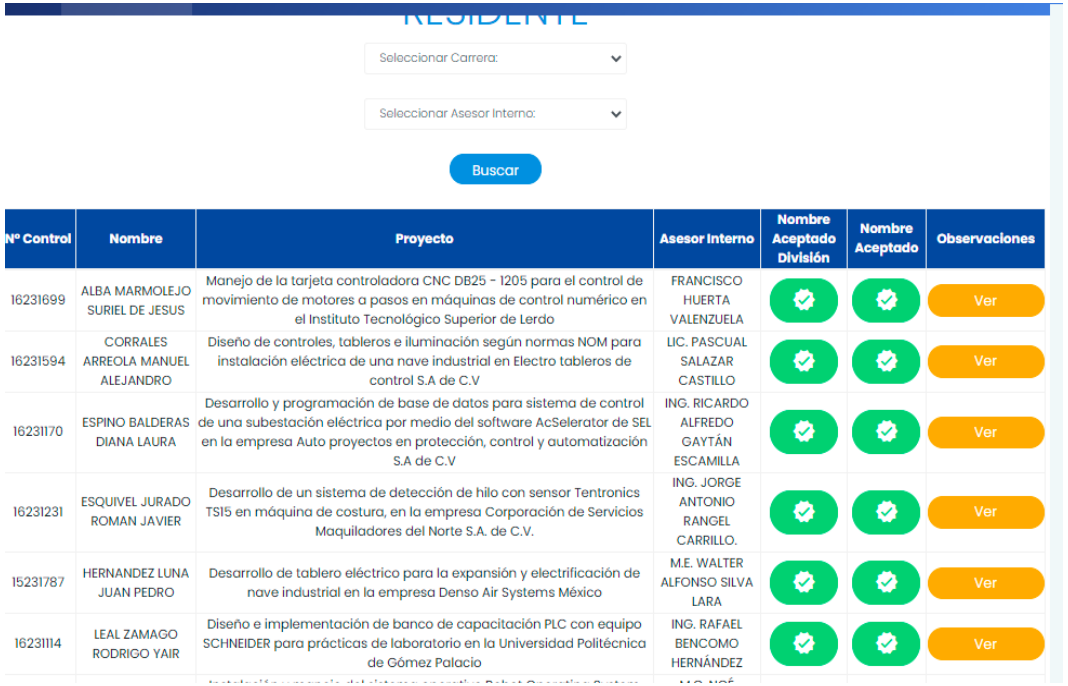
- Edit data of the internship, such as name of the project, day, time and place of the tutoring, name of the company and sector to which it belongs.
- Add the company's external advisor. The system will register the user and proceed to send an email with access instructions. Follow up with the intern, fill out the log weekly.
- Evaluate intern according to the guidelines of the TECNM.
- Conduct an interview with the external advisor, which will be displayed in the system. Download Report





Academic Director

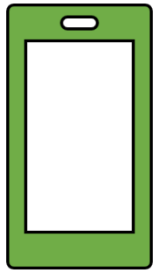
- Accept project´s name.
- Monitor the intern´s progress through the log and the evaluations generated by the dvisors.
- See log book and See evaluations.

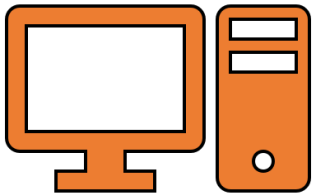


External Advisor

- Evaluate interns according to the guidelines of the TECNM.
- Observe the follow-up log.
- Download reports

Conclusions





Adapting to the virtual way of working of all the staff and students involved in the process during the COVID-19 pandemic.

This system will be established in the operating policies of the professional internship procedure of the ITSL quality management system.

The different stakeholders of the project obtain significant improvements, mainly in the organization and time dedicated to the tasks related to their respective profiles.

All the tasks of the professional internship procedure that are carried out in a presence way, it is possible to perform them remotely, asynchronously and agilely.

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Acknowledgements

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Logistical and administrative support	Jesús Alejandro Valdés Nieblas	Deputy Director of Research and Technological Development
Quality Management system	Dora Ortiz Sifuentes	Head of Computer Systems Division

We thank the Tecnológico Nacional de México, the Government of the State of Durango, and the Instituto Tecnológico Superior de Lerdo for having financed this project; as well all the students who have been part of this project.

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