InforMath Project

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Resume / Abstract (In Spanish and English, maximum 150 words).

A **Web Page** that tries to remedy the existing problem in the official page of the Faculty of Mathematics (**FMAT**), about the deficiencies by providing information about the careers that it offers. This page is aimed at anyone interested in being an applicant or belonging to any **FMAT** degree, providing brief and concise information. This was created through the SCRUM process, an agile methodology, which allows to obtain better results in short periods of time. The requirements were through user stories, with the **DAILY SCRUMS** and with specific tools at the time of designing, implementing, and verifying the project, in addition to monitoring using individual contribution metrics. The process with changes are documented in a repository.

Keywords (minimum 3, maximum 5)

SCRUM, DAILY SCRUMS, FMAT Website, Bachelor's degrees, software.

Objectives:

1.- Satisfy the search for information of the students who are interested in belonging to the **FMAT**, in a clearer, more concise way and with a more colloquial language for a better understanding of what each degree consists of.

2.- Publicize the different organizations that belong to the **FMAT,** which provide support to students and supporters for the fulfillment of their objectives and activities that may be presented to them.

3.- Provide a tool to help the coordinators of each degree in the Faculty of Mathematics, so that when a supporter or acquaintance asks about the career under his charge and he does not have the time to explain, he directs him to the program to solve your doubt.

Justification:

The **FMAT** home page lacks effectiveness when it comes to transmitting information about their careers in a timely manner, as it only provides extensive documents in PDF format (between 150-250 sheets), which discourage and bore the reader, resulting in these do not want to be aspiring or get confused when choosing a career (greater number of cases in computer careers).

Methodology (Summary of each development phase highlighting the most relevant elements)

Methodology

The methodology that was used in the project: "Web Page", focused on the agile methodology, SCRUM; Since it provided various tools that helped to have a better organization during the process, allowing the tasks to be carried out in a timely manner, covering the established requirements.

Requirements

As part of the methodology, user stories were made to obtain the requirements and complete this phase of the project, these were obtained through interviews. It was possible to denote the most important topics when choosing a university degree, thanks to the priority method. Similarly, certain sections were discarded, since these were prominently found on the FMAT page. At the end of this phase, 4 general user stories were achieved.

Design

Regarding design, it focused on creating wireframes, based largely on user stories for the sketches of the website interface.

For this, the help software was “Balsamiq”, with which 3 wireframes were created, corresponding to the Index or main page, the Bachelor's degrees and the About us, respectively.

Implementation

The coding of the web page (html, is and cjss) was done through the Sublime Text software. Likewise, the open source multiplatform library “Bootstrap” was used as a front-end design tool.

Tests

Using the W3C Markup Validation Service tool, tests were performed regarding html, css and js encoding. With the help of the aforementioned software, it was verified if there were any errors in the code, for example, repeated or incorrectly closed labels that could in some way affect the operation of the website; adaptation in different browsers was also verified.

Project Monitoring (Process, monitoring, individual contribution report)

Roles

Focused on the agile methodology SCRUM, the different roles were divided among the team members, being as follows:

- Ehuan Avila Isaac Mauricio: Scrum Master
- Baas Cab Jorge Miguel: Product Owner / Develop Team
- Couoh Chan Maria Belen: Develop Team
- Perera Huchim Oscar: Develop Team

Chores

Each member of the team obtained tasks that were completed in a certain established time, these were taken from the Product Backlog focused on user stories that was defined during the requirements stage and taking into account the capabilities and strengths of each member.

Each task had a certain type of complexity and were prioritized by levels, since, based on this, the tasks for each team member were balanced.

On the other hand, the Trello tool was used to better control tasks and activities.

Sprint

In the development of the software construction, a series of Sprints were carried out which helped to solve a large number of needs in a fairly short time. It was agreed to have 2 Sprints; the first was the interface, the second about the organizations and finally about all the careers belonging to the Faculty of Mathematics, each one consisted of a period of 2 to 3 weeks, these did not lag behind the established time because, a period for the tasks already described to be specified, improved and refined.

Sprint Planning

To get a better response from each sprint, the task of planning everything in advance to obtain better results was taken, where all the tasks required to achieve the goals that needed to be achieved were defined.

Daily scrum

During the time that it was worked, meetings were held every 2-3 days (they should have been daily) with a duration of 15 to 30 minutes in order to raise doubts that the members were covered, also, they talked about the progress that was obtained up-to-date and above all, progress is measured according to the agreed time, this as part of the quality control process. Although these meetings were planned to be daily as the name suggests, it was decided to adapt it to a meeting every 2 or 3 days.

Delivery

In order for this work to be sent, it was necessary to verify if it met each of the requirements and conditions that had already been expressed, and above all that our Product Owner validated the product according to the needs.

Review of each Sprint

This, being the final stage of each Sprint, required the team to meet to discuss the work process during its completion period. They talked about how the project could be improved in general, what techniques or methods could be implemented in the next Sprint to achieve a more fluid work. This feedback was part of the process in which the quality control was reviewed and carried out, since each sprint had certain parameters to meet as requirements.

Individual Contribution Metric

This document shows the different characteristics that were taken into account to measure the percentage of individual contribution of each member of the project team.

The contribution metric process was 100% among all for each delivery, so 2 percentages were made, which were averaged at the end. This is because there were many parts in which certain members contributed more than others.

The first guideline dealt with the number of tasks that each member did (Tasks have a certain score, since some are more complicated than others, so a certain score was given based on their complexity).

The second guideline was the number of times someone helped others with their responsibilities or tasks (In this case, the grants are only worth 20% of the total average).

	1st	2nd	3rt	Total
Baas	19.60%	29.63%	27.64%	**25.62%**
Couoh	33.33%	38.27%	29.45%	**33.68%**
Ehuan	33.33%	28.40%	30.91%	**30.88%**
Perera	13.74%	3.70%	12.00%	**9.81%**

Lessons Learned and Evidence of Skill Acquisition.

As the development process of the project progressed, various knowledge was acquired to improve the competencies of the subject.

In an enjoyable and practical way, we obtained knowledge about the areas of software development focused on analyzing the processes of methods, procedures, techniques and practices that involve the development phases, carrying out activities related to obtaining requirements, which in our case was due to means of user stories, the design process in which we apply the creation of wireframes, as well as the coding and testing of the software.

With a bit of difficulty we carried out the implementation of agile methodologies for project planning, the distribution of roles in the team and prioritization and organization of tasks, as well as the documentation of each part of the planning and development process but in the end we obtained good results. In addition to the competencies of the management area related to the monitoring and control of the software.

Throughout this process, various learnings and skills were acquired among the team members. The most relevant were:

• Teamwork in an equitable and collaborative manner, since without this it would not have been possible to complete the various phases of the project and obtain excellent results regarding the product that was developed.

• The organization and adaptation to new normalities such as the one we are experiencing now due to the health contingency, since it was a situation that somehow had an impact on the project development process, working remotely with the media and material resources that were they already had to develop self-taught skills.

• Make decisions safely in professional and personal practice.

• The use of information and communication technologies as a resource for interaction between team members and to agree on important aspects about the project.

• And on the other hand, in a personal way, each member developed new skills and knowledge about new software, since the vast majority of the tools that were used were unknown among the majority of the team members, this is the case of GitHub, Trello, Sublime Text, Bootstrap, Git Kraken, Balsamiq, and W3C.

Conclusions.

The project was worked efficiently, even with the difficulties generated by working in a remote way. This project is of utmost importance because it will help those interested in entering the FMAT to obtain better information to continue in it or change to this faculty. A decision of the team is to continue with this project because we believe that it is possible to improve it, so that it has more accurate and complete information about the FMAT and thus one day our team will run the official FMAT website.

Another reason why we would like to follow up on the page would be to add to it the different organizations that exist within the faculty, a requirement that had been thought from the beginning of the project, but that was eliminated with the evolution of the project. .

It is considered that this project can be extended beyond the faculty, to the entire Exact Sciences Campus and later can be done in the rest of the faculties of the Autonomous University of Yucatán.

Bibliography / References.

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