UADY
UNIVERSIDAD
AUTÓNOMA
DE YUCATÁN

Software Engineering

-Software Engineering Fundamentals-

Third Increment

Osiris Team Members:
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Mérida, Yucatán. February 4th, 2021.

Functional requirements and not functional requirements:

- The system shall provide a short introductory tutorial that teaches users its main features: add, edit and remove tasks, update progress, and change notification frequency.
    - It should be accessible via a separate tab at any time.
- The user shall be able to see all of their current active tasks. It is very important to display the due date.
    - The tasks should be organized by their due date, nearest one first.
- The user shall be able to add, edit or remove a task from their task list.
    - These actions should appear in the list view and should take one click to use them.
    - Our system should not save any identifiable information from users, these being: name, username, and email.
- The user shall be able to set a due date when creating a task and also be able to modify it [due date] via the button containing the date.
    - The due date should be set using a date picker.
    - The default date is the next day in which the task is created.
- The system should show a menu to help users reassign a task when a user misses its due date.
    - A calendar should be displaced to pick a new date.
    - The system should allow us to remove or reschedule the task.
- The system shall display the current progress of each task and allow the user to update said progress.
    - The system should allow for progress to be reverted in case of a revision or an accidental update.
    - The 'progress update' action should be accessible directly on the task list, right next to each task.
    - It should only take one click to update the progress.
- When the user has active tasks, the system shall keep pushing notifications saying "You have pending duties" until they complete them.
    - By default, the system should only send one notification per day (10:00 hrs).
    - The user shall be able to set the notification frequency.
- Each task shall allow users to append 'update notes' to them in order to keep better progress.
    - The notes should be displayed alongside its corresponding task in the task list.
    - Notes should be autosaved.
- Deleted tasks should be accessible through a separate tab.
    - Tasks should be kept with their text, progress tracker, notes and due date.
    - Tasks won't be displayed with non-deleted tasks.
    - Tasks must have the options of 'delete permanently' and 'recover'.

Use cases

The main actor for every use case is the user; the functionalities listed must be implemented and as an exception we will not describe the way the system processes the information.

Actions the user must be able to do:

- Set the notification frequency.
    - Flow of actions:
        - Notification icon is clicked.
        - A menu with notification rates and arrival hours is displayed.
        - User clicks the options or types it's custom settings.
    - Exception: If the user does not set a notification frequency the system should only send one notification per day at 10:00 hrs.
- Add tasks.
    - Flow of actions:
        - Landing page is seen
        - 'add a task' button is clicked
        - A menu with empty text field is displayed
        - The task is written
        - When 'enter' is pressed the task autosaves
        - The task is displayed as a list within the landing page
    - Exception:
        - An empty task cannot be listed
- Within the display of the tasks users can edit the task, add notes, set due dates and edit the progress tracker for each task.
    - General precondition: A task has been created

  Edit Task:
    - Flow of actions:
        - The user clicks on the edit button
        - The system will display a text field
        - The user re-writes the title of the task on the text field
        - The user clicks on the save button inside the text field
        - The system displays the task with the new title
    - Exception:
        - When the due date passes and progress tracker is not at 100%, a menu that displays a calendar in which the user can reschedule the task shall pop-up.
        - If the user does not click on the save button after writing the new title, the system will not save the new title and keep displaying the current title.
        - If the user does not want a title to be saved he can just click outside the text field.

  Notes:
    - Flow of actions:
        - The user click on the notes button
        - The system will display a text field
        - The user write his note

- The user clicks on the save button inside the text field
- The system closes the text field saving the new notes

- Exception:
    - If the user does not click on the save button after writing his notes, the system will lit up the save button. If the user clicks out again, the system will not save the new changes.

Edit due dates:

- Flow of actions:
    - The user clicks on the date button
    - The system will drop down calendar
    - The user can change the due date
    - The system will save the new due date
    - The system closes the calendar after the user clicks
- Exception:
    - If the user does not add a new date since the creation of the task, the system will show as default the next immediate day.

Progress tracker:

- Flow of actions:
    - The user slides the slider
- Precondition:
    - The progress tracker is set to 0

- The user can visit the ‘Tutorial’.
    - Flow of actions:
        - The landing page is seen
        - The ‘tutorial’ button is clicked
        - A web browser tab is open with a YouTube video
- The user can go to the deleted tasks section in order to, either permanently delete them or to recover them.
    - General precondition: A task has been deleted from the main task list.

Delete permanently:

- Flow actions:
    - The user clicks on the “deleted tasks” tab
    - The “delete permanently” button is clicked
    - A popup appears asking the user if they really want to continue
    - The user clicks yes and the popup disappears
    - Task is permanently deleted
- Exception:
    - If on the popup, the user clicks no, the task should remain on the “deleted tasks” tab.

Recover task:

- Flow actions:

- The user clicks on the “deleted tasks” tab
- The “recover tasks” button is clicked on the desired task
- The task disappears from the “deleted tasks” and is moved to the main task list

Implementation

In this stage we focus on creating the high-fidelity prototype of our project. The final prototype was the result of all the information collected from the users and the iterations realized during the design phase. This prototype is created in a Ipad Pro 11’’ frame, it includes all the requirements and it’s a refined implementation of the wireframe, the changes includes a more minimalistic interface, different ways of using functions and a toolbar where can be access the most important and independent functions like “add task” or “notifications settings”. The prototype rescues some of the sources used in the wireframe like the position of the items in the “task component”, which includes the name of the task, the notes, the due date, progress bar. Numerous detailed changes were performed in the high-fidelity prototype in order to give the users the most significant UX, an example of this is the creation of the trash can and the general calendar, where the users can see the tasks they have deleted and the days with tasks, respectively. The high-fidelity was accepted and we could merge it into the repository and pass it through the testing phase of this increment.

Testing

5 seconds test

To evaluate our high-fidelity prototype, we interviewed a group of six people from the bachelor of software engineering. Later we share a link to apply for the five second test. In that test we asked them about the use of colors, buttons and asked them if they understood what that screen can do. The responses were favorable, they said the colors are nice, users were able to understand the function of the tab presented and they identified the icons or buttons.

We use app.usabilityhub.com to do the five-second test.
https://app.usabilityhub.com/do/f819e911d841/89c4

Acceptance testing

To perform this test, we made a video in which it was explained how the prototype works and the actions that can be performed, we explained what each icon works for and we added the link of the prototype, so that they could observe on their own the prototype.

In the acceptance tests we surveyed ten people. We asked them if the interface was intuitive and the users said yes, they commented that it was easy to interpret. The students commented that they liked the colors because they are nice and simple. Users were able to identify the buttons without problems, as well as understand the use of the app. In very general terms users are satisfied with the prototype.

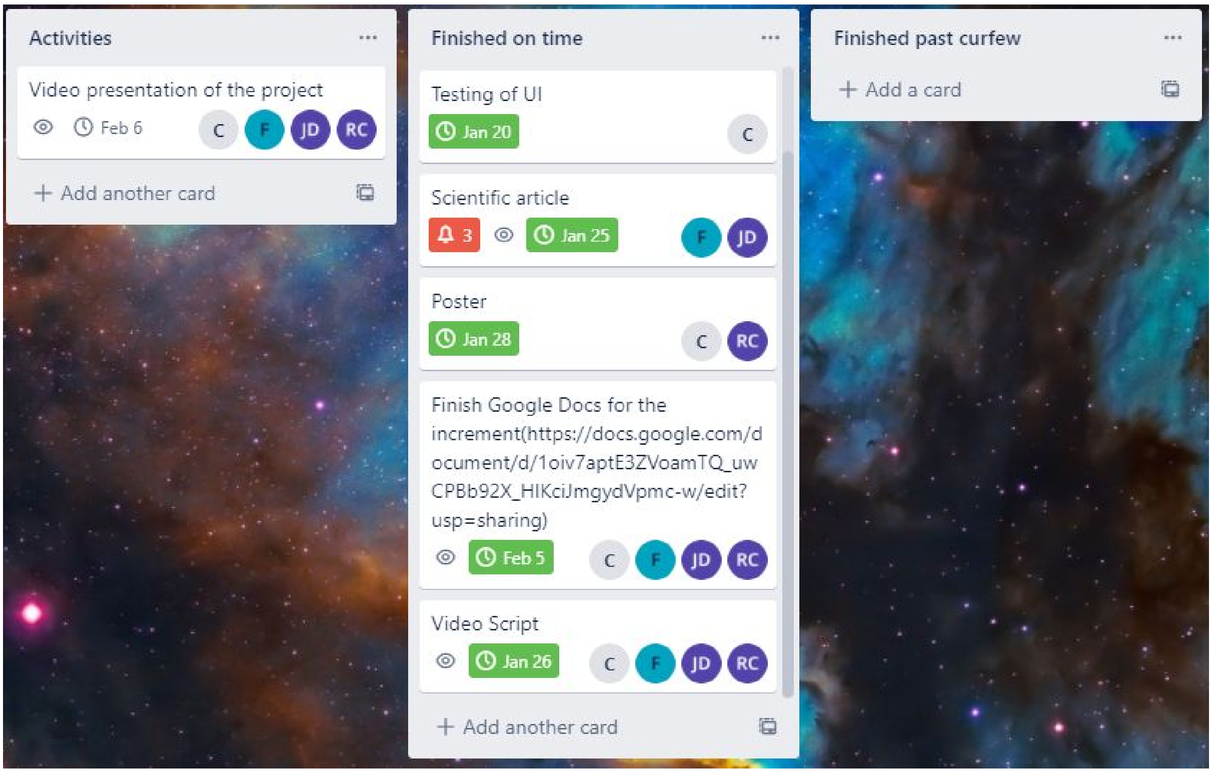
Methodology and tasks

Once more, for this increment we perform the task distribution with Trello. The participants were: Fernan Cetina[F], Jorge Rodríguez[JD], Rodrigo Castrejón[RC] y Cinthia Huchin[CP]) and due dates. The artifacts with accountables are:

1. Testing of UI (C)
2. Article(F, JD)
3. Poster(C, RC)
4. This document (Team Osiris)
5. Video Script(Team Osiris)
6. Video presentation(Team Osiris)

It is worth to say that some activities like the video presentation/video script were delayed in order to commit the best work-products in other tasks like the poster, however it just happened once and had any sanction. The poster was rejected for our mentor, Dr. Edgar Cambranes, two times due to format and content. Our poster was finally finished and approved by our mentor, you can find more detailed information in our repository and in the "Evidence of meetings" section.

Repository: https://github.com/FernanCetinaE/TeamOsiris



Activities

Video presentation of the project
Feb 6 C F JD RC

Finished on time

Testing of UI
Jan 20 C

Scientific article
3 Jan 25 F JD

Poster
Jan 28 C RC

Finish Google Docs for the increment(https://docs.google.com/document/d/1oiv7aptE3ZVoamTQ_uwCPBb92X_HIKciJmgydVpmc-w/edit?usp=sharing)
Feb 5 C F JD RC

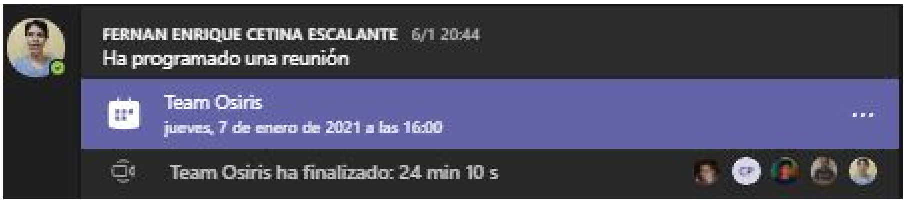
Video Script
Jan 26 C F JD RC

Finished past curfew

Evidence of meetings

Throughout this increment we had five meetings with our mentor:

In the first meeting our mentor helped us by answering questions about the tasks to consider in the whole increment. These includes questions about the article, his content and format; about the information that the poster should contain

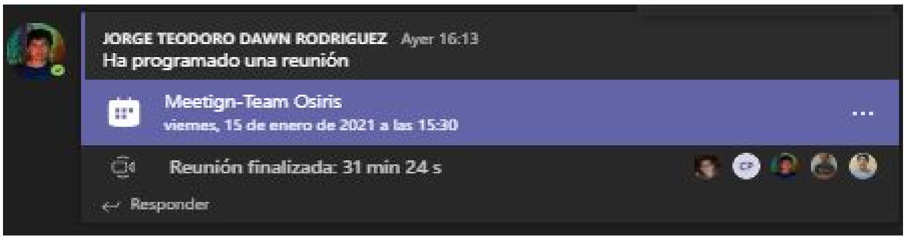


FERNAN ENRIQUE CETINA ESCALANTE 6/1 20:44
Ha programado una reunión

Team Osiris
jueves, 7 de enero de 2021 a las 16:00

Team Osiris ha finalizado: 24 min 10 s

In the second increment we presented the mentor our high-fidelity prototype which was highly praised. We show all the different flows of actions needed by each functionality added in the prototype and the contrast between the first sample created and the high-fidelity prototype which made our mentor laugh about it.



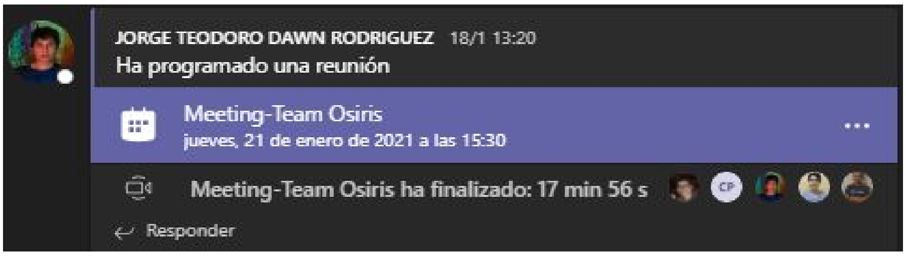
JORGE TEODORO DAWN RODRIGUEZ Ayer 16:13
Ha programado una reunión

Meetign-Team Osiris
viernes, 15 de enero de 2021 a las 15:30

Reunión finalizada: 31 min 24 s

Responder

During our third and fourth meeting the scrum master, Fernan Cetina, presented the advances of the poster and the changes committed into the third increment branch of our repository. In the two cases our poster was rejected, once because of the excessive amount of information and the second one because of not considering the standard format for a poster.

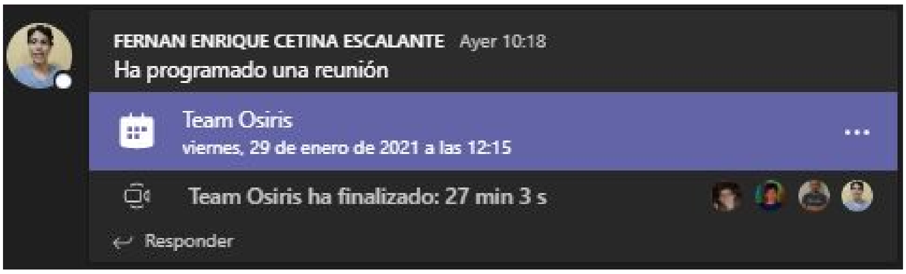


JORGE TEODORO DAWN RODRIGUEZ 18/1 13:20
Ha programado una reunión

Meeting-Team Osiris
jueves, 21 de enero de 2021 a las 15:30

Meeting-Team Osiris ha finalizado: 17 min 56 s

Responder



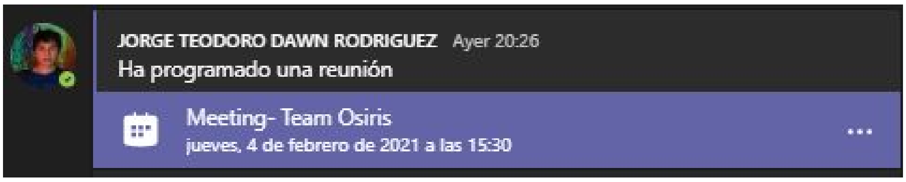
FERNAN ENRIQUE CETINA ESCALANTE Ayer 10:18
Ha programado una reunión

Team Osiris
viernes, 29 de enero de 2021 a las 12:15

Team Osiris ha finalizado: 27 min 3 s

Responder

Finally in the fifth meeting our mentor approved the poster and said he liked it. This was the shortest meeting that we ever had and told him a little bit about our next task for the end of the increment.



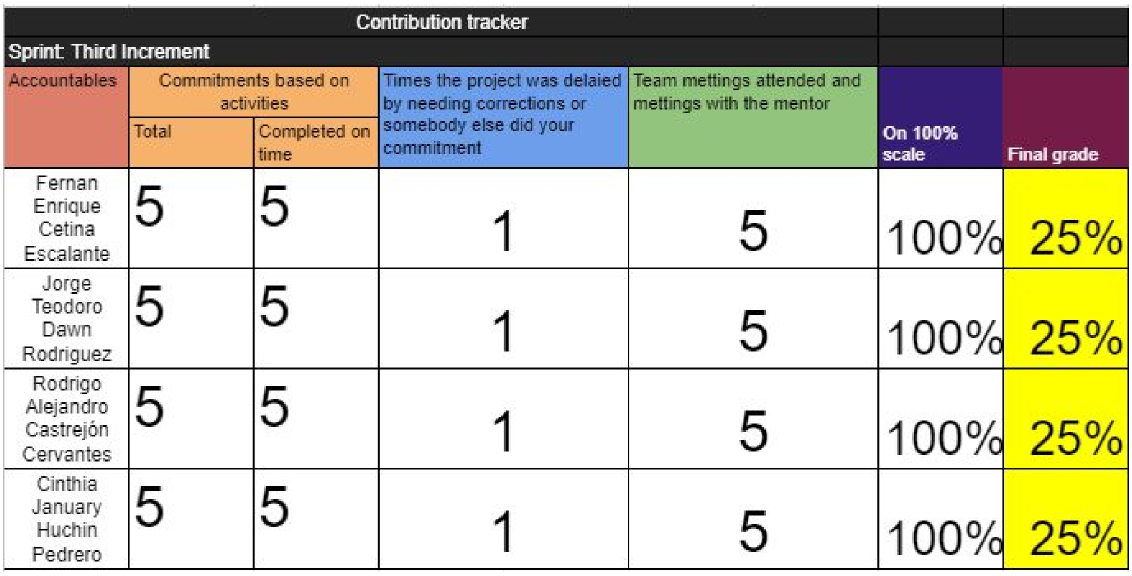
JORGE TEODORO DAWN RODRIGUEZ Ayer 20:26

Ha programado una reunión

Meeting- Team Osiris

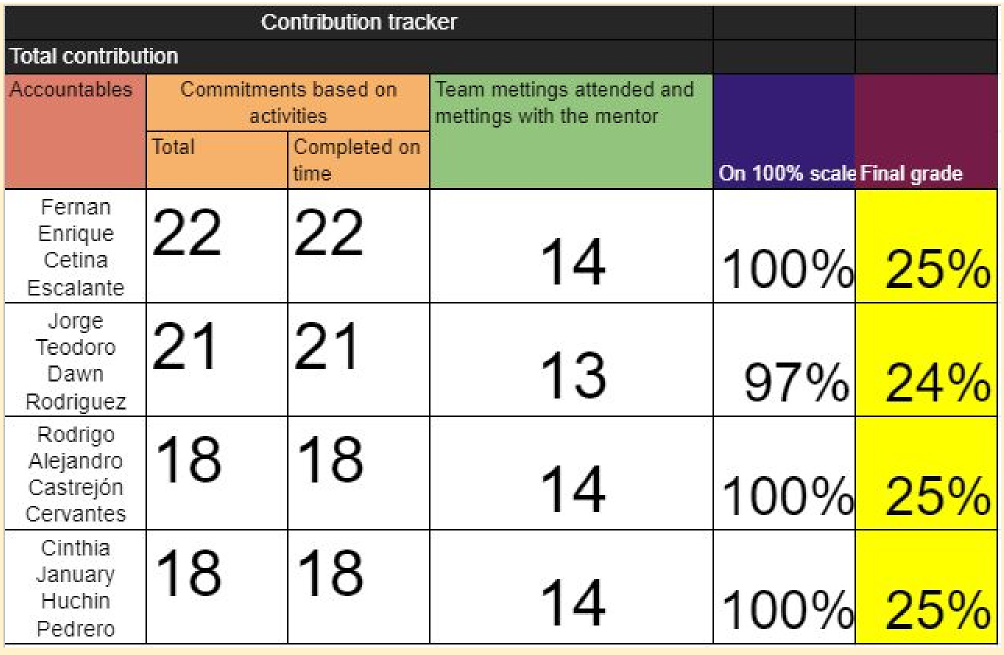
jueves, 4 de febrero de 2021 a las 15:30

Third increment contribution tracker:



Contribution tracker						
Sprint: Third Increment						
Accountables	Commitments based on activities		Times the project was delaied by needing corrections or somebody else did your commitment	Team mettings attended and mettings with the mentor	On 100% scale	Final grade
	Total	Completed on time				
Fernan Enrique Cetina Escalante	5	5	1	5	100%	25%
Jorge Teodoro Dawn Rodriguez	5	5	1	5	100%	25%
Rodrigo Alejandro Castrejón Cervantes	5	5	1	5	100%	25%
Cinthia January Huchin Pedrero	5	5	1	5	100%	25%

The final contribution tracker has the final percentage of contribution of each member. The final percentage is the median of the percentages taken from the first, second and third increment contribution trackers.



Contribution tracker					
Total contribution					
Accountables	Commitments based on activities		Team mettings attended and mettings with the mentor	On 100% scale	Final grade
	Total	Completed on time			
Fernan Enrique Cetina Escalante	22	22	14	100%	25%
Jorge Teodoro Dawn Rodriguez	21	21	13	97%	24%
Rodrigo Alejandro Castrejón Cervantes	18	18	14	100%	25%
Cinthia January Huchin Pedrero	18	18	14	100%	25%

Subject Proficiencies:

Generic proficiencies:

- Works with ICT in his/her professional interventions and in his/her private life in a suitable and responsible way.
- Works with others multi, inter and transdisciplinary environments in a cooperative way.
- Takes decisions in his/her professional and private practice in a responsible manner.
- Manage the knowledge in his/her professional and private practice in a responsible manner.

Specific proficiencies:

- Identifies the concepts linked to the phases of requirements, design, development, testing and maintenance, according to the recognized organisms of the discipline.
- Identifies human factors immersed in Software Development that contributes to the success of the Software project.
- Uses software engineering terminology properly in its professional interventions.
- Establishes the differences between the professional profiles in ICT.

We consider that every proficiency listed is developed in complete way, to demonstrate such statement we tried to ensure that in every part of the process a proficiency was met and that's how we actively seeked to cover them all on a balanced way, although some were more prominent than others apparently, we don't consider that to be the case on a personal level.

Demonstration of how the general proficiencies are met by specific activities of the development process:

- Works with ICT in his/her professional interventions and in his/her private life in a suitable and responsible way.
    - First increment: Throughout the whole project different tasks like “Work process” or “Meetings” require a different ICT tool, like meetings that are more accessible via TEAMS, Excel tracks better a checklist of contributions or Trello lets us visualize in a graphic way the pending activities. And for the future, more specific software like the ones used for modeling will also be tested to fit our needs and this abstraction thinking of deciding which one suits best is carried to our professional use of tools but also evolves our personal needs.

    - Second increment: like in the previous increment we used tools like Trello where dates were fixed, commitments made and were not allowed to change; for mentor feedback we used Power Point presentations and Teams and for the Wireframe tool we worked with Figma and tested if it fitted our needs and any slate not created from the team received credits.

- Takes decisions in his/her professional and private practice in a responsible manner.
    - First increment: At the beginning of the increment each member makes a commitment based on their time and abilities (“Work process”), so being self aware takes great relevance to make a responsible decision that affects your work and others. As joined tasks develop, the sub-teams are able to negotiate what is in the best interest of the daily scrum(e.g. in “Subject proficiency” Teodoro works on the repository management and Fernan on quality assurance) and in this sense, commiting to specific actions helps you develop a better decision taking mind.

    - Second increment: For this increment we did our best for having a well-organized list of activities so that we could be prepared for each one and advance using our most developed abilities. We took important decisions as a team like prioritize the design and testing phases. For each of them we achieve a more detailed knowledge of the phases in which we were working and we engage ourselves to finish our activities on time, being this an fundamental goal for considering the code generation. In this case we Fernan, Rodrigo and Teodoro integrated their knowledge and research to conceive the design of the UI and Cinthia working in the collection of the information for the user acceptance in order to improve our UI design.

Demonstration of how the specific proficiencies are met by specific activities of the development process:

- Identifies the concepts linked to the phases of requirements, design, development, testing and maintenance, according to the recognized organisms of the discipline.

    - First increment: All the phases(based on SWEBOK by IEEE) were considered in the creation of the timeline and have a determinate place in the organization of the documentation. We also considered making generic templates that can be filled according to the needments of the later phases. Activities like “Timeline” and “Scrum organization” are an example.

    - Second increment: as a direct proof of this proficiency the Modeling subtitle can demonstrate it and through team meetings and meetings with the mentor, such concepts were implemented.

- Identifies human factors immersed in Software Development that contributes to the success of the Software project.

    - First increment: We considered dividing most of the activities and hash out the possible contribution of each member of the team depending on its abilities. We also prioritized the communication in the meetings and tried to be the most attentive as possible, we always maintained a respectful approach in the activities and valued the contributions of the different stakeholders. On the other hand in the early activity "Product definition" we asked users to give us their needs and for the next increment a new contact with them will occur.
    - Second increment: once again we had active dialogue within the team through meetings and by giving positive feedback on individual work; and we had even more interactions with users than in the previous increment via interviews and surveys.

- Uses software engineering terminology properly in its professional interventions.
    - First increment:Since our project was conceived and during "Product definition" and "Timeline" we adjust a holistic view of the development process. We take into account activities as: requirements eliciting, approving requirements, communication, scrum framework. In a broader perspective, we try to evaluate the feasibility of our project in question as "How are we going to develop this product?", "Does there already exist another product that provides this service?".

    - Second increment: in the Trello screenshot, Github repository and along the meetings such terminology is actively used, like mentioning when mentioning the important distinction between the capacities of a code focused engineer and professional profiles such as QA and UX.

- Establishes the differences between the professional profiles in ICT.
    - Second increment: as the development of the increment evolved we noticed that complex task as quality assurance, design and implementation (functional code) really require specified professionals with experience in order to ensure that users get the best possible product; we worked our way out by improvising but dedicated professionals in areas like Coding, Quality and UX are key to the success of a project.

Additional proficiencies

According to the didactic planning of the subject, there are considered determined proficiencies for each unit, we try to include them by default but we also consider other proficicies that were involved in our process and were not in the planning of these units. We considered these proficiencies to be our additional proficiencies.

Generic proficiencies

- Works with others in multi, inter and transdisciplinary environments in a cooperative way.
    - First increment: Some tasks like writing this document(from “Application definition” to “subject proficiency”) requires a different depth of knowledge, some team members are more skillful in english than others and we take advantage of that; in this way, tasks like creating a repository, the project vision, ways to organize and track progress and so on, are led by the ones with more experience that share their insights and helps the overall achievement of new concepts.

    - Second increment: in this increment members like Rodrigo knew how to use Figma and Teodoro knew UML so the rest of the team got mini classes on how to use them and in consequence the team work improved.

- Manage the knowledge in his/her professional and private practice in a responsible manner.
    - Second increment: During the second increment process we needed to learn new abilities and adapt us to the requirements for the development phases involved; in order to to reach our goals we had to be self-aware of our edges and organized our time in order to have enough time for managing our lack of knowledge and our personal lives, specially in this times of the year where we are with our loved ones. Throughout this increment, we spend part of our time learning how to use design tools and trying to use them in the best way. We also had to analyse the feasibility of generating the code in order to recognize what knowledge we have in this area.

Specific proficiencies

In the case of the specific proficiencies we considered them in an holistic view and we try that each proficiency is involved in our process.