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# SOFTWARE PLANNING AND UML

for

## ESPOLTEL HIRING MANAGER

Version 1.0

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# 1 Introduction

## 1.1 Summary

This document presents a comprehensive framework for the design, planning, and execution of the ESPOLTEL HIRING MANAGER system. This product integrates a robust risk management strategy, a detailed project execution timeline, and a structured Sprint Backlog plan. Through the inclusion of Unified Modeling Language (UML) diagrams, we provide a thorough representation of both the static and behavioral logic of the system, ensuring that the architecture adheres to SOLID principles and eliminates implementation inefficiencies.

Our primary objective is to meticulously define the planning and breakdown of the system's static structure, logical flow, behavioral processes, implementation strategies, and activity sequences. These components collectively support the realization of a user-centric, scalable, and maintainable product.

## 1.2 Key features and Objectives

The ESPOLTEL HIRING MANAGER product is designed to streamline and enhance the recruitment process, leveraging a combination of web and mobile modules for maximum efficiency. Key objectives include:

1. **Risk Mitigation:** Developing a proactive risk management plan to address potential challenges in implementation and deployment.
2. **Comprehensive Planning:** Structuring the project execution into manageable phases using Agile methodologies.
3. **System Design:** Crafting static and behavioral UML diagrams to visualize the architecture, interactions, and workflows.
4. **Adherence to SOLID Principles:** Ensuring maintainability and scalability by avoiding anti-patterns and promoting clean code practices.

## 2 Risk management, product and sprint backlogs and scheduling

### 2.1 Risk management

In this section, we will identify, quantify, and classify the various risks that may arise during the software development process. Additionally, we will provide a detailed assessment of the likelihood of occurrence, the potential impact of each risk, and the corresponding protocols to be followed in the event they materialize.

Description	Probability Range
Not Probable: The event is highly unlikely to occur.	0% - 20%
Low Probability: The event is unlikely but possible.	21% - 40%
Moderate Probability: The event has an even chance of occurring.	41% - 60%
High Probability: The event is likely to occur.	61% - 80%
Very High Probability: The event is almost certain to occur.	81% - 100%

Table 2.1: Probability of Occurrence

Impact Level	Description
Low Impact	Minimal effect on the project. No significant changes required.
Moderate Impact	Some delays or adjustments needed but manageable within the team.
High Impact	Significant disruptions, requiring immediate attention and resource allocation.
Critical Impact	Severe consequences on project delivery, with major delays or failure possible.

Table 2.2: Impact Levels

The following table outlines the identified risks associated with the project, including their probability of occurrence, potential impact, and the corresponding action protocol.

<b>Id</b>	<b>Name</b>	<b>Probability</b>	<b>Impact</b>	<b>Action Protocol</b>
001	Changes in requirements after development completion	High Probability	High Impact	Establish a communication protocol to clarify that no new requirements will be accepted after the design phase is finalized.
002	Discovery of implicit requirements not considered in the design	Very High Probability	High Impact	Accept and address the risk by updating the design and implementing the missing requirements.
003	Need for developer training	High Probability	High Impact	Provide immediate training on the required frameworks to minimize delays and ensure smooth development progress.
004	Difficulty understanding prior implementation, causing delays	Low Probability	Critical Impact	Reduce the probability by consulting previous implementers to gain insights into the system before development begins.
005	Schedule misalignment affecting task timelines	Not Probable	High Impact	Mitigate the risk by redistributing tasks and holding regular progress meetings to stay on track.
006	Performance drop due to prior monolithic architecture	Low Probability	High Impact	Accept the risk, inform the client, and propose alternative solutions to improve performance.
007	Database schema not designed for extensions	Low Probability	Moderate Impact	Accept the risk and adapt the existing schema to accommodate the new requirements.
008	Insufficient documentation provided by the client	High Probability	Critical Impact	Reduce probability by maintaining active communication with the client to obtain necessary documentation.

Table 2.3: Risk Assessment and Action Protocols

## 2.2 Product backlog

<b>ID</b>	<b>Priority</b>	<b>Dependencies</b>	<b>Item</b>	<b>Estimation (hours)</b>
PB1	0	None	Research Spring Boot platform: Investigation of the architecture, modules, and functionalities of Spring Boot relevant to the project. Includes feasibility evaluation and the creation of a document with findings and recommendations.	4



ID	Priority	Dependencies	Item	Estimation (hours)
PB2	0	None	Definition of the database schema: Design the database schema, including the definition of tables, relationships, and constraints. An Entity-Relationship diagram and the SQL script for database creation will be generated.	8
PB3	1	PB1, PB2	<b>As</b> a user of ESPOLTEL Hiring Manager, <b>I want</b> to create my own account <b>so that</b> I can access all controls related to my role, ensuring my information and permissions are separate from other users.	6
PB4	1	PB3	<b>As</b> a user of ESPOLTEL Hiring Manager, <b>I want</b> to verify my email address upon registration <b>so that</b> I can ensure secure access to the system and confirm my identity.	8
PB5	2	PB3	<b>As</b> a user of ESPOLTEL Hiring Manager, <b>I want</b> to create my own account using the mobile app, <b>so that</b> I can access all controls corresponding to my role, and ensure that my information and permissions are separate from those of other users.	6
PB6	1	PB5	<b>As</b> a user of ESPOLTEL Hiring Manager, <b>I want</b> to verify my email address when registering from my mobile device, <b>so that</b> I can ensure secure access to the system and confirm my identity.	10
PB7	1	PB3	<b>As</b> a user of ESPOLTEL Hiring Manager, <b>I want</b> to log in securely using my credentials <b>so that</b> I can access features and project management tools.	4
PB8	1	PB7	<b>As</b> a user of ESPOLTEL Hiring Manager, <b>I want</b> to select my role (Aspirant, Project Manager, Project Director, or HR member) before logging in <b>so that</b> I am directed to the appropriate login process and access functionalities specific to my role.	6
PB9	2	PB7	<b>As</b> a user of ESPOLTEL, <b>I want</b> to securely log in to the system using my credentials on my mobile device, <b>so that</b> I can access the appropriate functions and features according to my user role.	5
PB10	2	PB8	<b>As</b> a user of ESPOLTEL, <b>I want</b> to be able to select my role (Aspirant, Project Manager, Project Director, or HR member) on my mobile device before logging in, <b>so that</b> I can be directed to the specific features and functionalities relevant to my role.	6

ID	Priority	Dependencies	Item	Estimation (hours)
PB11	3	PB3	<b>As</b> a user of ESPOLTEL Hiring Manager, <b>I want</b> to be able to recover my password through a secure and efficient process if I forget it, <b>so that</b> I can regain access to the system and continue with my responsibilities without delay.	5
PB12	3	PB5	<b>As</b> a user of ESPOLTEL Hiring Manager, <b>I want</b> to be able to recover my password through a secure and efficient process by email from my mobile device if I forget it, <b>so that</b> I can regain access to the system and continue with my responsibilities without delay.	6
PB13	2	PB1,PB2	<b>As</b> an aspirant or manager, <b>I want</b> to have access to contracts or confidential agreements pending my signature, <b>so that</b> I can review and sign them digitally within the web application.	12
PB14	1	P13	<b>As</b> an aspirant, <b>I want</b> to upload my digital certificate to the platform <b>so that</b> I can sign documents such as contracts or confidentiality agreements for the projects I have applied to.	5
PB15	1	P13	<b>As</b> a manager, <b>I want</b> to upload my digital certificate to the platform <b>so that</b> I can sign multiple documents such as contracts or confidentiality agreements for the projects I manage.	5
PB16	1	P14	<b>As</b> an aspirant, <b>I want</b> to digitally sign my contract and confidentiality agreement <b>so that</b> I can complete the paperwork required for my hiring process.	12
PB17	1	P15	<b>As</b> a manager, <b>I want</b> to digitally sign multiple documents, such as contracts or confidentiality agreements, simultaneously, <b>so that</b> I can save time and work more efficiently.	12
PB18	3	PB16	<b>As</b> an aspirant, <b>I want</b> to view the contracts of the projects I have applied for and that are currently active, <b>so that</b> I have a clear view of the agreements I have signed.	6
PB19	3	PB18	<b>As</b> an aspirant, <b>I want</b> to download the contracts of the projects I have applied for and that are currently active, <b>so that</b> I have a record of the agreements I have signed.	4
PB20	3	PB16	<b>As</b> an aspirant, <b>I want</b> to view the contracts of the projects I have applied for and that are currently active on my smartphone, <b>so that</b> I have a clear view of the agreements I have signed.	6
PB21	3	PB20	<b>As</b> an aspirant, <b>I want</b> to download the contracts of the projects I have applied for and that are currently active on my smartphone, <b>so that</b> I have a record of the agreements I have signed.	4

ID	Priority	Dependencies	Item	Estimation (hours)
PB22	1	PB16	<b>As</b> an HR member, <b>I want</b> to validate the digital signatures of aspirants <b>so that</b> I can ensure contracts and agreements are formalized.	8
PB23	2	PB3	<b>As</b> a project manager, <b>I want</b> to create a project by defining its name, description, start date, end date, and type, <b>so that</b> the project's objectives and timeline are clearly established.	12
PB24	2	PB23	<b>As</b> a project manager, <b>I want</b> to define roles and profiles required for the project, including necessary skills and experience for each profile, <b>so that</b> aspirants can understand the requirements and apply to suitable positions.	6
PB25	3	PB24	<b>As</b> a Director, <b>I want</b> to recommend an aspirant who has previously worked for ESPOLTEL for a role in a project, based on their past performance and experience, <b>so that</b> I have a worker I trust in my project.	8
PB26	2	PB24	<b>As</b> an HR member, <b>I want</b> to validate the profiles created by project directors <b>so that</b> I can edit, approve, the profiles and positions defined for a project, ensuring they align with the company's standards and requirements.	12
PB27	2	PB23	<b>As</b> a project manager or director at ESPOLTEL, <b>I want</b> to monitor on my smartphone the projects under my supervision, <b>so that</b> I can maintain better control and make informed decisions.	8
PB28	2	PB23	<b>As</b> a Director or Manager, <b>I want</b> to view the resources and budget assigned to my project, <b>so that</b> I can track project expenses and resource utilization.	10
PB29	1	PB8	<b>As</b> an aspirant, <b>I want</b> to apply for a position in a project of interest where I meet the required profile <b>so that</b> I can obtain the desired position.	10
PB30	2	PB29	<b>As</b> an aspirant, <b>I want</b> to cancel my postulation for a specific role or hiring profile, <b>so that</b> I can withdraw from a recruitment process if my circumstances change.	8
PB31	2	PB8, PB29	<b>As</b> an HR member, <b>I want</b> to schedule interviews with aspirants, specifying the date, time, and interviewer, <b>so that</b> the selection process can be efficiently conducted.	10
PB32	2	PB31	<b>As</b> a HR member, <b>I want</b> to record interview results and observations, including scores and comments, <b>so that</b> there is a formal record of each aspirant's evaluation.	8

ID	Priority	Dependencies	Item	Estimation (hours)
PB33	2	PB24, PB29	<b>As</b> an HR member, <b>I want</b> to verify the requirements based on the information of an aspirant, <b>so that</b> I can ensure they meet the necessary qualifications for a project.	8
PB34	3	PB32	<b>As</b> an HR member, <b>I want</b> to add private comments in aspirants' postulations <b>so that</b> I can keep a record of observations and notes during the selection process.	4
PB35	2	PB32, PB33, PB34	<b>As</b> an HR member, <b>I want</b> to select the best aspirants based on interview results and fulfilled requirements, <b>so that</b> I can identify the most suitable candidates for each role.	10
PB36	2	PB8	<b>As</b> an HR member, <b>I want</b> to create and manage forms for pre-hiring and hiring processes, defining mandatory fields and document uploads, <b>so that</b> aspirants can provide the necessary information.	15
PB37	2	PB8	<b>As</b> an HR member, <b>I want</b> to upload templates for contracts and agreements, <b>so that</b> appropriate templates are available for generating personalized documents for aspirants.	12
PB38	2	PB29, PB36	<b>As</b> an aspirant, <b>I want</b> to upload my personal documents (such as CV, ID, certificates, etc.) and relevant information <b>by completing forms defined by HR</b> , <b>so that</b> I can fulfill postulation requirements.	8
PB39	2	PB37	<b>As</b> an HR member, <b>I want</b> to generate contracts and agreements from templates, <b>so that</b> I can save time in creating personalized documents.	12
PB40	2	PB32, PB33, PB34	<b>As</b> an HR member, <b>I want</b> to view aspirants by specific skills and experience, <b>so that</b> I can make it easier to select candidates who meet the project requirements.	4
PB41	2	PB8	<b>As</b> a Director, HR Member, or Manager, <b>I want</b> to view the hires or personnel associated with a project, <b>so that</b> I have an overview of the team composition and recruitment progress.	10
PB42	2	None	<b>As</b> a user of ESPOLTEL Hiring Manager, <b>I want</b> to be able to search and filter information across the platform, including projects, aspirants, roles, documents, and other relevant data, <b>so that</b> I can quickly find and focus on the data I need.	8
PB43	1	PB10	<b>As</b> a user of the ESPOLTEL Hiring Manager mobile app, <b>I need</b> to receive notifications for any important events in the recruitment process, <b>so that</b> I can stay informed and respond promptly.	12

ID	Priority	Dependencies	Item	Estimation (hours)
PB44	2	PB8	<b>As</b> an aspirant, <b>I want</b> to monitor on my smart-phone the projects I have applied for, <b>so that</b> I can stay updated on their progress and better manage my involvement.	10
PB45	2	PB31	<b>As</b> an aspirant, <b>I want</b> to receive notifications about my scheduled interviews, including reminders and updates, <b>so that</b> I can be prepared and attend interviews on time.	8
PB46	4	PB45	Testing and deployment	24

Table 2.4: Product Backlog of ESPOLTEL Hiring Manager

## 2.3 Sprint backlog

Product Back-log Item	User Story	Tasks	Assigned To
PB1	Research Spring Boot platform (4 hours)	-Research architecture, modules, and functionalities of Spring Boot. - 3 hours -Feasibility evaluation of this framework. - 1 hour	- Jeremy Poveda, Diego Flores, Ariana Palacios - Alex Vizuite, Jose Ramos
PB2	Definition of the database schema (8 hours)	-Design the database schema (tables, relationships, and constraints). - 4 hours -Generate Entity-Relationship diagram and SQL script. - 4 hours	- Diego Flores, Ariana Palacios - Jeremy Poveda, Alex Vizuite
PB3	<b>As</b> a user of ESPOLTEL Hiring Manager, <b>I want</b> to create my own account <b>so that</b> I can access all controls related to my role, ensuring my information and permissions are separate from other users. (6 hours)	- Design UI for user registration (web). - 2 hours - Implement backend logic for user registration and role management. - 3 hours - Database integration for user accounts. - 1 hour	- Jeremy Poveda - Jose Ramos - Ariana Palacios
PB4	<b>As</b> a user of ESPOLTEL Hiring Manager, <b>I want</b> to verify my email address upon registration <b>so that</b> I can ensure secure access to the system and confirm my identity. (8 hours)	- Implement email sending functionality (e.g., using Spring Mail). - 3 hours - Create email verification endpoint. - 3 hours - Integrate email verification with registration flow. - 2 hours	- Alex Vizuite - Diego Flores - Jeremy Poveda

Product Back-log Item	User Story	Tasks	Assigned To
PB5	<b>As</b> a user of ESPOLTEL Hiring Manager, <b>I want</b> to create my own account using the mobile app, <b>so that</b> I can access all controls corresponding to my role, and ensure that my information and permissions are separate from those of other users. (6 hours)	<ul style="list-style-type: none"> <li>- Design UI for user registration (mobile). - 2 hours</li> <li>- Implement backend logic for user registration and role management (mobile). - 3 hours</li> <li>- Database integration for user accounts (mobile). - 1 hour</li> </ul>	<ul style="list-style-type: none"> <li>- Diego Flores</li> <li>- Jose Ramos</li> <li>- Ariana Palacios</li> </ul>
PB6	<b>As</b> a user of ESPOLTEL Hiring Manager, <b>I want</b> to verify my email address when registering from my mobile device, <b>so that</b> I can ensure secure access to the system and confirm my identity. (10 hours)	<ul style="list-style-type: none"> <li>- Adapt email sending functionality for mobile. - 3 hours</li> <li>- Create email verification endpoint (mobile). - 4 hours</li> <li>- Integrate email verification with mobile registration flow. - 3 hours</li> </ul>	<ul style="list-style-type: none"> <li>- Alex Vizuite</li> <li>- Jeremy Poveda</li> <li>- Jose Ramos</li> </ul>
PB7	<b>As</b> a user of ESPOLTEL Hiring Manager, <b>I want</b> to log in securely using my credentials <b>so that</b> I can access features and project management tools. (4 hours)	<ul style="list-style-type: none"> <li>- Design UI for user login (web). - 1 hour</li> <li>- Implement backend logic for authentication. - 2 hours</li> <li>- Implement session management. - 1 hour</li> </ul>	<ul style="list-style-type: none"> <li>- Jose Ramos</li> <li>- Ariana Palacios</li> <li>- Alex Vizuite</li> </ul>
PB8	<b>As</b> a user of ESPOLTEL Hiring Manager, <b>I want</b> to select my role (Aspirant, Project Manager, Project Director, or HR member) before logging in <b>so that</b> I am directed to the appropriate login process and access functionalities specific to my role. (6 hours)	<ul style="list-style-type: none"> <li>- Design UI for role selection. - 3 hours</li> <li>- Implement role-based access control logic. - 3 hours</li> </ul>	<ul style="list-style-type: none"> <li>- Diego Flores</li> <li>- Jeremy Poveda</li> </ul>
PB9	<b>As</b> a user of ESPOLTEL, <b>I want</b> to securely log in to the system using my credentials on my mobile device, <b>so that</b> I can access the appropriate functions and features according to my user role. (5 hours)	<ul style="list-style-type: none"> <li>- Design UI for user login (mobile). - 2 hours</li> <li>- Implement backend logic for authentication (mobile). - 2 hours</li> <li>- Implement session management (mobile). - 1 hour</li> </ul>	<ul style="list-style-type: none"> <li>- Jeremy Poveda</li> <li>- Ariana Palacios</li> <li>- Alex Vizuite</li> </ul>

Product Back-log Item	User Story	Tasks	Assigned To
PB10	<b>As</b> a user of ESPOLTEL, <b>I want</b> to be able to select my role (Aspirant, Project Manager, Project Director, or HR member) on my mobile device before logging in, <b>so that</b> I can be directed to the specific features and functionalities relevant to my role. (6 hours)	- Design UI for role selection (mobile). - 3 hours - Implement role-based access control logic (mobile). - 3 hours	- Diego Flores - Jose Ramos
PB11	<b>As</b> a user of ESPOLTEL Hiring Manager, <b>I want</b> to be able to recover my password through a secure and efficient process if I forget it, <b>so that</b> I can regain access to the system and continue with my responsibilities without delay. (5 hours)	- Design UI for password recovery. - 2 hours - Implement backend logic for password recovery. - 3 hours	- Jose Ramos - Ariana Palacios
PB12	<b>As</b> a user of ESPOLTEL Hiring Manager, <b>I want</b> to be able to recover my password through a secure and efficient process by email from my mobile device if I forget it, <b>so that</b> I can regain access to the system and continue with my responsibilities without delay. (6 hours)	- Design UI for password recovery (mobile). - 2 hours - Implement backend logic for password recovery, including email sending (mobile). - 3 hours - Integrate password recovery with mobile login flow. - 1 hour	- Diego Flores - Ariana Palacios - Alex Vizuite

Table 2.5: Sprint 1 of ESPOLTEL Hiring Manager

Product Back-log Item	User Story	Tasks	Assigned To
PB13	<b>As</b> an aspirant or manager, <b>I want</b> to have access to contracts or confidential agreements pending my signature, <b>so that</b> I can review and sign them digitally within the web application. (12)	Design UI for contract/agreement viewing. - 4 hours Implement backend logic for fetching pending documents. - 4 hours Integrate digital signature service/library. - 4 hours	Jeremy Poveda Jose Ramos Alex Vizuite

Product Back-log Item	User Story	Tasks	Assigned To
PB14	<b>As</b> an aspirant, <b>I want</b> to upload my digital certificate to the platform <b>so that</b> I can sign documents such as contracts or confidentiality agreements for the projects I have applied to. (5)	Design UI for digital certificate upload. - 2 hours Implement backend logic for certificate storage and validation. - 3 hours	Diego Flores Ariana Palacios
PB15	<b>As</b> a manager, <b>I want</b> to upload my digital certificate to the platform <b>so that</b> I can sign multiple documents such as contracts or confidentiality agreements for the projects I manage. (5)	Design UI for digital certificate upload (Manager). - 2 hours Implement backend logic for certificate storage and validation (Manager). - 3 hours	Jeremy Poveda Alex Vizuite
PB16	<b>As</b> an aspirant, <b>I want</b> to digitally sign my contract and confidentiality agreement <b>so that</b> I can complete the paperwork required for my hiring process. (12)	Integrate digital signature functionality for aspirants. - 6 hours Design UI for signing contracts and agreements. - 3 hours Update database to store signature data and status. - 3 hours	Diego Flores Jeremy Poveda
PB17	<b>As</b> a manager, <b>I want</b> to digitally sign multiple documents, such as contracts or confidentiality agreements, simultaneously, <b>so that</b> I can save time and work more efficiently. (12)	Implement bulk/batch digital signature functionality. - 8 hours Design UI for bulk signing. - 2 hours Update backend logic to handle multiple signatures. - 2 hours	Diego Flores Ariana Palacios Jeremy Poveda
PB18	<b>As</b> an aspirant, <b>I want</b> to view the contracts of the projects I have applied for and that are currently active, <b>so that</b> I have a clear view of the agreements I have signed. (6)	Design UI for contract viewing (aspirant). - 3 hours Implement backend logic for fetching and displaying active contracts. - 3 hours	Alex Vizuite Jose Ramos
PB19	<b>As</b> an aspirant, <b>I want</b> to download the contracts of the projects I have applied for and that are currently active, <b>so that</b> I have a record of the agreements I have signed. (4)	Implement contract download functionality. - 2 hours Integrate with secure document storage. - 2 hours	Alex Vizuite Jose Ramos



Product Back-log Item	User Story	Tasks	Assigned To
PB20	<b>As</b> an aspirant, <b>I want</b> to view the contracts of the projects I have applied for and that are currently active on my smartphone, <b>so that</b> I have a clear view of the agreements I have signed. (6)	Design mobile UI for contract viewing. - 3 hours Adapt backend logic for mobile contract fetching. - 3 hours	Diego Flores Ariana Palacios
PB21	<b>As</b> an aspirant, <b>I want</b> to download the contracts of the projects I have applied for and that are currently active on my smartphone, <b>so that</b> I have a record of the agreements I have signed. (4)	Implement mobile contract download functionality. - 2 hours Integrate with mobile secure storage. - 2 hours	Diego Flores Jose Ramos
PB22	<b>As</b> an HR member, <b>I want</b> to validate the digital signatures of aspirants <b>so that</b> I can ensure contracts and agreements are formalized. (8)	Implement backend logic for signature validation. - 5 hours Design UI for displaying signature validation status. - 3 hours	Ariana Palacios Jose Ramos
PB23	<b>As</b> a project manager, <b>I want</b> to create a project by defining its name, description, start date, end date, and type, <b>so that</b> the project's objectives and timeline are clearly established. (12)	Design UI for project creation form. - 4 hours Implement backend logic for project creation and data validation. - 5 hours Database integration for project data. - 3 hours	Jose Ramos Ariana Palacios Diego Flores
PB24	<b>As</b> a project manager, <b>I want</b> to define roles and profiles required for the project, including necessary skills and experience for each profile, <b>so that</b> aspirants can understand the requirements and apply to suitable positions. (6)	Design UI for role/profile definition. - 3 hours Implement backend logic for storing role/profile data. - 3 hours	Jose Ramos Alex Vizuite
PB25	<b>As</b> a Director, <b>I want</b> to recommend an aspirant who has previously worked for ESPOLTEL for a role in a project, based on their past performance and experience, <b>so that</b> I have a worker I trust in my project. (8)	Design UI for aspirant recommendation. - 3 hours Implement backend logic for recommendation processing, including fetching past performance data. - 5 hours	Jeremy Poveda Alex Vizuite

Product Back-log Item	User Story	Tasks	Assigned To
PB26	<b>As</b> an HR member, <b>I want</b> to validate the profiles created by project directors <b>so that</b> I can edit, approve, the profiles and positions defined for a project, ensuring they align with the company's standards and requirements. (12)	Design UI for profile review and approval. - 4 hours Implement backend logic for profile validation workflow. - 5 hours Database integration for profile status. - 3 hours	Ariana Palacios Diego Flores Jeremy Poveda
PB27	<b>As</b> a project manager or director at ESPOLTEL, <b>I want</b> to monitor on my smartphone the projects under my supervision, <b>so that</b> I can maintain better control and make informed decisions. (8)	Design mobile UI for project monitoring. - 4 hours Implement mobile backend logic for retrieving project data. - 4 hours	Diego Flores Jose Ramos
PB28	<b>As</b> a Director or Manager, <b>I want</b> to view the resources and budget assigned to my project, <b>so that</b> I can track project expenses and resource utilization. (10)	Design UI for resource and budget viewing. - 4 hours Implement backend logic for retrieving resource and budget data. - 6 hours	Ariana Palacios Alex Vizuite

Table 2.6: Sprint 2 of ESPOLTEL Hiring Manager

Product Back-log Item	User Story	Tasks	Assigned To
PB29	<b>As</b> an aspirant, <b>I want</b> to apply for a position in a project of interest where I meet the required profile <b>so that</b> I can obtain the desired position. (10)	Design UI for project/position application. - 4 hours Implement backend logic for application processing. - 6 hours	Alex Vizuite Jose Ramos
PB30	<b>As</b> an aspirant, <b>I want</b> to cancel my postulation for a specific role or hiring profile, <b>so that</b> I can withdraw from a recruitment process if my circumstances change. (8)	Design UI for postulation cancellation. - 3 hours Implement backend logic for postulation cancellation. - 5 hours	Jeremy Poveda Diego Flores
PB31	<b>As</b> an HR member, <b>I want</b> to schedule interviews with aspirants, specifying the date, time, and interviewer, <b>so that</b> the selection process can be efficiently conducted. (10)	Design UI for interview scheduling. - 4 hours Implement backend logic for interview scheduling and notifications. - 6 hours	Diego Flores Ariana Palacios

Product Back-log Item	User Story	Tasks	Assigned To
PB32	<b>As</b> an HR member, <b>I want</b> to record interview results and observations, including scores and comments, <b>so that</b> there is a formal record of each aspirant's evaluation. (8)	Design UI for recording interview results. - 3 hours Implement backend logic for storing interview data. - 5 hours	Jeremy Poveda Diego Flores
PB33	<b>As</b> an HR member, <b>I want</b> to verify the requirements based on the information of an aspirant, <b>so that</b> I can ensure they meet the necessary qualifications for a project. (8)	Design UI for requirement verification. - 3 hours Implement backend logic for requirement checking. - 5 hours	Jose Ramos Ariana Palacios
PB34	<b>As</b> an HR member, <b>I want</b> to add private comments in aspirants' postulations <b>so that</b> I can keep a record of observations and notes during the selection process. (4)	Design UI for adding private comments. - 2 hours Implement backend logic for storing private comments. - 2 hours	Alex Vizuite Jeremy Poveda
PB35	<b>As</b> an HR member, <b>I want</b> to select the best aspirants based on interview results and fulfilled requirements, <b>so that</b> I can identify the most suitable candidates for each role. (10)	Design UI for aspirant selection. - 4 hours Implement backend logic for selection processing. - 6 hours	Diego Flores Jose Ramos
PB36	<b>As</b> an HR member, <b>I want</b> to create and manage forms for pre-hiring and hiring processes, defining mandatory fields and document uploads, <b>so that</b> aspirants can provide the necessary information. (15)	Design UI for form creation and management. - 5 hours Implement backend logic for form data storage and retrieval. - 7 hours Integrate document upload functionality. - 3 hours	Jose Ramos Alex Vizuite Ariana Palacios
PB37	<b>As</b> an HR member, <b>I want</b> to upload templates for contracts and agreements, <b>so that</b> appropriate templates are available for generating personalized documents for aspirants. (12)	Design UI for template upload and management. - 4 hours Implement backend logic for template storage and retrieval. - 5 hours Implement template versioning. - 3 hours	Jeremy Poveda Jose Ramos Alex Vizuite
PB38	<b>As</b> an aspirant, <b>I want</b> to upload my personal documents (such as CV, ID, certificates, etc.) and relevant information <b>by completing forms defined by HR</b> , <b>so that</b> I can fulfill postulation requirements. (8)	Implement document upload and form submission functionality. - 5 hours Update UI to integrate with forms defined by HR. - 3 hours	Ariana Palacios Alex Vizuite

Product Back-log Item	User Story	Tasks	Assigned To
PB39	<b>As</b> an HR member, <b>I want</b> to generate contracts and agreements from templates, <b>so that</b> I can save time in creating personalized documents. (12)	Implement backend logic for document generation from templates. - 8 hours Design UI for document generation. - 4 hours	Ariana Palacios Diego Flores Jeremy Poveda

Table 2.7: Sprint 3 of ESPOLTEL Hiring Manager

Product Back-log Item	User Story	Tasks	Assigned To
PB40	<b>As</b> an HR member, <b>I want</b> to view aspirants by specific skills and experience, <b>so that</b> I can make it easier to select candidates who meet the project requirements. (4)	Enhance search/filter functionality for aspirants. - 4 hours	Jeremy Poveda Diego Flores
PB41	<b>As</b> a Director, HR Member, or Manager, <b>I want</b> to view the hires or personnel associated with a project, <b>so that</b> I have an overview of the team composition and recruitment progress. (10)	Design UI for viewing project personnel. - 4 hours Implement backend logic for retrieving project personnel data. - 6 hours	Jose Ramos Alex Vizuite
PB42	<b>As</b> a user of ESPOLTEL Hiring Manager, <b>I want</b> to be able to search and filter information across the platform, including projects, aspirants, roles, documents, and other relevant data, <b>so that</b> I can quickly find and focus on the data I need. (8)	Design UI for search and filter functionality. - 3 hours Implement backend logic for search and filtering. - 5 hours	Alex Vizuite Jeremy Poveda
PB43	<b>As</b> a user of the ESPOLTEL Hiring Manager mobile app, <b>I need</b> to receive notifications for any important events in the recruitment process, <b>so that</b> I can stay informed and respond promptly. (12)	Set up push notification service (e.g., Firebase Cloud Messaging). - 4 hours Implement backend logic to trigger notifications. - 4 hours Integrate notifications with mobile app. - 4 hours	Diego Flores Jose Ramos Ariana Palacios

Product Back-log Item	User Story	Tasks	Assigned To
PB44	As an aspirant, <b>I want</b> to monitor on my smartphone the projects I have applied for, <b>so that</b> I can stay updated on their progress and better manage my involvement. (10)	Design mobile UI for application monitoring. - 4 hours Implement mobile backend logic for retrieving application status. - 6 hours	Jose Ramos Ariana Palacios
PB45	As an aspirant, <b>I want</b> to receive notifications about my scheduled interviews, including reminders and updates, <b>so that</b> I can be prepared and attend interviews on time. (8)	Implement notification logic for interview scheduling. - 5 hours Integrate with calendar/reminder system if needed. - 3 hours	Jeremy Poveda Alex Vizuite
PB46	Testing and deployment (24)	Functional testing. - 8 hours Integration testing. - 8 hours Performance testing. - 4 hours Deployment to staging/production. - 4 hours	All team members

Table 2.8: Sprint 4 of ESPOLTEL Hiring Manager

## 2.4 Scheduling

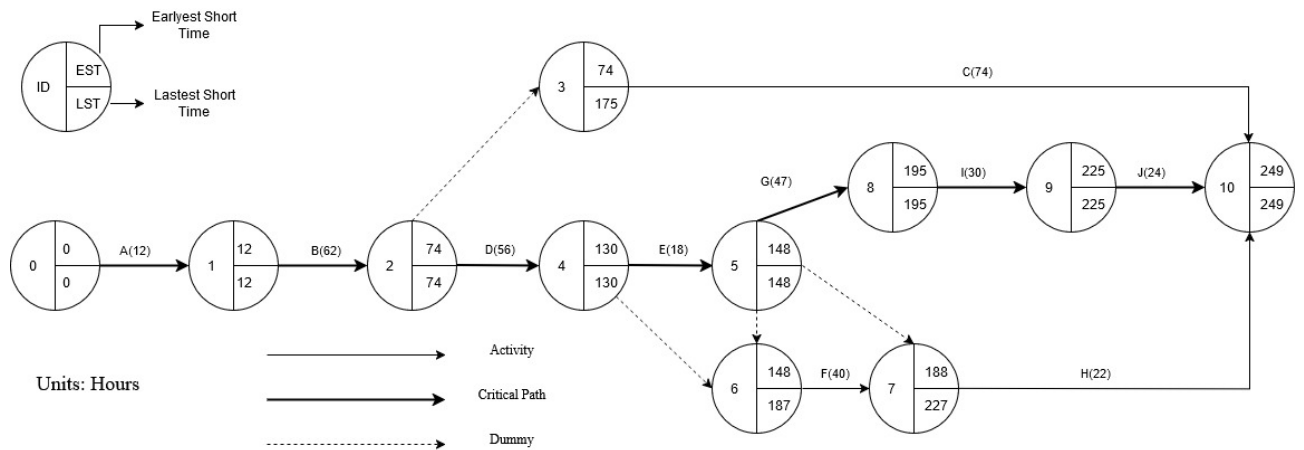


Figure 2.1: Activity Arrow Diagram of ESPOLTEL HIRING MANAGER

ID	Description	Dep	Product Backlog Items	Hours	Earliest Start Time	Latest Finish Time	Float
A	System Foundation	None	PB1, PB2	12	0	12	0
B	User Management	A	PB3, PB4, PB5, PB6, PB7, PB8, PB9, PB10, PB11, PB12	62	12	74	0
C	Digital Signature	B	PB13, PB14, PB15, PB16, PB17, PB18, PB19, PB20, PB21, PB22	74	74	249	101
D	Project Creation	B	PB23, PB24, PB25, PB26, PB27, PB28	56	74	130	0
E	Aspirant Postulation	D	PB29, PB30	18	130	148	0
F	Interviews	D, E	PB31, PB32, PB33, PB34, PB35	40	148	227	39
G	Document Generation	E	PB36, PB37, PB38, PB39	47	148	195	0
H	Search and Filtering	E, F	PB40, PB41, PB42	22	188	249	39
I	Notifications	G	PB43, PB44, PB45	30	195	225	0
J	Testing and Deployment	I	PB46	24	225	249	0

Table 2.9: Activity Arrow table for Macro-activities ESPOLTEL Hiring Manager

## **3 Static UML**

### **3.1 Use Case - Web Module**

### **3.2 Use Case - Mobile Module**

## 4 Behavior UML



## 5 Individual Contributions

Student's Names	Contributions
Jeremy Rodrigo Poveda Gorotiza	Project Scope, Introduction, User Stories, Creation of GitHub Repository, prototype: web application for director and managers
Diego Fernando Flores Rengifo	Non functional requirements both Web and Mobile Application, prototype in figma: Authentication module and aspirants Platform
José David Ramos Rios	Product Overview, Product Features, Module Featuring: Mobile App, First Preview of Module Featuring: Web Application, and prototype in figma of Mobile App
Ariana Valentina Palacios Saenz	Revision, User Stories, and prototyping flows and module integration
Alex Javier Vizuite Pereira	Web Application Modules Breakdown, Mobile Application Modules Breakdown, prototype in figma: aspirants Platform, screens, and flow of postulation process

Table 5.1: Responsibilities of each member of team 3

## 6 Appendix

### 6.1 Appendix A: Github Repository

The versioning of the project prototype has been managed using Github. You can find it through the following link ESPOLTEL's versioning project:

[Repository link](#)

### 6.2 Appendix B: Commitment Agreement

### 6.3 Appendix C: Evidence of requirements gathering

[Initial interview for requirements gathering with the client](#)

#### Template Questions for the Interview

1. Are "Human Talent" and "Human Resources" distinct roles within the company?

If yes, is the Human Resources area responsible for generating documents such as contracts and confidentiality agreements?

What we understand is as follows:

Human Talent:

- Requests documents and information from aspirants.
- Verifies that aspirants meet the position requirements.
- Sends the data of candidates who meet the requirements to Human Resources.

Human Resources:

- Generates documents such as contracts and confidentiality agreements.
- Sends the generated contracts or agreements to the applicant.
- Verifies the applicant's signature.
- Sends the documents to managers for their signatures.

2. Must the contracts and confidentiality agreements be signed not only by the managers and aspirants but also by the project director?

3. In addition to requesting basic information such as names, surnames, cell phone numbers, etc., should the Human Talent area request specific documents according to the profile, such as copies of the ID, voting card, etc.?

4. Who is responsible for entering the templates of the contracts or confidentiality agreements into the system: Human Talent or Human Resources?

5. Should these templates be created directly within the system? If yes, would the data be in plain text, such as names, surnames, ID numbers, and the positions for electronic signatures (of managers, aspirants, and possibly project directors)?

6. Would the stages of the applicant acceptance process be as follows?

- Application for a profile by submitting information (plain text data and documents). Waiting for a response from Human Talent to verify if the applicant meets the requirements. If the applicant meets the requirements, waiting for the contract and confidentiality agreements to sign, generated by Human Resources.
- Signing the documents.
- Waiting for signature validation by Human Resources.
- Waiting for signatures from managers and directors.
- Confirmation of participation in the project.