

Construcción de software ITC

Equipo MEMEH

Semana 2

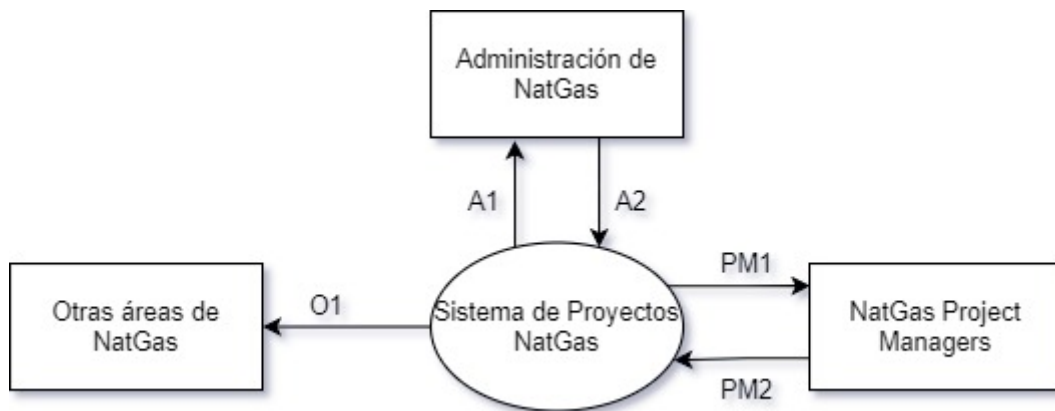
Avance 2

Análisis y diseño de la solución



Context diagram

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A1: Consultar todos los datos del sistema

A2: Modificar todos los datos del sistema

PM1: Consultar datos de todos los proyectos y empleados

PM2: Crear y modificar proyectos en el sistema

O1: Consultar datos de proyectos

Functional requirements

> Admin:

- Register Employees
- Create project
- Modify project
- Remove project
- Modify the user information

> Project Leader:

- Create Phase
- Remove Phase created by himself
- Create Working Type
- Remove WorkingTypecreated by himself
- Create Commitment
- Remove Commitment created by himself
- Create Object
- Remove Object created by himself
- Create Use Case
- Modify UseCasecreated by himself
- Remove UseCasecreated by himself

> Project Member:

- Create WorkItem under the UseCase.
- Modify the WorkItem created by himself
- Modify the WorkItem assigned to himself
- Remove WorkItem created by himself
- Generate Project Report

> Employee:

- Login in System

Use case Diagram

<https://app.diagrams.net/#G1bbV4KlEnZyrcaSTq7eAxk9WUK0mxXmsT>

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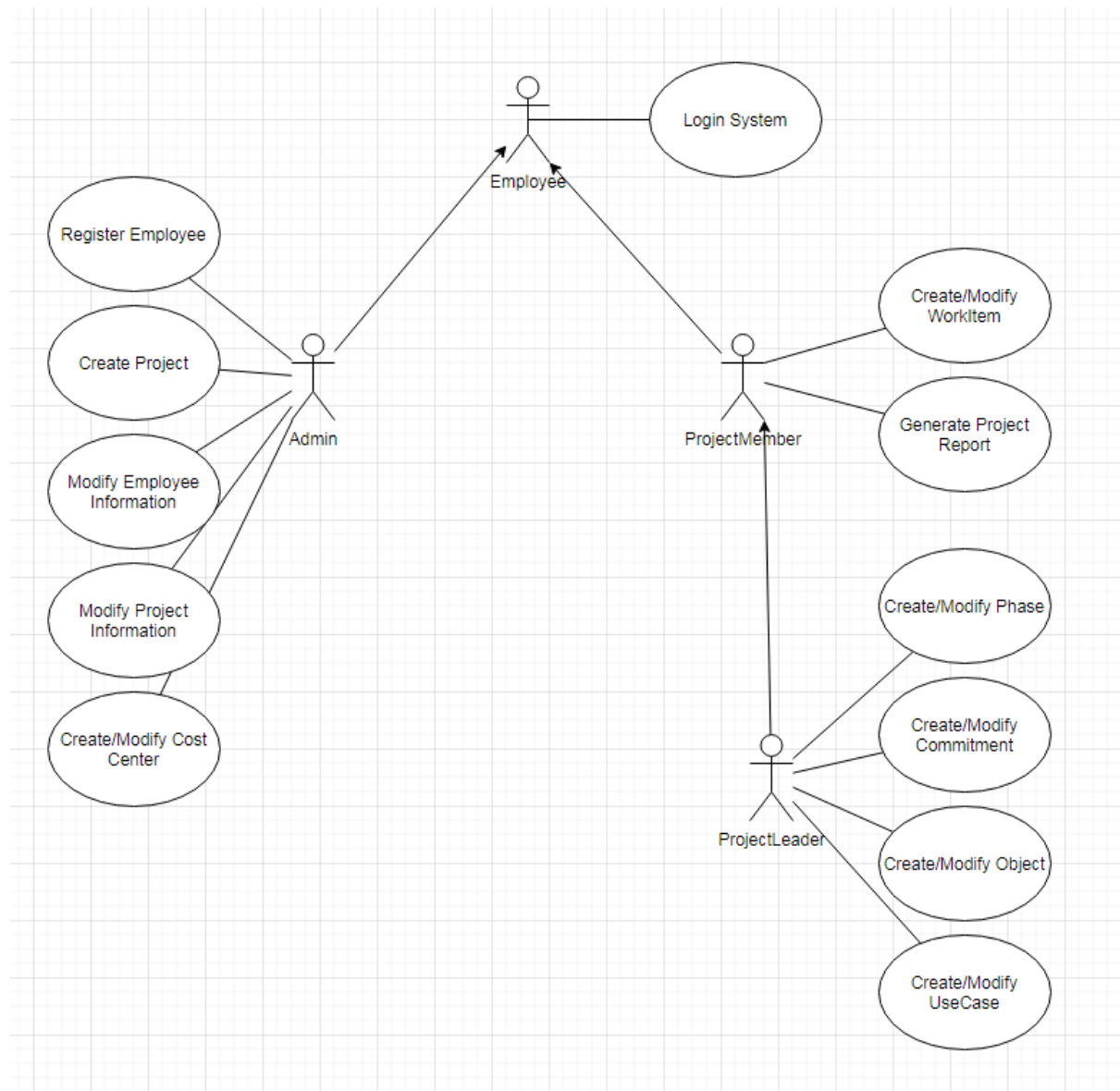


Tabla de priorización de requisitos

- More Risk, bigger number
- More Value, bigger number
- More Complexity, bigger number
- More stable, bigger number

| ID | Requirement | Risk | Value | Complexity | Stability |
|----|----------------------------------|------|-------|------------|-----------|
| 1 | Create project | 8 | 10 | 9 | 5 |
| 2 | Register Employee | 10 | 10 | 10 | 1 |
| 3 | Login | 10 | 10 | 10 | 2 |
| 5 | Search WorkItem/UseCase/TestCase | 6 | 6 | 6 | 6 |
| 6 | Generate Project Report | 2 | 2 | 2 | 10 |
| 7 | Create/Modify Phase/WorkType | 8 | 8 | 8 | 4 |
| 8 | Create/Modify Commitment Object | 7 | 7 | 7 | 5 |
| 9 | Search Project | 5 | 5 | 5 | 7 |
| 10 | Modify User Information | 3 | 3 | 3 | 9 |
| 11 | Check owned Project | 1 | 1 | 1 | 10 |
| 12 | Search User | 6 | 6 | 6 | 6 |

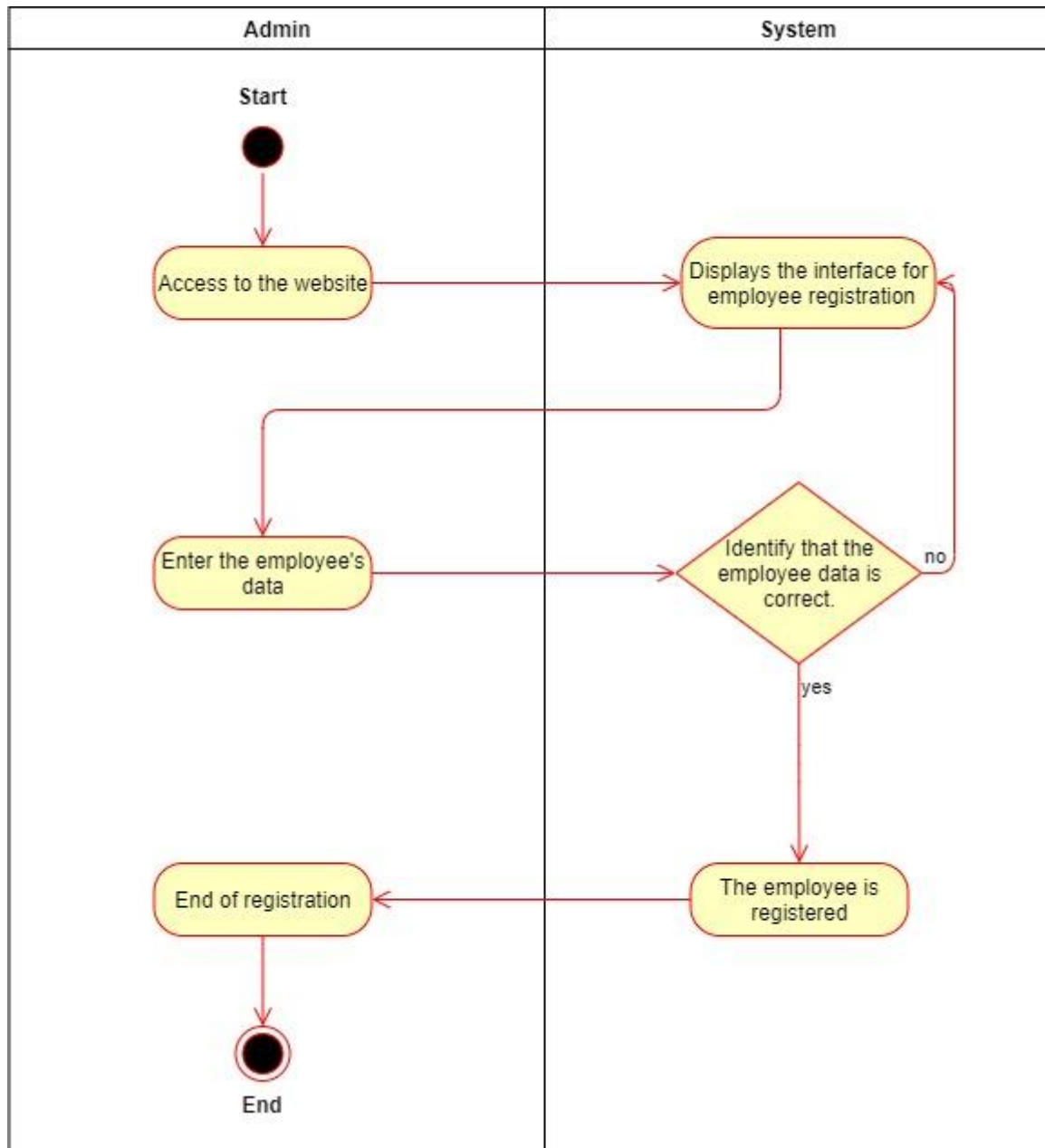
Detalle de los casos de uso

- Higher Priority with smaller number

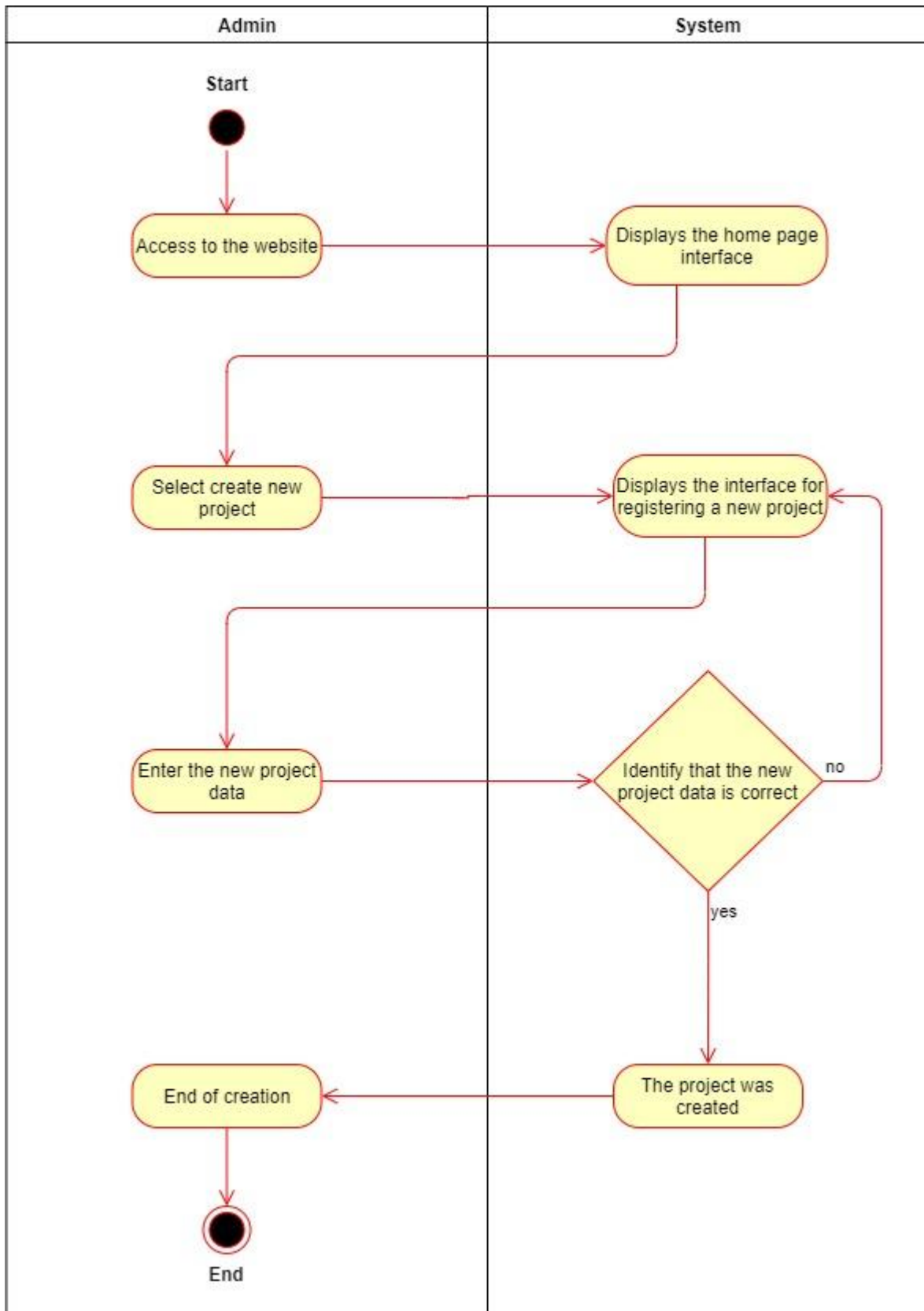
| ID | Requirement | Priority |
|----|----------------------------------|----------|
| 1 | Register Employee | 1 |
| 2 | Login | 2 |
| 3 | Create/modify project | 3 |
| 5 | Search WorkItem/UseCase/TestCase | 9 |
| 6 | Generate Project Report | 5 |
| 7 | Create/Modify Phase/WorkType | 11 |
| 8 | Create/Modify Commitment Object | 6 |
| 9 | Search Project | 7 |
| 10 | Modify User Information | 8 |
| 11 | Check owned Project | 10 |
| 12 | Search User | 11 |

Diagrama de actividades

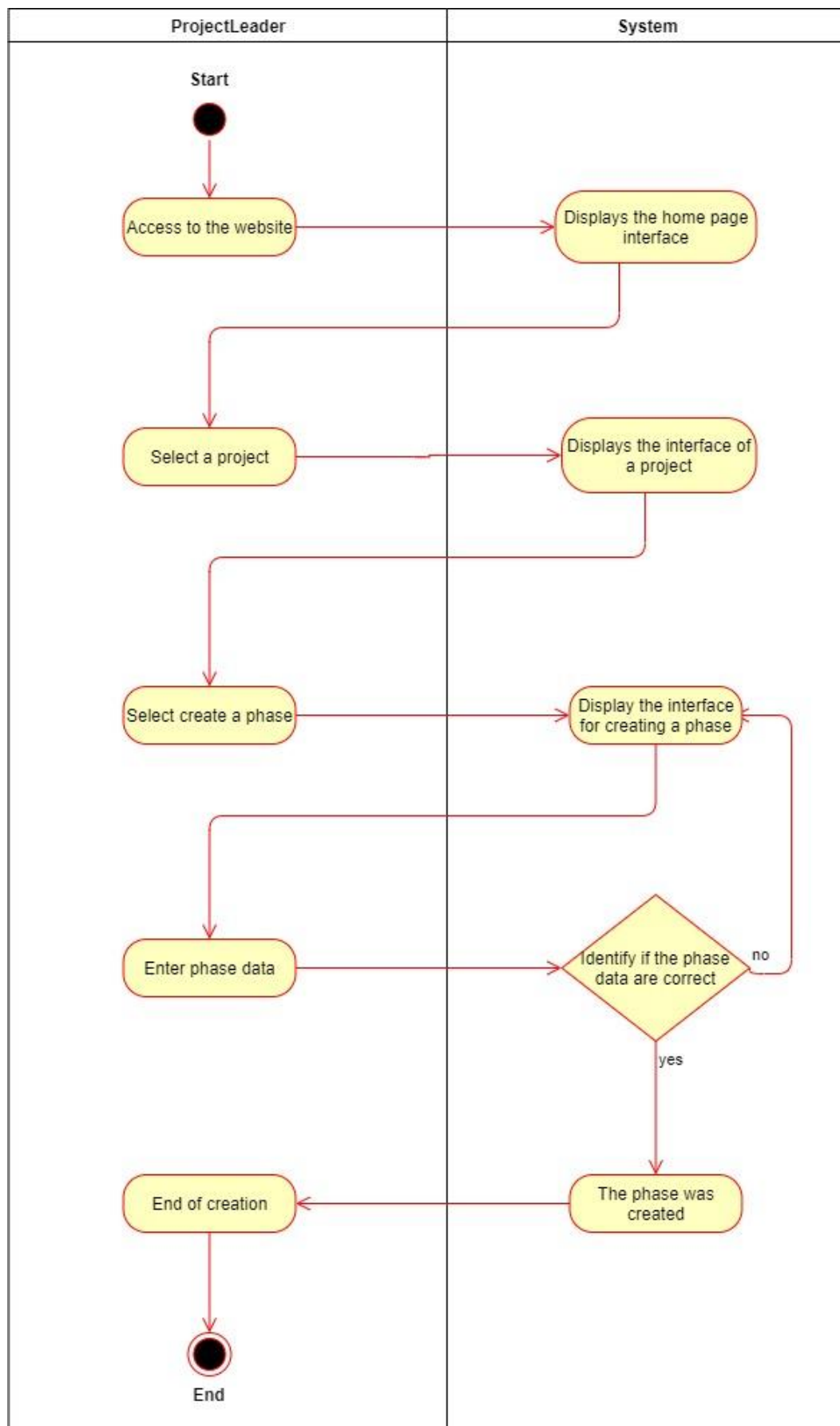
- Register Employee:



- **Create project:**



- **Create Phase:**



Description Use Cases

NUMBER - CU1

Name: Register Employee

Description: The admin will register the employees on the system.

Actors: Admin and System

Pre Conditions:

Admin Login Authentication.

Basic Flow:

- 1) The admin will access to the website
- 2) The system will display the interface for employee registration
- 3) The admin will enter the employee details
- 4) The system will identify that the employee data is correct
- 5) The employee will be registered.
- 6) The admin will end the registration process.

Alternating Flow:

- 1.1) System authenticates the admin and displays the interface.
- 4.1) If the employee data is not correct, the system will display the interface for employee registration.

Extension points:

The system will save the registered employee when the admin ends the registration process.

Special requirements:

To register an employee, the administrator should be authenticated.

Post Conditions:

The employee will be able to login.

NUMBER - CU2

Name: Create Project

Description: The administrator will be able to create/register a project on the system.

Actors: Admin and System

Pre Conditions:

Authenticate the Administrator.

Basic Flow:

- 1) The admin access to the website

- 2) The system displays the home page interface
- 3) The admin selects to create a new project
- 4) The system displays the interface to register a new project
- 5) The admin enters the new project data
- 6) The system authenticates that the new project data is correct
- 7) The system creates the new project
- 8) The admin saves the project and ends the registration process.

Alternating Flow:

2.1) The system displays the interface of project registration where it includes name of the project, area, tasks.

6.1) If the project data is not correct, the system will display the interface for project registration.

Extension points:

The system will save the registered project when the admin ends the registration process.

Special requirements:

To create a new project, the administrator should be authenticated.

Post Conditions:

The employees and administrators will be able to see the new project online.

NUMBER - CU3

Name: Create Phase

Description: The project leader will be able to create phases for the new project

Actors: Project Leader and System

Pre Conditions:

The project leader should be registered by the administrator.

The project leader should login before creating the phase.

Basic Flow:

- 1) Project Leader access to the website
- 2) The system displays the home page interface
- 3) The project leader selects a project
- 4) The system displays the interface of a project
- 5) The project leader selects to create a phase
- 6) The system displays the interface for creating a phase on the project
- 7) The project leader enters phase data
- 8) The system authenticates the phase data
- 9) The system creates the phase

10)The project leader saves the phase and ends the registration process

Alternating Flow:

2.1) System displays interface where you can see the projects, assignments, etc.

4.1) System displays the list of the projects

4.2) System displays the project selected

6.1) System displays an interface where you can see the data from the phases, such as phase, tasks, time.

8.1) If the phase data is not correct, the system will display the interface for phase registration.

10.1) If the project leader cancels the registration, the system will display the interface from phases.

Extension points:

The system will save the registered phase from the project selected when the project leader ends the registration process.

Special requirements:

To create a new phase, the project leader should be registered by an administrator and authenticated by the system.

Post Conditions:

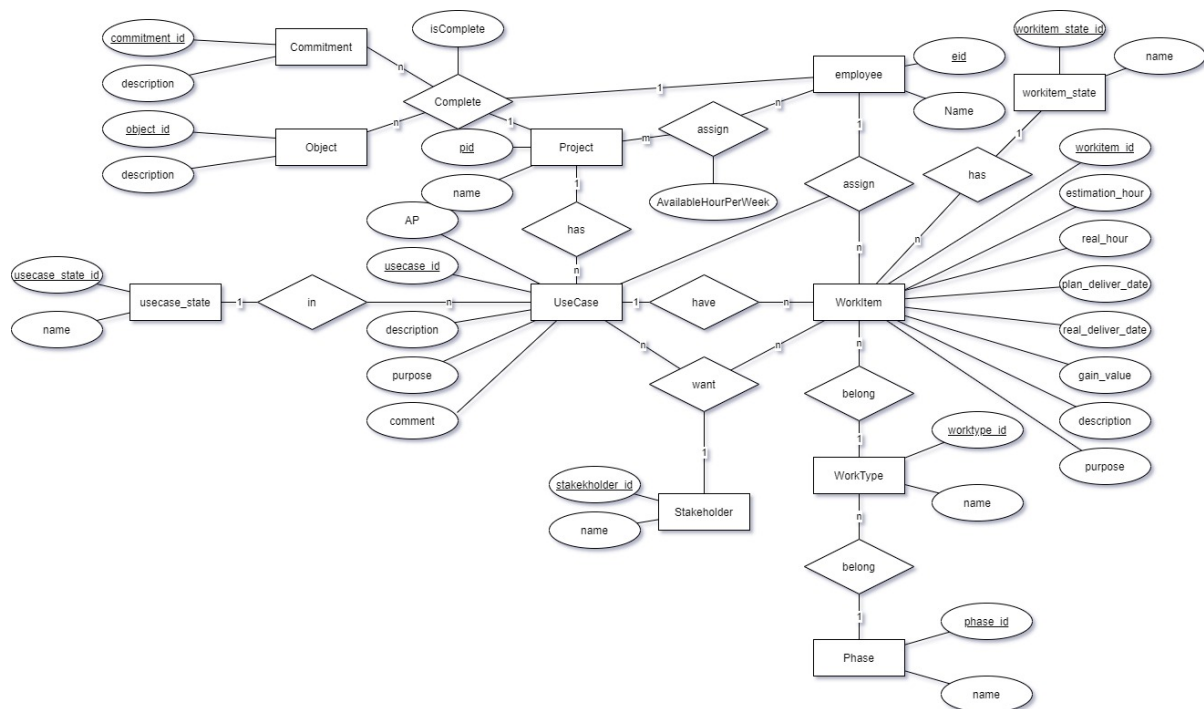
The phase from the project selected will be able to be seen by the employees and administrators.

Business rules

- El empleado tendrá que autenticarse para poder acceder a los servicios de la empresa.
- Cada usuario deberá tener su rol indicado para poder acceder a los servicios adquiridos por la empresa.
- Para poder iniciar y realizar un registro de un nuevo proyecto se debe evaluar la complejidad de aquello.
- Los usuarios no pueden acceder a los datos que no sean reportes, a excepción del departamento de TI o administrador.

Entity-Relationship Model

<https://drive.google.com/file/d/1ZijeJPuQ0Wifc827Cmo0yfXxU9G9ffiV/view?usp=sharing>



Data Dictionary

Commitment(commitment_id,description)
PK(commitment_id)

Object(object_id,description)
PK(object_id)

Workitem_state(workitem_state_id,name)
PK(workitem_state_id)

WorkItem(workitem_id,name,estimation_hour,real_hour,plan_deliver_date,real_deliver_date,gain_value, description, purpose, worktype_id, create_eid, assign_eid, usecase_id, stakeholder_id, workitem_state_id)
PK(workitem_id)
FK(worktype_id) references WORK_TYPE(worktype_id)
FK(workitem_state_id) references WORKITEM_STATE(workitem_state_id)
FK(create_eid) references Employee(eid)
FK(assign_eid) references Employee(eid)
FK(usecase_id) references Usecase(usecase_id)
FK(stakeholder_id) references StakeHolder(stakeholder_id)

Stakeholder

WorkType(worktype_id,name, phase_id)
PK(worktype_id)
FK(phase_id) references PHASE(phase_id)

Phase(phase_id,name)
PK(phase_id)

UseCase(usecase_id, AP, description,purpose,comment, usecase_state_id, pid, stakeholder_id)
PK(usecase_id)
FK(usecase_state_id) references USECASE_STATE(usecase_state_id)
FK(stakeholder_id) references STAKEHOLDER(stakeholder_id)

Usecase_state(usecase_state_id,name)
PK(usecase_state_id)

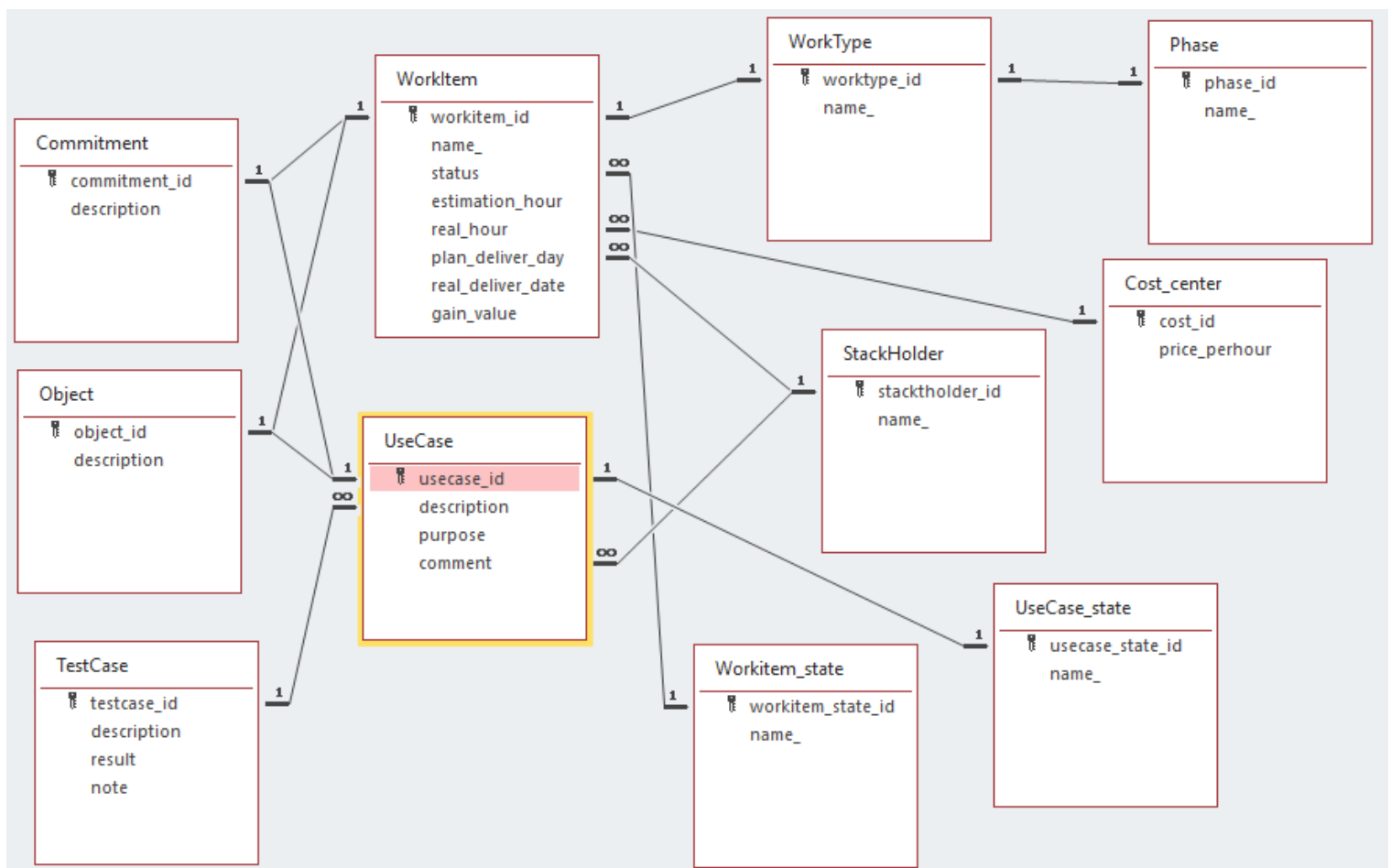
TestCase(testcase_id,description,note, testcase_state_id)
PK(testcase_id)

Stakeholder(stakeholder_id,name)
PK(stakeholder_id)

Documentation of additional restrictions

- Each project shall only has one Project Leader
- Team Leader can not modify the date_start of the project
- The user Applied project will be the project leader automatically after project is approved

Corresponding tables (Relational Model)

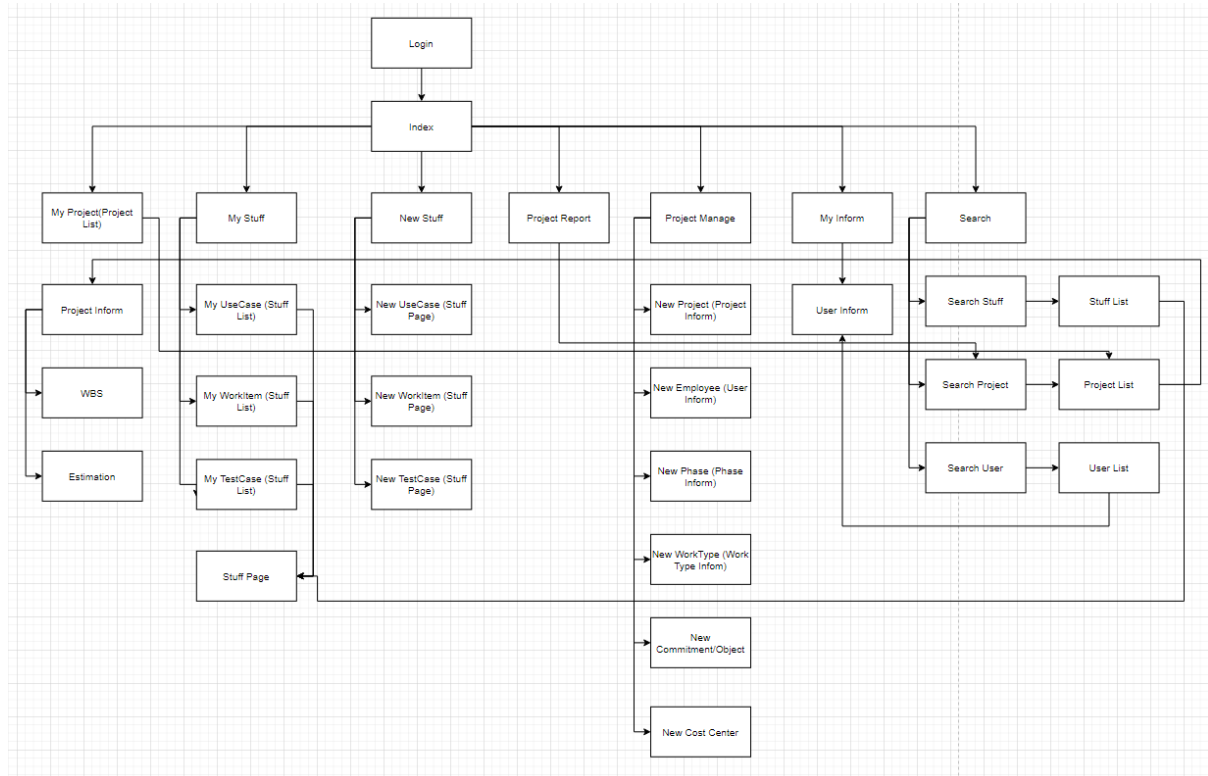


Non-functional requirements

- Portabilidad
 - El sistema deberá de ser accesible a través de una variedad de navegadores (Google Chrome, Firefox, Safari).
- Escalabilidad
 - El sistema deberá ser adaptable según el registro de usuarios.
 - El sistema deberá de responder en menos de 3 segundos.
- Seguridad
 - Para acceder al sistema se necesitará escribir una contraseña y usuario.
 - El sistema deberá mantener segura la información de los usuarios y de los datos de la empresa.
- Usabilidad
 - Gracias al diseño llamativo y amigable, el usuario no deberá tomarle más de 15 minutos en entender cómo funciona el sistema en base al rol que tiene.
- Disponibilidad
 - Se podrá usar todo el tiempo mientras se tenga acceso a internet.
- Mantenibilidad
 - El sistema podrá ser actualizado cada vez que se realice un cambio para tener la seguridad del usuario en caso de que se vaya el internet.
 - Se podrá actualizar el sistema para añadirle funcionalidades nuevas y/o corregir errores.

Sitemap

<https://drive.google.com/file/d/1BOJPYEHVo63J-JjMTLWFmmdOaQpMlxPC/view?usp=sharing>



Application sketch: Moku/ WireDesign

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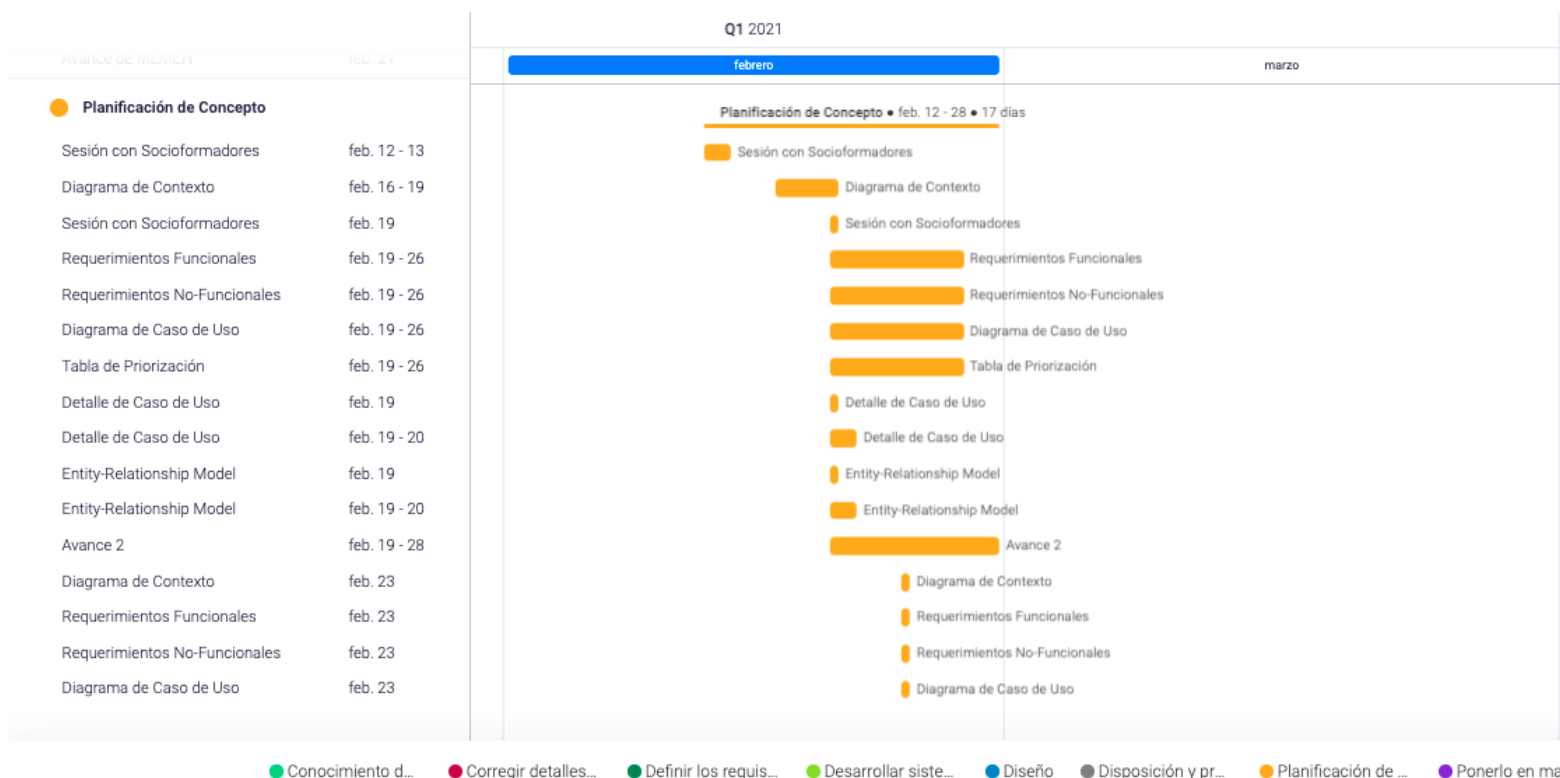
Communication plan

Developing Team shall have a status report meeting every day.

Each 2 weeks, there will be an release to customer.

Each week, Project Manger will have a meeting with customer.

Updated work plan and learning acquired



Conocimiento del problema

| | | Propietario ⓘ | Subele... | Estado | Cronograma ⓘ |
|----------------------------|--|---------------|-----------|--------|----------------|
| Sesión con Socioformadores | | | 1 | Listo | ✓ feb. 8 - 9 |
| Investigar sobre NatGas | | | 1 | Listo | ✓ feb. 9 - 10 |
| Avance de MEMEH | | | | Listo | ✓ feb. 10 - 11 |
| Problematica | | | | Listo | ✓ feb. 12 |
| + Agregar Activity | | | | | |
| | | | | | feb. 8 - 12 |

Planificación de Concepto

| | | Propietario ⓘ | Subele... | Estado | Cronograma ⓘ |
|-------------------------------|--|---------------|-----------|--------|----------------|
| Sesión con Socioformadores | | | 1 | Listo | ✓ feb. 12 - 13 |
| Diagrama de Contexto | | | | Listo | ✓ feb. 16 - 19 |
| Requerimientos Funcionales | | | | Listo | ✓ feb. 19 - 26 |
| Requerimientos No-Funcionales | | | | Listo | ✓ feb. 19 - 26 |
| Diagrama de Caso de Uso | | | | Listo | ✓ feb. 19 - 26 |
| Tabla de Priorización | | | | Listo | ✓ feb. 19 - 26 |
| Detalle de Caso de Uso | | | | Listo | ✓ feb. 19 - 20 |
| Entity-Relationship Model | | | | Listo | ✓ feb. 19 - 20 |
| Modelo Relacional | | | | Listo | ✓ feb. 19 - 26 |
| Avance 2 | | | | Listo | ✓ feb. 19 - 28 |

Question:

- 1, What is the meaning of "Monday" tab in Planeación IT14
- 2, should project leader modify the project information?
- 3, Should we delete the WorkItem or task which is create by mistake/misjudge? or set it to invalid
- 4, Can Admin remove project/cost center which is create by mistake/misjudge? or set it to invalid
- 5, What the Agile Point in WBS tab, is the Agile point the Gain Value from Each Working Iteam? What's the meaning of the table, why it is 1,2,3,5,8,13(Employee ID?)?
- 6, In Estimation tab, what is the meaning of AP? and how to calculate the check of each Working Type
- 7, Who should create working type and phase, Admin? Project Leader
- 8, Is the working type and phase fixed for all the project?
- 9, Commitment and Object is the same for all the project? Should it create by Admin or Project Leader?
- 10, in tab of User History, what is meaning of each element
- 11, Have restriction to modify other's WorkItem/Usecase in project?
- 12, Who check the Commitment and Object of Employee?