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2. Vocabulary

2.1. Task

A task represents a piece of information that contains the following properties :

- ❑ **task name** : the name of the task, that will be represented in the calendar
- ❑ **task priority** : task's priority. It can take one of the following values: Highest (HST), High (H), Medium (M), Low (L), Reminder (R).
- ❑ **from** : the date on which the tasks begins.
- ❑ **to** : the date on which the task should end.
- ❑ **users** : a list of **Users** who are responsible for handling this task.
- ❑ **groups** : a list of **groups** whose users are responsible for handling this task.
- ❑ **creator** : a single **User** who created the task. All tasks should have one and only one creator.
- ❑ **manager** : a single User who has the same permissions as the creator of the task. Some tasks may not have a manager, but if they do, the manager is unique per task.
- ❑ **description** : a task **description**.
- ❑ **files** : an extendable list of files which are related with the task.
- ❑ **comments** : a list of **comments**.

- ❑ **topics** : list of **topics** which are related to this task
- ❑ **solution** : among all task's comments, only one can stand out and marked as the solution. The solution comment indicates a comment that describes the best solution to a problem that was described and eventually solved in the task's context.
- ❑ **resources** : list of **resources**.
- ❑ **status** : specifies the status of the task. It can take one of the following values: Completed, Pending, Not-started, Canceled.
- ❑ **visibility** : is used in order to define which kind of **users** can view the task. It can take one of the following values: Private, Group Only, Specified Access, Normal, or Public.
- ❑ **hidden** : is set to False by default. If set to True, it makes the task invisible from any **administrator**, which results in a complete hidden task. **Actions** on such a task cannot be undone.
- ❑ **visibleToSubsistents** : used to define whether creator's subsistents may or may not view the task. False is the default value.

A **task** can be used to describe a user's task, or a reminder for other users / himself. A task may contain information (in comments or in description) about the way a problem was handled. Also a task may contain information, about the tools that were used in order to overcome the problem. That information is described in the task's resources. Users may search for already solved problems, as described in completed/uncompleted tasks, using their topics. **Users** who can view a task, they can also make **comments** in it, or upvote/downvote other's **comments**. If the task is about a solved problem, then one of the task's **creator/manager** should pick up (or create) a comment and mark it as **solution**. The **creator/manager** may also edit all the other task's properties, while other **users** cannot. This includes changing the task's **manager**, but it is impossible to modify it's **creator**.

2.2. Filters

The term **filters** refers to a set of constraints which, when applied, limit the amount of visible tasks in the current calendar view. In order to do so, a **user** may filter

based on a subset of task's properties, which includes : task priority, from, to, users, groups, topics, resources, status, visibility, hidden, visibleToSubsistents.

In addition, **users** may use plain text to search among tasks. In such cases the tasks will be filtered based on the text that exists in their properties topics, comments, description, name and of course, the **user's** search text.

2.3. Description

Each task must have a **description**, in order to provide information about the task's goal using plain text. Furthermore, **description** may contain **files**. The purpose of description is to provide information about the task, whether the task describes a problem to be solved or it is a simple reminder.

2.4. Comment

Each **comment** consist of :

- ❑ **comment text** : plain text with some **user's** thoughts on the task
- ❑ **creator** : the **user** who created the comment
- ❑ **date** : the specific date when the comment was made
- ❑ **likes** : a number which results from the number of upvotes minus number of downvotes that users add to a comment.

2.5. Topic

Topic is used to describe a specific subject. It consists of a name (plain text) with the name of the **topic** (must be unique) and may have multiple **tags**, in order to express additional information about the subject that it represents. Topics are created and edited by **administrators**. **Topics** can be useful in order to tag related tasks.

2.6. Group

A **group** is a team of **users** who share something in common. Groups are created and edited by **administrators**. A **user** may be part of one and only one **group**.

2.7. Action

An **action** is any act made by some **user**, if it results the modification of a task, or it's properties. Creating or deleting a task is considered an **action**. Modifying a single **task** property will result an **action** on it, while modifying multiple properties will result multiple **actions**.

3. Type of Users

3.1. User

A **user** is someone who uses the app in order to :

- ☐ create **tasks** for himself or other users
- ☐ update the status of a **task**
- ☐ view his own **tasks**
- ☐ edit existing **tasks** (alter their properties)
- ☐ view **tasks** of other users

A **user** may use a task as a date reminder, or as an entity which describes a problem and the discussion about it's solution. He may also use it in order to plan his/other **user's** work in time, defining tasks deadlines and priorities.

Users can be related. If **user A** is related with a **user B**, then A is either **foreman** or **subsistent** of B. If A is **subsistent** of B and B is **subsistent** of C, then A is also **subsistent** of C. Same goes with **foreman** relations.

3.2. Administrator

An **administrator** is someone who uses the app in order to :

- ☐ monitor **actions** made by **users**
- ☐ undo one or more **user's actions**
- ☐ create, edit or remove **users**

Administrator's goal is to help monitor the application, being able to undo unwanted **actions** made by **users**. In future versions of the app, **administrator** could also be provided with statistics about **users** behavior and application performance, so he could provide a useful feedback to application's developers. In addition, **administrator** is the one who can define, or modify, the relation between existing users, or place them in a specific group.

4. User Stories

4.1. User Stories for **User**

4.1.1. US

As a **User** i want to view the **tasks** that exists in a specific time range, given the proper calendar view,
so that i can see the **tasks** distribution over time.

Description : Given one of the calendar views month, week or day, **user** should be able to see the **tasks** (a rectangular box with their **name**, colored according their **priority**), that take place in the relative time range. If the calendar view is year, then only information about the amount of **tasks** and their **priority** should be exposed. Not all **users** are able to view a **task**. **Users** relations in combination with some **task** properties define their visibility to each **user** (see constraints of this US).

Priority : 5 / 5

Constraints :

- ❑ If task's **visibleToSubsistents** is False, then **creator's subsistents** must not be able to view that **task**. Otherwise, all **creator's subsistents** may view the **task**.
- ❑ If task's **hidden** is True, then **administrator** must not be able to view the task and any **action** on it is not able to be undone. Otherwise, any task will be visible by an administrator.
- ❑ If task's **visibility** is Private, then only **creator** and **manager** can view the task. Task's properties **users** and **groups**, or any **creator's foremen** will not be taken into account.
- ❑ If task's **visibility** is Group Only, then only **creator**, **manager** and **creator's group** can view it.
- ❑ If task's **visibility** is Specified Access, then only **creator**, **manager**, **users** denoted by the property users and **users** belonging in **groups** denoted by the property groups, will be able to view it.
- ❑ If task's **visibility** is Normal, then the same **users** are able to view as in 'Specified Access', except that in this case the **task** is also visible to **creator's foremen**.
- ❑ If task's **visibility** is Public, then every **user** should be able to view it.
- ❑ If values of **visibility** and **visibleToSubsistents** create collisions, then only the value of **visibility** should be taken into account.

4.1.2. US

As a **User** i want to **alter the calendar view**, choosing between the options Month, Year, Week, Day.

so that i can see **tasks** that concern a single day, several days, or the amount of **tasks** that exists in a specific month.

Description : Apart from the main calendar view which is the Month view (see US 4.1.1) there are others, as defined below.

Priority : mixed / 5

4.1.2.1. SubUS

As a **User** i want to **view a calendar with boxes that represent the days (and the relative tasks)** of the current month,

so that i can see **tasks** that exists in each day.

Description : The main calendar view, is a calendar containing boxes which represent the days of this month, and contain 0 until 3 tasks. If there are more tasks to be done during a specific day, then a warning should be shown in the relative box. Each day box should have the day number, as well as a background color. Background color is different for the days that are visible but not part of the current visible month. Additionally, the current day (if visible) should have green background color.

Priority : 5 / 5

Constraints :

- ❑ Only 2 **tasks** per day may be visible (if they exist).

4.1.2.2. SubUS

As a **user** i want to view a calendar with 12 boxes, each one of them represents a month of the selected year,

so that i can see the amount of **tasks** that exists in a specific month of the year.

Description : Each box, which represents a month, should contain information about the name of the month, the amount of tasks and the different task priorities that concern this specific month.

Priority : 2 / 5

4.1.2.3. SubUS

As a **user** i want to view a calendar with boxes that represent the days and hours of the selected week,

so that i can see the amount of **tasks** and their timeline through a specific week.

Description : ...

Priority : 1 / 5

4.1.2.4. SubUS

As a **user** i want to see a calendar view with the tasks of a single day,

so that i can see the tasks that exists in this day and the exact time, in which they should be completed.

Description : ...

Priority : 5 / 5

4.1.3. US

As a **User** i want to choose a specific date,

so that i can define a specific date for which the calendar view will represent the relative information.

Description : No matter the calendar view (year,month,week,day), **users** should be able to define a specific date, apart from the current, for which they want to view the calendar and the relative tasks.

Priority : 4 / 5

4.1.4. US

As a **User** i want to **apply filters**,
so that i can limit the amount of visible **tasks** on the calendar, based on one or more of their properties.

Description : Users should be able to define one or more filters in order to specify the kind of tasks that are visible, given any calendar view. A button must exist in order to indicate the implementation or not, of the filters.

Priority : mixed / 5

4.1.4.1. SubUS

As a **user** i want to **filter by defining a time range**,
so that i can see the **tasks** that exists in this specific time range.

Description : **Users** should be able to define a starting and an ending date, specifying a time range in order to limit the visible **tasks**.

Priority : ... / 5

4.1.4.2. SubUS

As a **user** i want to **choose between one or more specific priority options as a filter**,
so that i can limit **tasks** in the calendar view, according to the value of their **priority**.

Description : **Users** should select/unselect each type of **priority**, in order to define which **priority** types should be included/excluded in the **tasks** filtering.

Priority : ... / 5

4.1.4.3. SubUS

As a **user** i want to **choose specific users as a filter**,
so that i can limit tasks in the calendar view, showing only the ones that concern specific **users**.

Description : Users should be able to add/remove **users** from a list with all **users**, defining this way their wish to view **tasks** that concern only these specified **users**. Although a **user** may be in that list, **tasks** that concern him will not be visible to the **user** who applies the **filters**, unless the task's **visibility** and users relation (foreman/subsistent) allows it.

Priority : ... / 5

4.1.4.4. SubUS

As a **user** i want to **choose specific groups as a filter**,
so that i can limit tasks in the calendar view, showing only the ones that concern **users** who belong in the specified **group/groups**.

Description : ...

Priority : ... / 5

4.1.4.5. SubUS

As a **user** i want to choose specific **topics** as a filter,
so that i can limit **tasks** in the calendar view, according to the **topic** which they are related with.

Description : ...

Priority : ... / 5

4.1.4.6. SubUS

As a **user** i want to choose specific **resources** as a filter,
so that i can limit **tasks** in the calendar view, according to the **resources** which they are related with.

Description : ...

Priority : ... / 5

4.1.4.7. SubUS

As a **user** i want to choose between one or more specific **status** options as a filter,
so that i can limit **tasks** in the calendar view, according to the value of their **status**.

Description : ...

Priority : ... / 5

4.1.4.8. SubUS

As a **user** i want to filter tasks using the options 'own tasks', 'tasks that concern me', 'group tasks', 'subsistents tasks', 'foremen tasks',
so that i can limit **tasks** in the calendar view, according to whether i am their **creator/manager**, or they concern me, or they concern my **group**, or they concern someone of my **subsistents**, or they concern someone of my **foremen**, respectively.

Description : ...

Priority : ... / 5

4.1.5. US

As a **User** i want to be able to search for one or more **tasks** based on text,
so that i can find tasks with specific names, **topics**, or plain text in their **comments**.

Description : ...

Priority : ... / 5

4.1.6. US

As a **User** i want to create a new **task**,
so that i can assign this task to another **group** or **User**, or use it as a reminder for myself.

Description : ...

Priority : ... / 5

4.1.7. US

As a **User** i want to define/modify the **visibility** of a **task**,
so that i can control the **Users** who can view it.

Description : ...

Priority : 4 / 5

4.1.8. US

As a **User** i want to define/modify the **priority** of a **task**,
so that i can separate the **task** from others based on it's **priority**.

Description : ...

Priority : ... / 5

4.1.9. US

As a **User** i want to define/modify one or multiple **topics** that are related to this **task**,
so that **tasks** can be grouped into **topics** and **Users** can search for **topic**-related **tasks** and their **solutions**.

Description : ...

Priority : ... / 5

4.1.10. US

As a **User** i want to view the properties of an existing **task**,
so that i can read it's description and/or **comments**, view the updated **files**, etc...

Description : ...

Priority : ... / 5

4.1.11. US

As a **User** i want to define the way i view the **comments** of an existing **task**,
so that i can view the **comments** based on a chronological order, or based on their **likes** (sum of upvotes and downvotes that **users** add to them).

Description : Chronological ordered **comments** are the default view.

Priority : ... / 5

4.1.12. US

As a **User** i want to assign, remove assignment or re-assign a **task** to one or more **users** or **groups**,
so that i can define the appropriate **users**, who should complete the **task**.

Description : If a **user** has the proper rights, he can assign, re-assign or remove assignments to/from other **users/groups**. Since a **task** is assigned to some **group**, then all of it's **users** are responsible for this **task**.

Priority : ... / 5

Constraints :

- ❑ **User A** can assign a **task** to a **user B**, if and only if A is **foreman** of B.
- ❑ **User A** can assign a **task** to a **group G**, if and only if every **user** of G is subsistent of A.
- ❑ Only the **creator** or the **manager** of a **task** can assign, reassign or remove assignments.
- ❑ If a **task** is assigned to a **user**, then he cannot deny it.

4.1.13. US

As a **User** i want to **add comments** to an existing **task**,
so that **i can add information** about it's progress, or disqus related **topics**, with other **users**.

Description : Users can add **comments** to any **task**, that they can view.

Priority : ... / 5

4.1.14. US

As a **User** i want to **upvote or downvote** a task's **comment**,
so that **i can express my agreement/disagreement** with it.

Description : A user may like, unlike or not care (no vote) about a comment.

Priority : ... / 5

4.1.15. US

As a **User** i want to **alter my vote** for a **comment**,
so that **i can modify my existing choice**.

Description : ...

Priority : ... / 5

4.1.16. US

As a **User** i want to **suggest a task's comment** as the **solution** to the relative **task**,
so that **i can suggest** to the **task creator** (or **task manager**), that this comment is the solution to the task's issues, and should be taken into account in similar problems in the future.

Description : ...

Priority : ... / 5

Constraints :

- ❑ A **user** can suggest only one **comment** per **task**, as **solution**.

4.1.17. US

As a **User** i want to **suggest the resources** of a task,

so that i can indicate to the **task creator** (or **task manager**) the tools/frameworks that should be used in order to achieve **task's** goals.

Description : ...

Priority : ... / 5

4.1.18. US

As a **User** i want to **upload files in a task**,
so that i can store information about the task in a more expressive way than using simple text (in **comments/description**).

Description : ...

Priority : ... / 5

4.1.19. US

As a **User** i want to **edit the properties of an existing task**,
so that i can keep the **task's** properties up-to-date on the real world changes.

Description : ...

Priority : mixed / 5

4.1.20. US

As a **User** i want to **delete a task**,
so that i can remove unuseful **tasks** from the calendar.

Description : ...

Priority : ... / 5

Constraints :

- ❑ A **user** can delete a **task** if and only if he is the **creator** or **manager** of the task.

4.1.21. US

As a **User** i want to -----
so that -----

Description : ...

Priority : ... / 5

4.2. User Stories for Administrator

4.2.1. US

As an **Administrator** i want to -----
so that -----

Description : ...

Priority : ... / 5

5. Non-functional Requirements

The system should be able to ...

6. Backlog

This is the backlog of **sprint 1**.

6.1. Functional Requirements

[4.1.1](#), [4.1.2.1](#), [4.1.2.4](#), [4.1.3](#),

6.2. Non-Functional Requirements

7. Use Cases

These are the use cases, created in **sprint 1**.

7.1. View Tasks per Month

Relative User Stories : [4.1.1](#), [4.1.2.1](#)

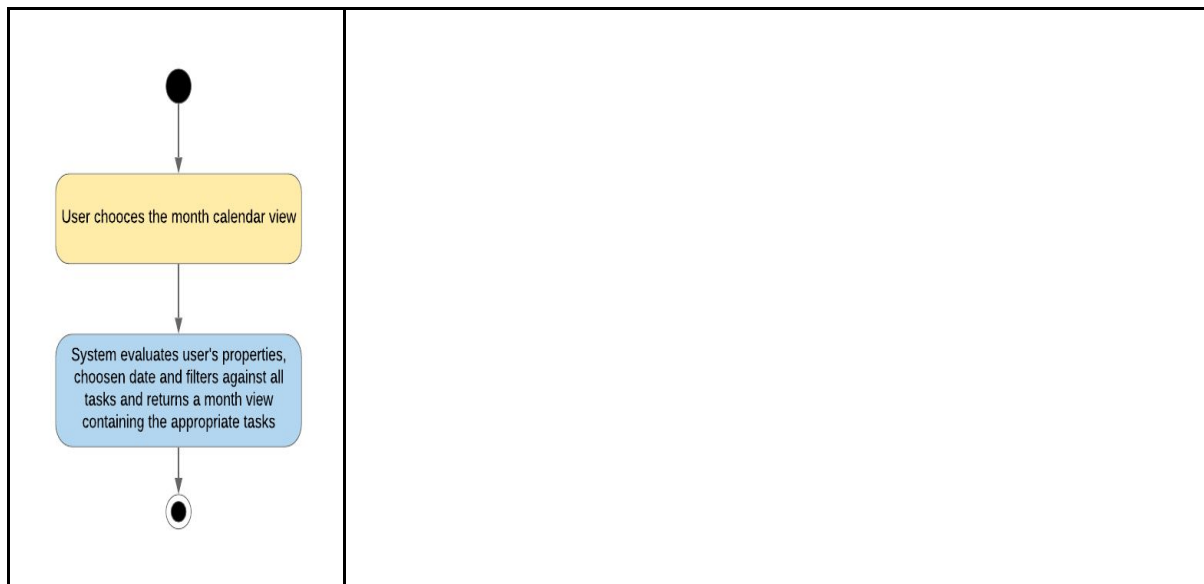
Relative Non Functional Requirements :

Preconditions : App has started and **user** is authenticated.

Triggered when : Default / **user** selects the month calendar view.

7.1.1. Description

This use case describes **users** ability to see a month calendar view.



7.2. View Tasks per Day

Relative User Stories : [4.1.1](#), [4.1.2.4](#)

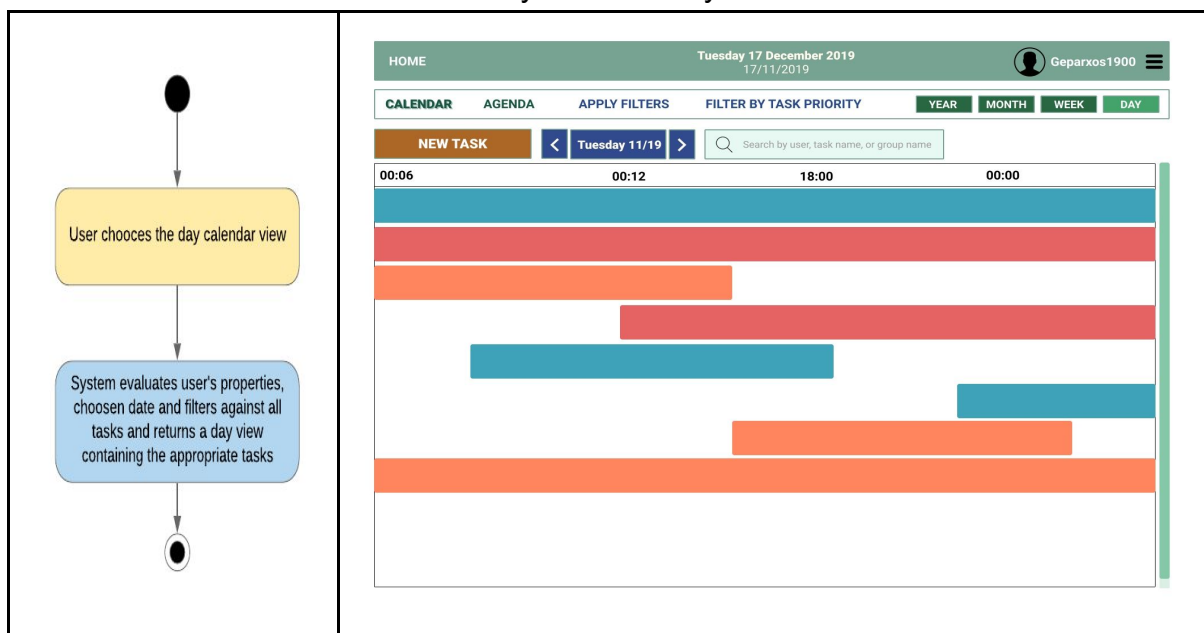
Relative Non Functional Requirements :

Preconditions : User selects the day calendar view.

Triggered when : ...

7.2.1. Description

This use case describes **users** ability to see a day calendar view.



7.3. Select Calendar View

Relative User Stories : [4.1.3](#)

Relative Non Functional Requirements :

Preconditions : No pop-up window exists

Triggered when : ...

7.3.1. Description

...

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