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Any organization that wants another level of independence can not only rely on software templates available in the market, which are often designed for the main tasks, and do not address the special and unique needs of the facilities.

Therefore, one of the best decisions decision makers can make in such companies that have unique, complex and changing demands is to have their own developer team.

Given the stability of this team within the company, it has a comprehensive idea of the nature of the service provided in the facility and the complex details that the facility needs to estimate the best possible service to the customer.

The efficiency of this team will be higher if they have worked on creating programs related to the activity of this facility.

The number of members of this team is determined by many considerations, including:

- Will the team create a complete system for the facility, or will it only modify the existing system?
- Are there many variable requests in the facility or not, and are these requests complicated or easy?
- Does the facility integrate with other facility programs or not?
- Does the facility have many branches and have multiple requests or not?

The Development Team may consist of people having specialized skills like Front-end Developers, Backend Developers, Dev-Ops, Business Analyst, etc., but they are all referred to as Developers.

The responsibility for development always rests with the development team as a whole but everyone on the team is responsible for their own delivery.

### The main tasks of the development Team are:

- 1- Help reduce cost and increase profits in any way possible
- 2- Defining, analyzing and managing technical requirements within the facility
- 3- Suggesting improvements, defining scope, prioritizing and providing technological solutions.
- 4- Providing solutions to the various departments in order to provide the service to the customer in the best way.
- 5- Helping to shorten the time of various procedures while maintaining quality.
- 6- Designing various reports that help departments to take the right decisions.



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### The hierarchy can be as follows:

# **Development Manager.**

- The Project Manager (PM) is responsible for knowing the "who, what, where, when and why" of the software project.
- Coach for both the Development team.
- never orders the Team Members to do something rather, he helps them in achieving it by coaching and guiding.
- Removing Impediments also responsible for removing the impediments that impact the team's productivity in delivering business. Any impediment that the team members cannot resolve on their own comes to the Manger for resolution.
- safeguards the Team from outside interference and distraction so that the team can remain focused on delivering the best value.
- makes sure that the team stays out of any irrelevant discussion
- responsible for regularly improvising the processes and practices employed to maximize the value being delivered. It is not the Master's responsibility to get the work done but it is his responsibility to enable the team to devise a process that would let them complete their sprint goals.
- The Project Manager is also responsible for creating and managing the project schedule facilitates and organizes all the Events requested by the Team Members. also facilitates the Team in making important decisions that would increase the productivity of the Team as a whole.
- Developing a software project plan.
- Manage deliverables according to the software project plan.
- Recruiting software project staff.
- Leading and managing the software project team.
- Determining the methodology used on the project.
- Establishing a project schedule and determine each phase.
- Assigning tasks to project team members.
- Providing regular updates to senior management.



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### **Team Leader**

This role is usually taken by experienced senior developers, with leadership qualities to help the team keep focused on the tasks, deliver work on time and meet the project goals. They take the role of a coach or mentor and have to ensure that the development team has all the resources it needs to complete the project, as well as to quickly address any challenges and issues that might arise.

#### **MAIN RESPONSIBILITIES:**

- Guide the team development towards successful project delivery.
- Provide technical leadership to team members through coaching and mentorship.
- Prevent and solve any conflict or issue that may arise.

### **DEVELOPERS**

The developers are the ones in charge of writing the code and developing the software products, they are responsible for sending regular updates to the Project Manager.

### There are three kinds of developers:

1- Full-Stack Developer.

A full stack web developer is a person who can develop both **client** and **server** software.

In addition to mastering HTML and CSS, he/she also knows how to:

- Program a **browser** (like using JavaScript, jQuery, Angular, MVC,Blazor)
- Program a server (like using, C#, ASP, REST)
- Program a **database** (like using SQL Server, SQLite, or MongoDB)



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#### 2- Front-end Developer

is the practice of producing HTML, CSS JavaScript and MVC for a website or Web Application so that a user can see and interact with them directly.

- The challenge associated with front end development is that the tools and techniques used to create the front end of a website change constantly and so the developer needs to constantly be aware of how the field is developing.
- The objective of designing a site is to ensure that when the users open up the site, they see the information in a format that is easy to read and relevant.
- This is further complicated by the fact that users now use a large variety of devices with varying screen sizes and resolutions thus forcing the designer to take into consideration these aspects when designing the site.
- They need to ensure that their site comes up correctly in different browsers, different operating systems and different devices, which requires careful planning on the side of the developer

#### 3- Back-end Developer

Backend Development is also known as server-side development. It is everything that the users don't see and contains behind-the-scenes activities that occur when performing any action on a website.

- Ability to manage a hosting environment along with database administration.
- In-depth knowledge of deploying or hosting.
- should have good knowledge about these topics: Backend Programming Languages (C#, VB, C++), Databases, Server, APIs,



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### Main KPIs for Development Team

#### > Speed

Speed refers to how much work your team can complete. a sprint is a set period of time where specific tasks are set out to be done.

#### Burndown

that measures how much work is actually completed during a sprint.

#### > Release burndown

the metric is useful because it can guide teams in managing the release of a product.

### Cycle Time

Cycle time is a software KPI that measures how much time is spent working on a certain task.

### Efficiency

efficiency measures the ratio between your active time and your total time.

### Code Coverage

Code coverage is a software KPI software development teams use to measure code quality. This particular software metric is critical for software development

### Code Stability

Stable code means that there are little changes to the software product that could potentially harm the business or software.

### Code Simplicity

Code simplicity is a more general software engineering KPI.



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