1.Software project management is a project management skill that is applied during the development of a software.

2. A project management method that is use when developing software is called the SDLC/ Software development life cycle.

**1. Planning and Requirement Analysis:**

In this initial stage, the project team gathers information to understand the needs of the software. This involves activities like defining project goals, identifying stakeholders, conducting market research, and eliciting requirements from users.

**2. Design:**

Based on the gathered requirements, the software's architecture and system design are created. This involves activities like defining system architecture, designing user interfaces, creating data flow diagrams, and outlining technical specifications.

**3. Development (Coding):**

This is where the actual coding of the software takes place. Developers write code based on the design documents, adhering to coding standards and best practices. Unit testing, which involves testing individual code modules, is also typically performed in this stage.

**4. Testing:**

Once the code is developed, rigorous testing is carried out to identify and fix bugs and ensure the software functions as intended.

**5. Deployment:**

After successful testing, the software is deployed to the target environment, which could be on-premise servers or the cloud. This stage involves activities like system configuration, data migration (if applicable), and user training.

**6. Maintenance:**

Even after deployment, the software needs ongoing maintenance. This includes fixing bugs reported by users, adding new features, and providing technical support. Software updates and patches are also released during this stage.

3.Software Project managers can choose to work with many of the Software development methods, but my favourite ones are **Agile Development Methodology** **and Iterative development methodology.**

**Agile Development**

**Advantages:**

* **Rapid Delivery and Feedback:** Agile prioritizes delivering working software early and often. This allows for continuous feedback and course correction throughout the development process.
* **Enhanced Collaboration:** Agile fosters close collaboration between developers, stakeholders, and end-users, leading to a better understanding of project needs.

**Disadvantages:**

* **Lack of Predictability:** Due to the iterative nature, project timelines and outcomes might be difficult to predict with absolute certainty.
* **Dependency on Customer Availability:** Agile heavily relies on ongoing customer and stakeholder feedback and participation. Unavailability can slow down progress.

**Iterative Development**

**Advantages:**

* **Reduced Risk:** By breaking down the project into smaller iterations, risks are identified and addressed early, leading to a more controlled development process.
* **Flexibility:** Similar to Agile, iterative development allows for adjustments to be made based on feedback and learnings from each iteration.

**Disadvantages:**

* **Can Be Time-Consuming:** The iterative process of testing and refining can add time to the overall development cycle compared to a linear approach.
* **Requires Well-Defined Requirements:** Iterative development works best when there's a clear understanding of the core functionalities needed, even if specific details can evolve.

4.Project Scope Definition.

Work Breakdown Structure (WBS)

Project Schedule

Resource Allocation

Budgeting and Cost Estimation

Communication Plan

5. Risk Management in software developing refers to building a software that will not be easily hacked. This involves using many different techniques that will ensure that the software built is secure in order to avoid breaches.

6. Resource management means utilizing all resources set out for a project equally, this includes dividing and assigning the human resources as well as the infrastructure,and softwares used to develop a software to the right people.

7. Quality management refers to ensuring that a quality end product will be delivered, this means building frameworks and following time schedules set up for it, user testing of the prototype, testing for bugs, usability and security of that software before it is successfully deployed or implemented.

8.Project managers can monitor the progress of the project by getting involved in the projects hands-on or by constantly checking the digital tools or platforms that are used to develop a project like, Github for example.

9.Communication methods that can be used during a project development, range from Emails, phone calls, utilizing social media platforms like WhatsApp, Instagram and many more other methods of digital communication. Also they can use face to face communication.

10. Project closure is the final stage in Project Management as it the final stage of the project and its importance is in rounding off the project, acknowledging the stakeholders, exchanging lessons learned and concluding the project,

**Steps involved in project closure**.

**1. Final Deliverables and Sign-off:**

* Ensuring all project deliverables are finalized and meet quality standards. This might involve final testing and revisions.
* Formally transfer deliverables to the client and obtain their sign-off, signifying their acceptance.

**2. Wrapping Up Loose Ends:**

* Reviewing the project plan to identify any outstanding tasks or unresolved issues.
* Addressing any minor bugs or incomplete features, ensuring a polished final product.

**3. Administrative Tasks:**

* Finalizing project documentation, including budgets, schedules, and process documents.
* Updating and archiving all project files and assets in a designated location for future reference.
* Closing out any contracts with vendors or external collaborators and settle any outstanding invoices.
* Reassigning team members back to their original roles or new projects.

**4. Communication and Celebration:**

* Inform all stakeholders, including the project team and clients, about the project's closure.
* Issue a final project report summarizing key achievements, challenges, and lessons learned.
* Depending on the project's nature, a celebratory team event can boost morale and recognize team efforts.