# Case study: - student attendance system...

## Software Engineering- Waterfall Model

A school wants to develop a student attendance system to manage student attendance easily.

This system will record daily attendance generate monthly reports, and inform parents when student is absent.

And notify the parents if any student is absent.

This school choose the waterfall model because requirement is clear and fixed.

## 1.Requirement: -

- In this phase we have to collect the all record from the school.
- The school decides what features the system should have.
- Requirement are clearly written and finalized.
  - Example: preparing a document that lists all system requirement.

## 2.Design: -

- In this phase, the structured of the system is planned.
- The database and overall system layout are designed.
- And also, attendance & report format will be decided.

- Example: design a table for students and attendance records.

## 3.developmnt: -

- In this phase the actual code or programming is done.
- Different modules of system are developed.
- And program or code will be written to mark the attendance.
- Code is written for reports and notification.
  - Example: write a code to store a daily attendance of students.

## 4.testing: -

- In this phase the system is checked for error and bugs.
- Each function of system is tested properly.
- And in this phase bugs and error and mistakes are identified and fixed.
- In this phase attendance is checked.
- Notification feature is installed.
  - Example: testing whether parents receive massage when a student is a absent.

## 5.deployment: -

- In this phase system is installed and used by school.
  - For this system:
- Teachers and staff start using it.
- System is made available for real-time use.
  - Example: Software is installed on school computers.
- Teachers start using it.

## 6.maintenance: -

- On this phase, updates and correction are made.
  - For this system:
- Errors are fixed.
- New students are added.
- System is updated regularly.
  - Example: Adding a new student at beginning of a new academic year.

## Advantages of waterfall model

- The model is easy to understand
- It is easy to managed due to its structured approach.
- It works for small projects with fixed requirement

## Disadvantages of waterfall model

- Changes are difficult once phase is completed.
- Testing is done late, so error maybe found later.
- It is not suitable for project with changing environment.

## Conclusion

- ✓ The waterfall model is suitable for the student attendance system because the requirements are clear and do not change frequently.