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Software Engineering IT314

Project: Student leave and TA assistantship management

Group: 9

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Lab : 02
Date : 08-02-2023

❖ Needs:

- Software that can maintain the record of leaves by faculty, TA and students.
- It also needs the mechanism for every leave application to be accepted/rejected by the concerned person.
- Monthly/Early data of leave and working hour to be calculated and visible by HOD.

❖ Features:

Users:
1. HOD
2. Faculty
3. TA
4. Student

For Students:
- SignUp and Login using Credentials.
- They can choose a day(s) for which they want to take a leave.
- In the text box they can write reasoning for leave and also add supporting documents on the same via mail.
- When HOD reviews the leave they will be able to see if their application is accepted or rejected.
- Students can apply for TAship to the concerned faculty, after the approval of the faculty, they will be allotted the course(manually) and added to the TAship.

For TA:
- Similar to student TAs will also be able to request leave.
- Their leave application will be approved/rejected by HOD
- When a TA's leave is approved the TAs of the same course can replace his/her absence.

For Faculty:
- Faculty can see the leave data of TAs assigned for their course and also the students who have asked for leave in their class.
- Faculty will be able to see the replacements for the TAs who are on leave.

For HoD:
- He will be able to approve/reject the leave applications.
- On his homepage he will be able to see Pending requests, Approved requests and Rejected requests.
- He would be able to see data of every student,faculty and TA's leaves.
- Automated monthly/yearly workdays and working hours will be calculated for every Faculty and TA. HR will be able to fetch this information.
- TAs and faculty will get the salary based on their working days and working hours.

❖ Functional Requirements:

For Students:
- **Login** - Using DAIICT PDC login credentials
- **Submit Leave Application -** In application students will be able to choose Date(From and To) based on which leave days will be counted. They will also be able to add Subject/Lab, Notes and attach the supporting documents.
- **Leave History -** Students can see the history of the leaves taken by them.
- **Application Status** - Application status page will display all the applications and their status like Approved or Rejected or Pending.

For TA:
- **Login** - Using credentials generated by the system administrator.
- **Submit Leave Application -** In application TA will be able to choose Date(From and To) based on which leave days will be counted. They will also be able to add Lab, notes and attach the supporting documents.
- **Leave History -** TAs can see the history of the leaves taken by them.
- **Application Status** - Application status page will display all the applications and their status like Approved or Rejected or Pending.

- **Notification -** The notification panel will display the notification if any student leave application is approved by HOD for their subject.

When a student becomes a TA:
- If a student becomes a TA then he gets a space in both the student database and the TA database.
- While login in, the TA cum student is asked whether to log in as a student or as a TA after he/she submits the email address.
- Both the TA and student Id will remain same, but the password for it will be different to maintain the security of the system.

For Faculty:
- **Login** - Using credentials generated by the system administrator.
- **Submit Leave Application -** In application, TA can choose Date(From and To) based on which leave days will be counted.
- **Leave History -** TAs can see the history of the leaves taken by them.
- **Application Status** - The application status page will display all the applications and their statuses like Approved or Rejected or Pending.
- **Notification -** Faculty will be notified if any Student or TA in their course is approved by HoD for leave.

For HoD:
- **Login** - Using credentials generated by the system administrator.
- **Leave Applications** - HoD will be able to see all leave applications and will get options to **Approve** or **Reject** it.
- **Filter -** HoD can filter applications based on approved or rejected stored in his database. And also filter applications by particular faculty or students.
- **Working Data -** HoD can see working days or working hours for any faculty or TA.

❖ Non-Functional Requirements:

- **Security** of the users' personal data
- **Accessibility** should be able to scale, i.e., many users can simultaneously use the
- **Scalability**: can handle large no. of users
- **Capacity**: can handle multiple active users simultaneously
- If the user's leave is approved he/she will receive a confirmation mail on the same.
- **Maintainability**: the administrator should be able to maintain the system.
- Logging in should be done in a small interval of time to be validated
- After 15 min of non-usage of the application, the user is **logged out.**

Use Case Diagram:
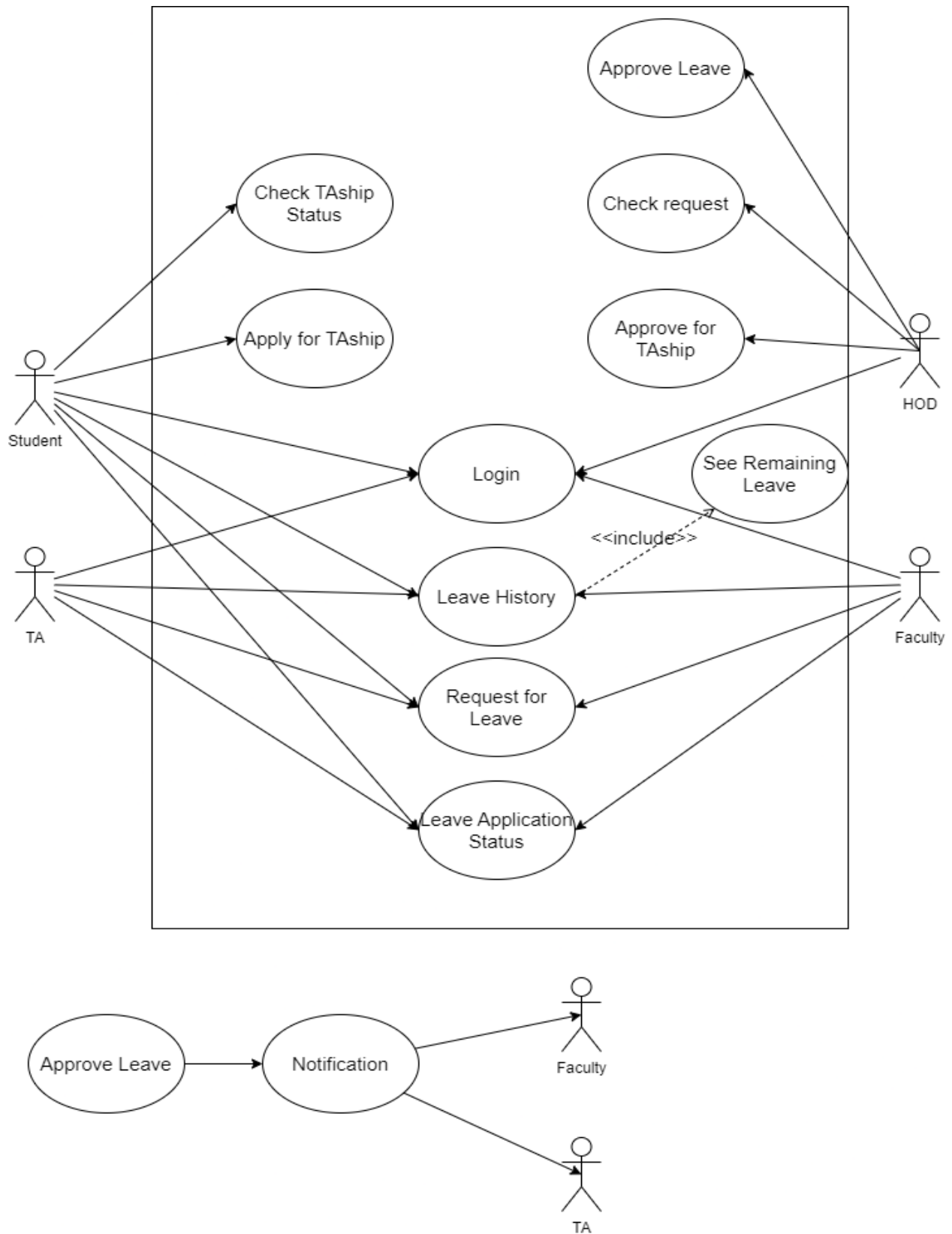
❖ Software Process Model:

Basic Waterfall Model

We are using this model because of the following reasons ->

- It's a basic model which can be managed easily.
- This model is beginner friendly.
- Waterfall model works well for smaller projects.
- Allows the mechanism of error connection because there is a feedback path from one phase to its preceding phase.