

Backlog

Must have

- Users must be able to authenticate with NetID and password
- The user must have a unique NetId
- Password must be securely stored
- The system must be protected from unauthorised access
- System must keep track of the user's permissions
- The user can have their request permitted/not permitted
- HR must be able to create new accounts for candidates
- HR has to assign NetID to applicants
- HR must be able to create contract drafts
- A candidate can request for modifications of the draft contract (negotiation phase)
- The contract must be signed by both parties before it becomes valid
- HR employees must be able to do the following after being contacted by an employee:
 - HR employee must be able to modify contracts
 - HR employee must be able to retrieve documents and certificates
 - Give permission for sick leaves and special leaves
 - Terminate contract
- The contract must have the following in order to be valid:
 - Name of employer
 - Address of candidate
 - Contract type(temporary, part-time, permanent)
 - Contract duration
 - Number of hours per week (with a minimum of 8 hours to a maximum of 40 hours)
 - Number of days that can be spent for vacation/holidays
 - The pension scheme
 - The salary scale and steps
 - Additional benefits (e.g., travel allowance)
- Salary steps and scales must be regulated at a national level
- Different position employees have dedicated set of available scales
- Employees with additional managerial responsibility have higher salary
- A temporary contract cannot be renewed more than once and max for a duration of 5 years
- An employee can not have less than 15 days of vacation per year and no more than 30 days
- An employee cannot cancel or edit contracts of other employees (unless they are from HR)
- Jumps from one salary scale to the next one can be done only within a promotion procedure
- A job contract can start only on the 1st or the 15th day of each month.

Should have

- System should support requests from employees
- System should support per-position payment scales
- Admin that has access to all parts of the system
- The Administrator should not be able to delete their account
- HR should be able to lock inactive users accounts
- Users should be able to request modifications to existing contracts from HR
- System should support requests for documents
- System should be able to handle requests for sick/maternity leaves
- Employees should be able to request contract termination
- System should have permission-based authentication
- An employee can be promoted (e.g., from associate to full professorship) after receiving positive advice from the Dean
- Finally, HR has to notify the employees with a close-to-terminate contract by two months before the end date of the contract. The contract can be extended depending on the conditions/constraints mentioned above.

Could have

- System could have centralised monitoring infrastructure (prometheus + grafana)
- Integration with resilience frameworks (resilience4j ...)
- Caching (using memcached/Redis/EVCache)
- Automatic review collection and bonus calculation based on reviews
- System should keep audit logs of important events
- System could implement centralised log aggregation
- Every 12 months of employment, the employee receives a jump to the next step within the same salary scales
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Won't have

- GUI
- SSO integration

Non-functional requirements

- Backend utilises Java 11 with Spring, using Gradle
- SLF4J is used for per-service logging
- Services expose REST API endpoints as their communication interface
- The system is designed using microservices architecture to allow for granular horizontal scaling
- Use Spring Security for user authentication and security
- System uses PostgreSQL as the DBMS.