Packattk: Product Backlog

Problem Statement

Because thousands of packages are delivered through the campus mail system every day, knowing where a package is and when it will arrive in this system will be of great convenience to all who use it. Our intention is to produce an application that will allow on-campus residents and mailroom workers to easily manage and track packages using a fast, user-friendly interface.

Background Information

Each of Purdue's residence halls contains a mailroom that is responsible for sorting through packages, notifying the appropriate resident that their package is available to be picked up, and ensuring that each resident quickly receives the packages that are properly addressed to them when they arrive for pickup. In addition, as packages may be delivered to an incorrect hall, a system must exist to track packages as they move throughout campus. This helps to ensure accountability, especially if packages are misplaced or mishandled for any reason. Purdue currently has an electronic system to track packages to assist with these duties. However, the system is slow and experiences frequent freezes and errors. Additionally, students are not told when their packages accidentally arrive at incorrect halls, and misentry of packages can easily occur due to poor user friendliness. We believe that we can improve on this with a web-based system that provides greater transparency to residents, improves ease-of-use for mailroom staff, and leads to fewer potentially costly errors.

Environment

Our system will consist of a web-based backend and frontend as well as an Android app, all backed by an SQL database. All portions of the project will be written in Java, potentially using appropriate frameworks (such as a web framework for the web-based portion). The app will be hosted on a team member's server.

Functional Requirements

Backlog ID	Functional Requirements	Hours
1	As an administrator, I would like to be able to open an interface displaying a person's current packages.	8
2	As an administrator, I would like to be able to enter a package into the system.	4
3	As an administrator I would like to see all packages of at least a certain age.	3

4	As an administrator, I would be notified of packages that have not been picked up after a specified amount of time.	3
5	As a student, I would like to know via email when my package has arrived.	4
6	As a student, I would like to check if I have packages via a web interface.	5
7	As a student, I would like the option to get a notification on my phone when my package arrives.	3
8	As a student, I would like to be able to check if I have packages via an Android interface.	8
9	As an administrator, I would like to be able to update the location of a package in the system.	4
10	As a student, I would like to create an account.	5
Total:		47

Non-Functional Requirements

1. **Reliability:** The database and client programs should be robust (i.e. it will not crash, freeze, or produce unexpected errors when valid input is given)
2. **Scalability:** The system should be able to handle thousands of users and packages.
3. **Deployability:** The program to enter packages into the system should be easy to install onto multiple machines and easily sync to a central server.

Use Cases

Case	System Response
Open an interface to show the status of students' packages. 1. Launch entry application 3. Enter login information 5. User enters students ID number	2. Open app and display login interface 4. Check username and password, if correct, open admin interface 6. List of packages displayed for student
Enter a package into the system. 1. Enter package information through dialog with corresponding user information	2. Add package and associated user into the system

See all packages of at least a certain age. 1. Enter a time frame (week, month)	2. Sort packages of specified age based upon how long they've been registered in the database 3. Display packages in a list
See packages that have not been picked up after a certain amount of time. 1. Set length of time for notification	2. On the administrator's screen, display a list of packages that have been ready for pick up for the set amount of time
Notify a user via email when a package arrives. 1. Admin scans in new package	2. Send user email notification that package has arrived
As a student, I would like to check if I have packages via a web interface. 1. Student logs into web application	2. Retrieve student's packages and display them in a list
Notify the user when a package is scanned in. 1. Admin scans in new package	2. Student's device displays a push notification that package has been delivered
Check status of packages via an android app. 1. Student opens Android application	2. Display packages registered to student as well as their respective statuses
Update the location of a package in the system. 1. Admin enters tracking number of package, hit enter 3. Change package's information, hit update	2. Display the package and info if found. Else error message 4. Display "Success" if successful
Add a user to the system. 1. Launch entry application 3. Create an account, enter username and password 5. User is taken to their account page	2. Display login interface 4. Add username and password to database 6. Display the account page