

Operational Documentation

Packat.tk consists of a central server that provides a web-based interface as well as an API utilized by an Android app.

Database: The first time the website server is run, it initializes the database if the tables were not found. So, to start with a clean database, delete `server/packat.tk-ui/purdue.db` and a new file should be created the next time the server is run.

Website:

- Ensure that Apache Maven is installed on your system, then enter the `server/` directory.
- Run the command `mvn clean install` to install dependencies and build the project.
- To run the server on your local machine, enter the `server/packat.tk-ui/` directory and run `mvn jetty:run`. The web interface can then be accessed at <http://localhost:8080>
- To change the port the server runs on, use the `-Djetty.port=[PORT]` option with the `jetty:run` command. For example, if you wish to run the server on port 7225, use the command `mvn -Djetty.port=7225 jetty:run`.
- By default, the Android app assumes that the server is running on `data.cs.purdue.edu` on port 7225. You can modify line 25 of `Client.java` in the Android app if you need to change this.

App: You need to have Android Studio installed in order to open the app. Import the project, and hit build. After putting the repository in a directory on your computer. Open android studio, and select the android application project from the file explorer. To build the application in Studio, select Build->Make project from the IDE. To run the application on an android device, select Run->Run 'app'. Make sure that you have all SDKs from 4.1 to 5.0 downloaded before attempting to build. In addition, make sure that this application is tested on a device or virtual machine running Android 5.0 Lollipop. Some features of the application may not work otherwise. In addition to the SDKs listed above, you will also need to have the Java Runtime Environment (JRE) and Java Development kit (JDK) pertinent to your system requirements to run the IDE.

Manual

- Functionality:** Packat.tk is designed to track packages as they enter and leave the mailroom of a residence hall. A standard user is assumed to be a resident in a particular hall. When they log in, they can view details of the packages they have not yet picked up so that they know what packages have arrived for them. Administrators can scan packages into the system for particular users, check packages out to users before they leave the custody of the mailroom, view the packages that a given user has, and view packages that have been in the mailroom for a long time so that reminder emails can be sent or packages returned to senders.
- Accounts:** Users are taken to the login page when accessing Packat.tk via the URL at which the app is running. If a user does not have an account, one can be created by clicking *Create Account* at the top of the page and filling out the form. Upon successful account creation, the user is redirected to the login page to log in.
- Viewing Packages as a Standard User:** When logging in as a regular user, a list of your packages will be displayed. When you select a package in the list, details of the package such as its current location (if it was accidentally sent to the wrong hall) and the user who scanned it in will be available.

- a. In the web app, this page is at <http://<web app URL>/packages/view>
- D. **Main Administration Page:** If an administrator logs in to the web interface, they will automatically be taken to the main administration page. By default, the left side contains a list of all users in the system while the right side shows all packages older than one week. When a user is selected by clicking, their packages will be displayed (regardless of age). When a user is unselected by clicking on the currently selected user a second time, the list of old packages is displayed again. Links at the top of the page allow access to other administrative portions of the system. In the android app, administrators are only given a list of all packages currently entered into the system with the option to add packages.
 - a. In the web app, this page is at <http://<URL>/packages/admin>.
- E. **Entering Packages:** When clicking *Enter*, new packages can be entered into the system using this three-pane interface. The system is designed such that multiple packages for a single recipient can be entered at one time.
 - a. All of a user's packages are entered by typing each package's unique tracking number into the *Tracking Number* box and clicking *Add* (in a real mailroom, a barcode scanner would act as a keyboard and type characters into this field automatically). If a package does not have a tracking number, a random one can be generated by clicking the *Generate* button.
 - b. A package in the table in the left pane can be selected to show details. In the middle pane, details for that package can be displayed. The location of the package can be modified manually, and a descriptive name (such as "NewEgg" or "Amazon Envelope") can be given to the package by typing in the *Name* box. Changes to a package's name are automatically applied.
 - c. Once packages are scanned and named, the proper recipient can be chosen from the right pane by clicking. A filter for last names is available and can be used by typing into the filter box above the user list.
 - d. After selecting a user, the Submit button can be clicked to add the packages to the system for the given recipient. If no packages are scanned and/or a recipient is not selected, an error message will be displayed informing the user of what to do.
 - e. The URL for this is <http://<URL>/packages/enter>.
- F. **Checking Out Packages:** When clicking Check Out, packages can be checked out of the system before being given to users.
 - a. The user's PUID number, as given during account creation, is typed into the text box at the top of the left pane (in a real mailroom, a card reader would type this in automatically). If the PUID is correct and the user has packages, they will be displayed after a short delay.
 - b. Barcodes for each package can be typed in the text box at the top of the right pane (again, a scanner would be used in a real mailroom). If a valid tracking number is typed, it will move from the left to the right pane after a short delay.
 - c. When the *Submit* button is clicked, all packages in the right pane will be removed from the system and will no longer appear in the user's list of available packages. Packages in the left pane will not be affected in any way and will remain in the system. If the *Cancel* button is clicked, all fields and tables will be cleared and no packages will be affected.
 - d. The URL for this is <http://<URL>/packages/checkout>.