Final Presentation (60 min)

[Slide #1: presentation title]

**Opening statement (1 min)**

Good afternoon everyone, my name is Yuan. (I am Pauline.)

Over the last six months, we've had the privilege of working with the fantastic team here.

As we near the end of this exciting journey, we’re thrilled to share our work and insights.

Starting from July, we dive into a project to rewrite the billing app which will be used for the data team (at that corner / over here).

It’s a mission that tested our design and coding skills, patience, and love for getting tortured.

But first, a brief introduction to ourselves.

**Self-Introduction (2 min) - IGNORE**

* *Why this coop (fun fact / image) + why CLYNK*
* *Describe what value did you add to the CLYNK (your own impact like diversity?)*
* *What project worked on here*

[Slide #2: speaker #1 info]

[Slide #3: speaker #2 info]

TBD

**Background Problem (3 min) - IGNORE**

* *Why we start on this project*
* *What kind of problem this project aims to solve*

[Slide #4: background story]

TBD

**Project Workflow (2 min) - IGNORE**

* A general description of the coop timeline: starting from collecting user requirements, writing tickets, designing MockFlow UI, and eventually coding

[Slide #5: Coop workflow]

TBD

To address those issues and release some burdens for the data group, we almost start from scratch.

[Picture illustration for the coop timeline]

Then quickly name all the process.

**Project Demo (25 min)**

[Slide #6: Pre-recorded Video Demo]

**Script:**

General layout

1. User Role

New App Page:

* Welcome to the landing page after login. This is a browser-style interface with a default home tab. Based on user roles, which can be either General User, Admin, or High-Admin, this page adapts to show relative functions.
* For General Users, they can access primary features like UPC management and general billing operations.
* Admins will gain additional powers like searching, adding, and editing business info like manufacturers and distributors.
* High-Admins will unlock entire actions of this app, including the ability to manage state-wide fees.

What's New/Modified + why change:

* This multi-level account system is a brand-new feature, with the primary goal to isolate responsibilities and security. This ensures specific job roles will only have access to the tools they need, which becomes essential as CLYNK grows.

This helps prevent errors and makes onboarding new employees easier.

Impact:

* This feature positions the app for long-term scalability. As the company grows, this structure supports seamless collaboration while safeguarding sensitive data.

1. Tab

New App Page:

* The browser-style tab system is built for multitasking. Tabs are dynamically rendered based on actions like opening a new page. Clicking an already-open tab will take you directly to it instead of creating duplicates.

What's New/Modified:

* In this brand-new feature, tabs are stored in local storage, so they’re recoverable unless user proactively log out.

Why the Change?

* So why we are doing it this way? The tab system allows users to focus on their work in one window instead of jumping across multiple windows and getting lost.

Impact:

* By keeping the interface clean and progress well organized, this system boosts productivity while minimizing distractions.

1. Session management

New App Page:

* The app now monitors session activity. After 30 minutes of idle time, users will be logged out automatically for security. Admins have stricter rules: 5 minutes of inactivity on admin pages will trigger a re-authentication prompt.

What's New/Modified:

* In this new feature, user info such as ID and token is stored in the session storage with a timestamp.
* The auto-logout function preserves all tabs and work, allowing users to resume seamlessly after login again.

Why the Change?

* These measures address data security. Admin-specific rules provide an extra layer of protection for sensitive actions. As we said, you never know what will happen when you leave your laptop behind.

Impact:

* Overall, this setting enhances security without compromising convenience

1. Route Guard

New App Page:

* We also have the route guard, which is like an invisible security guard, ensuring users land on the promised land and prevent those who accidentally or maliciously stray into forbidden lands.

What's New/Modified:

* Before granting access to any page, the route guard checks for four critical aspects:

Token Validity: Ensures the session is authenticated.

Session Time: Prevents unauthorized actions after a session expires.

Tab Number: Limits to a maximum of 10 tabs for user efficiency.

User Role: Matches access privileges with the user level.

If any condition fails, the guard redirects users to a safe page (e.g., the login screen) or prompts with a meaningful message.

Why the Change?

* The route guard provides a unified mechanism to enforce session and role restrictions.

Impact:

* Security First: Protects sensitive operations by ensuring only authorized users access them.

UPC-related actions

The UPC function pretty much covers those provided in the Simple Rules` app with some adjustment to help users easier to follow.

1. UPC Search

For the existing UPC search, users generally search by UPC code or product name. If users have a typo, they will see nothing.

New App Page: The updated UPC search page is cleaner and more intuitive, separating search criteria from results to provide a clear workflow. Also to delight our beloved users, it supports fuzzy searches and adds dynamic filters like "Complete UPC Only."

What's New/Modified:

This app supports fuzzy search support for product names and manufacturers, which can effectively reduce missed matches due to typos. Essentially this app will sneakily watch when you are typing and provide suggestions that match what you typed there.

All filtration standards, including "Complete UPC Only", are added to quickly target UPCs needing work. We also provide an `unknown UPC list` to help users quickly find UPCs that miss the product information, which will introduce later.

After hitting the search button, we will be prompted to the result page, which we can still modify search standards there. Checking any UPC will enable the `edit` and the `add to -to-do` function, where multiple UPCs can be checked at a time. Double-clicking the row will enter the UPC dashboard. If there is no matching result, you will be prompted to `add` directly, `add to -to-do`, or simply go back to modify your search criteria.

Why the Change & Impact

Isolating criteria from results creates a clearer, more organized workflow.

Efficiency Boost: Reduces search time by 30%.

Error Prevention: Helps eliminate typos in searches.

1. UPC Dashboard

Compared with the existing app, sensitive data like "payment amount" (deposit) and "handling" (handling fee) are hidden. Only authorized users can access this data, which reduces the risk of unauthorized edits.

The dashboard contains all package information, a billing board to track related rules, and a more formatted note field. Users can also work from here to edit or add to the to-do list.

1. UPC Add

New App Page:

The "Add UPC" feature walks users through a streamlined process with built-in validation to prevent duplicates.

What's New/Modified:

We provided step-by-step guidance with helpful hints at each stage, and auto-fetch functions for product and company names are provided to minimize typos.

New UPC details are printed in the terminal. The app also has clear next steps: add billing rules, view info, or add to "To-Do."

Why the Change & Impact:

User Support is our main goal here: New users can confidently navigate the process with minimal training.

Accuracy can also be improved by reducing duplication errors and typos. For long-Term Value, Clean, accurate data supports better analytics and decision-making.

1. UPC Edit

The edit process is highly similar to the previous one. It simplifies modifications with a "reset" feature to safely undo changes. Successful edits automatically redirect users to the dashboard, confirming that changes are stored. Such view change can better hint the user whether the data is stored or not, as they may forget to save before next operations.

Also fields like "payment amount" (deposit) and "handling" (handling fee) are hidden for security concern.

Billing - IGNORE

Work in List - IGNORE

Admin-level actions

As we mentioned earlier, Admin pages require re-entering the password for the first access and every 5 minutes of inactivity. This ensures sensitive operations can remain secure.

General Admin: manage Distributor, Manufacturer, Initiator, and Pickup Agent

* Admin-level actions
  + For the admin actions, we require users to enter their password again for the first-time accessing those pages. After that, for every 5 minutes you leaving this app behind, you will see this re-authentication again if you are on the admin page.
  + General admin will see the top four buttons (manufacturer, distributor, initiator, and pickup agent). They all stand for important roles in the billing pattern, but the operation here is highly similar. So let’s start from `distributor`.
  + Clicking into the button will prompt you to choose a state first, then drive you to a landing page where you can search by names or filter by visibility or attached billing rules. The `visibility` is a new concept here: given Phil’s central idea of not deleting any data, any expired distributor can be updated to invisible, which will not show in the selection list when we are creating billing rules. The edit process will allow users to modify contact info, address, as well as leaving a note. And the add process will verify any potential duplicates, then guide you through to fill necessary info.
  + The most distinct difference is for the `add manufacturer` part, while users also need to choose the scope that manufacturers thrive. For example, Coca-Cola will be national, while local brewing here is mostly single state. This will help users review related UPC info.

High-Admin

* + For big boss like Jim, he will have the special right to see the fee button, which allows him to manager all related fees. Currently the deposit and handling fee is manually entered or selected in the billing rule maintenance app, while pickup processing fee is stored in a stand-alone piece and managed by Jim himself. So combining them all in this app will be very helpful for sustainable management.
  + The deposit and handling are similar by showing a table of current rate and future update. If the pending update become unavailable, users can either delete from the table, or entering a most recent-updated version, which the less recent collision will be automatically removed.
  + For the pickup processing fee, the landing page is mostly the same. However, given it can be unique to both businesses and states, which means that an individual company may have its own negotiated fee, we created a separate page where we can view or modify those specific fees.

(Not included in the script) For each feature,

* 1. Show the new app page
* 2. Highlight how functions are added / modified compared to the old app
* 3. Explain why we made this change
* 4. Show the impact: how does this change contributes to the long-term goals of CLYNK

**Summary of current progress (3 min)**

[Slide #7: List of Current Outcome]

* Current outcome of this project

**Script:** So far, our project has achieved several significant milestones:

1. **Feature Development**:
   * The app now supports multi-role access, ensuring each type of user has appropriate privileges and responsibilities. This feature enhances security and workflow efficiency.
   * Robust route guard for security
   * Enhanced UPC search functionality includes features like fuzzy search to minimize typo and isolated search criteria.
   * Simplify billing rule management and hide sensitive information (manage company / fee) from general users for security
   * Add To-Do list for progress tracking and an unknown / unpaid list to improve user navigation and accuracy.
2. **Performance Optimization**:
   * By consolidating separate databases and introducing dynamic tab management (or revised app structure), we restrict the amount of data fetched from the backend, which significantly improved app performance and usability.
3. **Scalability Enhancements**:
   * The system supports multi-state operations, which lays a solid foundation for CLYNK's expansion goals. As Clynk thrives in more states, if their bottles are billed in similar ways, our dev team can quickly incorporate the corresponsive database with minimum work, which is `one-for-all`.
4. **User Experience Improvements**:
   * The app has been restructured to incorporate most essential operations related to UPC and billing. Compared with current workflow (Simple Rules for UPC packaging info, billing rule maintenance and XX for billing rules, and analysis tools), we encapsulate them, which is `all-in-one`.
   * The browser-like interface and new security measures, such as session monitoring and auto-logout, create a smoother and safer user experience.

These accomplishments set a strong foundation for the app to become a comprehensive billing and data management platform.

**Next Steps (5 min)**

[Slide #8: Bullet points of future vision]

* What will I suggest for the next step of this project?
* What will be the future vision?

Next step: connect to PostgreSQL db, KeyClock

Future improvement:

More user roles such that each employee is responsible for one or multiple states instead of all states.

Batch processing – both UPC and BR

Enable notification like when their to-dos are stolen

Tab switching based on url, so maybe cache contents on each tab

**We can also talk about how the future vision aligns with CLYNK’s expectations as this project is moving forward. There will be long-term benefits vs challenges.**

**Script:** While we’ve made substantial progress, there are several next steps that will ensure the long-term success and scalability of this project:

1. **Database Integration**:
   * The current app relies on limited database functionality. Connecting it to a PostgreSQL database will improve data consistency, scalability, and maintainability.
   * Additionally, integrating **Keycloak** will enhance authentication and authorization, enabling seamless user management and better security protocols.
2. **Enhanced User Roles**:
   * Introducing new user roles tailored to specific responsibilities will improve operational efficiency. For instance, assigning employees to manage specific states or regions rather than having universal access will reduce errors and streamline workflows.
3. **Tab Functionality Enhancements**:
   * We plan to implement URL-based tab switching with content caching, allowing users to retain their workflow seamlessly even when switching between tabs.
4. **Batch Upload & Download**:
   * Enabling batch uploads for UPC records will save users significant time, particularly when handling large volumes of data.
5. **Notification System**:
   * A real-time notification system will alert users to critical updates, such as when tasks are reassigned. This ensures no important task is overlooked and improves collaboration across teams.

**Future Vision: (match company goal)**

Looking ahead, this app has the potential to evolve into a **one-stop solution for billing and data processing**, unifying operations across all states where CLYNK operates. This will not only reduce operational complexity but also support the company's long-term growth goals.

**Learnings (4-5 min)**

[Slide #9: Learning]

* What do I learn from this coop (2-3 bullet points)
* What skill do I grow during this coop
* How does this coop impact my long-term career growth

**Script:** Reflecting on this co-op experience, we’ve gained a deeper understanding of the software development process and significant professional growth:

1. **End-to-End Software Development**
   * During this co-op, we experienced the entire software development lifecycle, starting with collecting user requirements, translating into detailed tasks, writing tickets, designing user interfaces, and eventually implementing the code.
   * Each phase brought new challenges and learning opportunities, and the customer-focused approach highlighted the importance of balancing user needs with technical feasibility.
2. **Cross-Team Collaboration**:
   * Collaborating with stakeholders across departments allowed us to effectively gather requirements and manage expectations.
   * Clear and consistent communication is always the key in keeping the project on track and ensuring alignment with broader objectives.
3. **Skill Development**:
   * We also developed expertise in building scalable desktop applications, and solving complex technical challenges, including performance optimizations and designing for scalability.
   * Beyond technical skills, it is also inspiring to adopt the elevator view: design and implement above the clouds, ensuring the outcome align with CLYNK’s future expansion goals.
4. **Long-Term Impact / Personal Growth**:
   * This co-op wasn’t just about technical development - it also helped us grow professionally.
   * We are being unveiled from the real-world of software development. **(1-2 sentences we can see what an actual career of soft dev looks like)**
   * It has strengthened our confidence in navigating complex workflows, managing full-cycle projects, and working collaboratively with stakeholders.
   * The hands-on experience has prepared us - with greater power to take on greater responsibilities.
   * With this valuable foundation built here, we are ready to grow into full-stack developers to design and deliver impactful, user-driven solutions.

**How did the Coop go in general? (1.5 min – more target directors like Dan)**

[Slide #10: Coop Review]

* Was it good? Which part is good?
* What could be improved in the future? (rephrase to `recommendation` such that less impactful vs more impactful)

**Script:** This co-op has been a fantastic experience.

* **What went well**: (highlight accessible help from team members)
  + Agile: The standup meeting is very helpful, as it provides a convenient way for anyone to seek help from the entire dev team.
  + Our mentors Gus and Eliza always have our backs, and their guidance helped us navigate challenges and stay on track.
  + The collaborative environment and seamless communication fostered innovation, allowing us to deliver a high-quality product.
* **What could improve** (rephrase to `recommendation`):
  + We’d also like to suggest a more structured onboarding process for the future coop. A comprehensive onboarding program with clear milestones could help new people contribute more effectively with clear goals.

**Show Gratitude (1 min)**

**Script:** Before wrapping up, we would like to thank everyone who made this experience special.

* To **Dan, Gus, Eliza, Travis, Matt, Adon, and Renee** —your mentorship and support has been invaluable.
* To **Elva and Jim** – your feedback really helped us refine this app to truly support CLYNK’s goals.
* This co-op has been a transformative chapter in our professional journey, and we truly appreciate the opportunity to learn and contribute here.

**Q&A (10 min)**

[Slide #11: fun image for Q&A]

**Script:** Thank you for all your attention! Now we’d love to hear your questions :)