

Lab 2 - Software Engineering

1. Problem Description

The **Peer-to-Peer Gifting Platform** is a web and mobile application designed to simplify gift coordination for events such as birthdays, weddings, graduations, and other celebrations. The platform allows an **Event Organizer** to create and manage event wishlists, while **Guests** can contribute through pooled gifts or cash gifts. The system prevents duplicate purchases, integrates with payment providers, and supports a shared photo/video gallery for the event. Additionally, the platform supports retailer integrations (e.g., affiliate profit share with Amazon) and secure payment processing through a centralized payment hub.

2. Main Actors and Roles

Event Organizer - Logs in, creates and manages a wishlist of gifts for an event. The event organizer can enable gift pooling for a more expensive gift and configure retailer integrations (e.g., Amazon affiliate links for profit sharing). The wishlist prevents duplicate gifts by detecting when the same product link is added more than once and automatically blocking the second entry.

Guests - Logs into the system, views event wishlist, contributes to a pooled gift, sends cash gifts, and uploads photos/videos to the event gallery.

Payment Hub - Stripe processes all payments, including cash gifts and pooled contributions, securely holds funds, transfers money to organizers, handles payment failures and refunds, and confirms transaction statuses back to the system.

Retailer: The Retailer is an external system actor, such as Amazon/eMag, integrated into the platform to facilitate product-based gifting.

3. Main usage for each actor

Event organizer:

Create and Manage Event

The event organizer sets up an event page, adding details like date, location, and a welcome message.

Populate Wishlist

The organizer adds specific items by pasting product URLs from Amazon/eMag, which the system parses to display images and prices.

Exception: The same URL is introduced for a second time, it will be denied, preventing duplicates

Withdraw Funds

The organizer transfers accumulated cash gifts and pooled money to their personal bank account via Stripe Connect.

Guests:

Browse Wishlist

The guest views the event page to see available items, already-purchased items (duplicate prevention), and pooled gift progress.

Contribute to Pooled Gift

The guest selects a high-value item, enters a custom contribution amount, and completes the transaction via credit card.

Purchase Item (Affiliate)

The guest clicks a wishlist item, gets redirected to the retailer via a Profitshare/Amazon link, and makes the purchase.

Send Direct Cash Gift

The guest chooses the "Cash Gift" option, specifies an amount, leaves a congratulatory message, and processes the payment.

Upload Event Media

The guest uploads photos or a short video from their device to the event's shared gallery.

Payment Hub:

Process & Split Payment

Stripe securely processes the guest's card, deducts the platform's commission fee, and routes the remainder to the organizer's virtual balance.

Attribute Affiliate Sale

The retailer tracks the guest's session originating from your platform to ensure the PoC monetization (commission) is accurately logged.

Retailer:

Provides Product Listings

Supplies product details (title, price, images, availability) when an organizer adds a retailer link to the wishlist.

Processes Product Orders

Handles the actual purchase and fulfillment of physical items when a guest buys a gift through the retailer.

