

Design Document

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1 Design Considerations

1.1 Assumptions

- This design is created for an Android-based application that will allow for the management and tracking of loyal customers' purchases and rewards. The application is intended to be used by a mobile shop manager.
- This application system will manage customers' information, store their purchase information, track rewards information and process payments via a third-party service system. This system will also notify customers by e-mail whenever their reward status changes (i.e., either earning a \$10 reward or achieving the "Gold" reward status).
- Everytime customers spend at least \$100 out-of-pocket in a single purchase they will be entitled to a reward of \$10 towards their future purchases. The reward is cumulative and never expires.
- Whenever customers spend at least \$1,000 out-of-pocket cumulatively during a calendar year they will achieve "Gold" status, which entitle them to a 5% discount for life and on every purchase. The change of status is effective immediately and the 5% discount is applied before any other discount.
- The reward dollars will be applied towards the next purchase automatically. If the total purchase amount less any Gold discount, if any, is greater than the reward balance, the total reward dollars would be applied to the purchase. Otherwise, partial reward balance would be applied to cover the purchase amount.

1.2 Constraints

- This application is designed to only allow for a single stall manager to manage a single stall.
- The reward program is limited to two plans.
- All payments must be performed using a credit card. No cash payments are allowed.

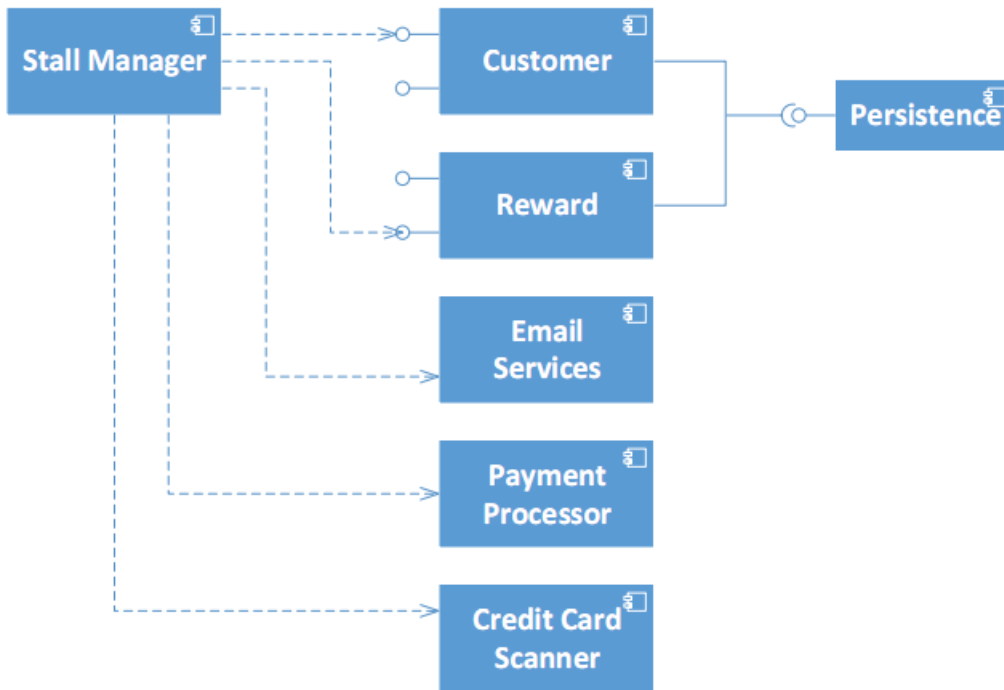
1.3 System Environment

This design is for an Android-based application system that can be operated on any Android devices. Additional third-party Android utility hardware as well as corresponding software will be attached to this application, which would provide the following functions,

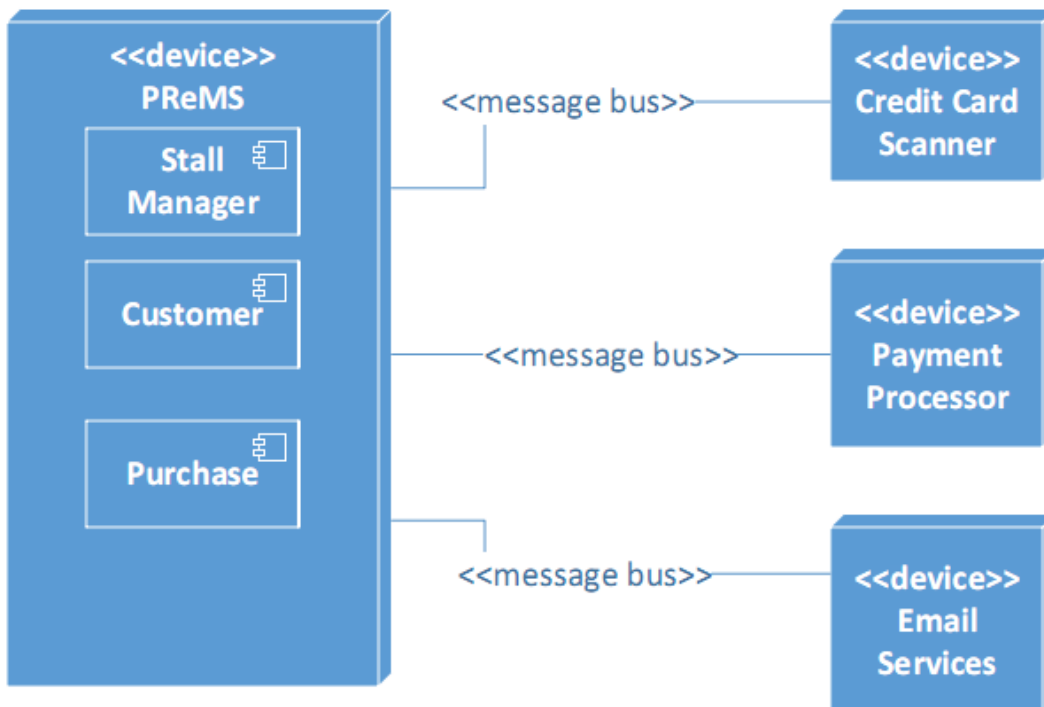
- Scanning credit card,
- Processing payment, and
- Sending E-mail notice regarding a customer's reward status.

2 Architectural Design

2.1 Component Diagram

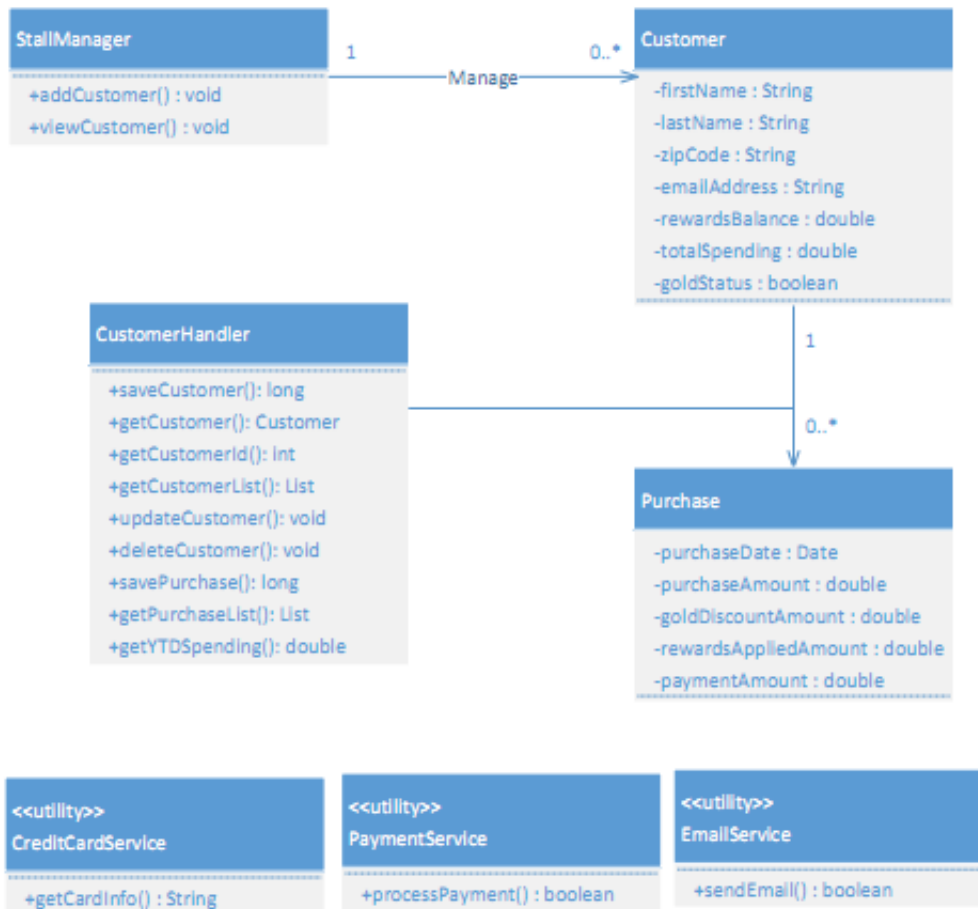


2.2 Deployment Diagram



3 Low-Level Design

3.1 Class Diagram



3.2 Other Diagrams

None.

4 User Interface Design

