# Expense Tracker

## Description

This is a simple application to aid in budgeting efforts. The core functionality will include a ledger to record transactions and match them up to categories with configurable expense limits and will contain the ability to generate a report showing progress with respect to each of those categories. This application will employ a three-tiered approach: the presentation tier will be an Android application (running in an emulator only), the application tier will be a Java servlet running in Tomcat (ideally hosted as an Azure WebApp), and the data tier will be Azure MS SQL database.

## Technical Topics

1. Collections - transactions, categories, merchants(?)
2. Threads, Executors, and Runnables - Android framework constraints
3. Application Controller Pattern - Java servlet request handler
4. MVC - Android (MVP?), Java servlet project structure
5. Hibernate - Java servlet data access layer
6. JSON - communication between presentation and application tiers, data exchange between Android activities
7. HTTPRequest - communication between presentation and application tiers
8. Servlets - application tier
9. JUnit Tests - application tier, presentation tier as applicable
10. System Level Tests - Test cases for core functionality and end-to-end transactions
11. Use Case Diagrams - WIP as part of project plan
12. Use Case Documents - WIP as part of project plan
13. State Diagrams - WIP as part of project plan
14. Sequence Diagrams - WIP as part of project plan

## Supporting Documents

* Use Case Diagram
  + <https://github.com/ajlane17/cit360/blob/master/project/documents/Expense%20Sequence%20Diagram.png>
* State Diagram
  + <https://github.com/ajlane17/cit360/blob/master/project/documents/Expense%20State%20Diagram.png>
* Sequence Diagram
  + <https://github.com/ajlane17/cit360/blob/master/project/documents/Expense%20Sequence%20Diagram.png>
* Application Tier UML Diagram
  + <https://github.com/ajlane17/cit360/blob/master/project/documents/UML%20Application%20Tier.png>
* Use Case Document
  + <https://github.com/ajlane17/cit360/blob/master/project/documents/Use%20Cases.docx>