



P02: Makers Makin' It, Act I

Design Document

Project Name: Steak Co.

TNPG: KungFuPandaSquad

Roster: Alex Luo, Evan Chan, Leon Huang, Stanley Hoo

TARGET SHIP DATE: 2025-01-17f

Overview

Our website will be an online gaming site where users can:

- Acquire and use a universal virtual currency (users will start with 1000 when signing up)
- Play games (against bots or other players) including
 - Plinko: Users drop a chip, and it lands in a slot that either awards or decrements currency
 - Mines : users will be able to play minesweeper but with accumulated award
 - Blackjack: Users try to get closer to 21, but not exceed it

We aim to create an engaging experience that utilizes Flask, a simple user account system, Bootstrap for our front end framework.

Program Components:

1. Flask/Python Modules

- a. `__init__.py` : define routes for html templates
- b. `games/` : packages/modules for game implementation if needed
 - i. `blackjack.py` : logic for dealing cards, bust conditions, and playing against dealer

2. SQLite3 Modules

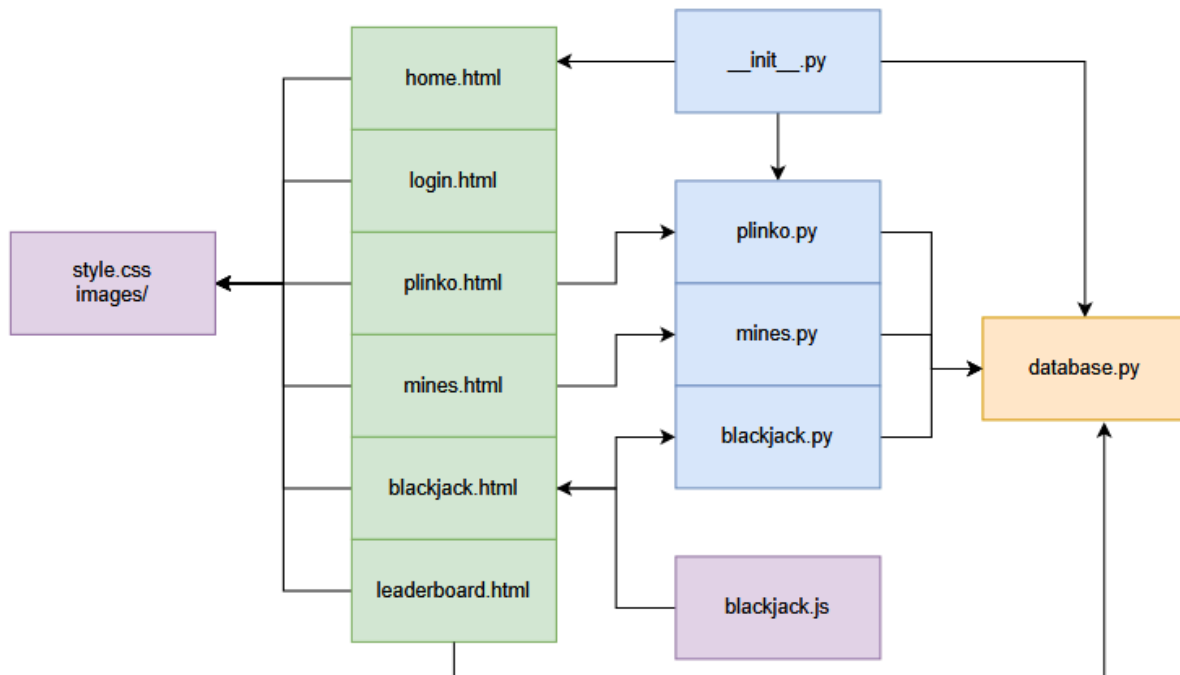
- a. `database.py` : queries and sql for the database creation

3. HTML

- a. `home.html` : homepage that displays user's current balance, quick game links, and transaction history

- b. login.html : register/login
 - c. game_templates/ :
 - i. plinko.html
 - ii. mines.html
 - iii. blackjack.html
 - d. leaderboard.html : displays leaderboard based on currency, highlights user if logged in
 - e. transactions.html : displays transaction history, color coded based on win or loss
- 4. Static**
- a. style.css
 - b. images/: images used for our site (cards, coins, icons, etc.)
 - c. js/:
 - i. blackjack.js: animations, manipulating DOM in real time without refreshing, calling Python routes

Component Map:



Database Organization:

Users: login info, balance, and user ids

user_id	username	password_hash	balance
INTEGER AUTOINCREMENT	TEXT NOT NULL UNIQUE	TEXT NOT NULL	INTEGER, default: 1000

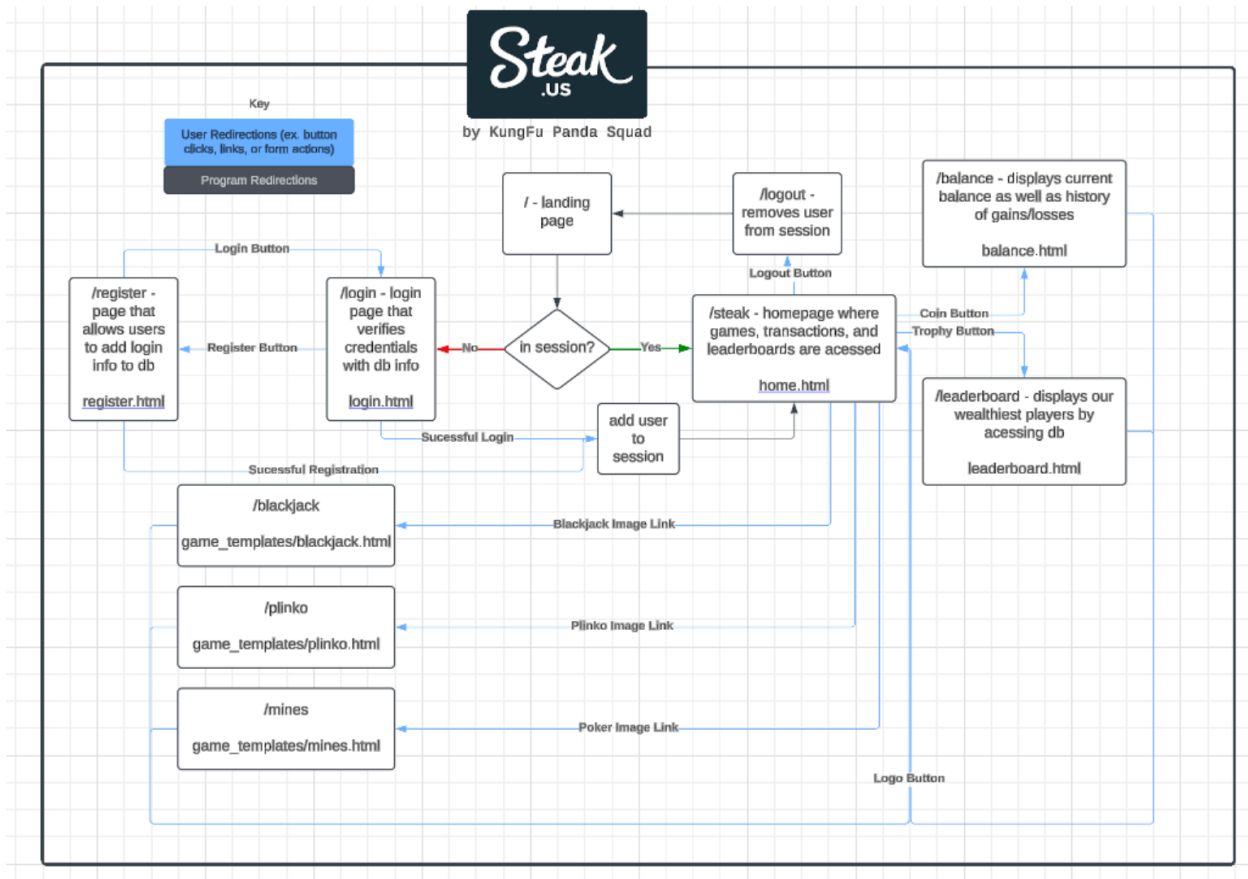
Transactions: game transactions

transaction_id	user_id	game	change	new_balance
INTEGER	INTEGER NOT NULL	TEXT	INTEGER	INTEGER

blackjack_in_progress: current state of blackjack game, allows users to pause games and resume when relogging in

user_id	bet_amount	player_hand	dealer_hand	game_over
INTEGER NOT NULL	INTEGER	TEXT	TEXT	INTEGER (1 for true, 0 for false)

Site Map:



Front End Framework:

- We will use **Bootstrap** as our front end framework because of its:
 - responsive layouts and simple styling for buttons, forms and navbars.
 - numerous features including grid systems, form controls, and alerts

Task Breakdown:

Member	Task
PM Alex Luo	PM, flask routing, plinko physics and transactions, mines transactions
Stanley Hoo	Implementing blackjack, flask routing, databases, and some styling
Evan Chan	Implementing plinko canvas and mines grid
Leon Huang	HTML Templates and styling, team flag, editing video