Blackjack

1. Project Overview

Blackjack is game about to make score of card in your hand closer to 21 and make it not to over in the same time

2. Project Review

My Blackjack game is gonna have some special skill to make you win more easy

3. Programming Development

3.1 Game Concept

in game gonna have 52 card in deck and will draw and give to play at start 2 card then give to dealer 2 card but one card of dealer will show to player can see then player have ability to draw a card more to make it closer to 21 or use special card to use effect if player score more than 21 it called "bust" player will lose but if not then have to compare with dealer to find who closer to 21 that win the game

3.2 Object-Oriented Programming Implementation

This is UML diagram ⊡ Lucidchart document

3.3 Algorithms Involved

Algorithms in game have sort player history and some logic of special card like when use card that find card in deck by use linear search

4. Statistical Data (Prop Stats)
4.1 Data Features
1. how many card player play each round
2. score player play each round
3. win/lose rate
4. player bet each round
5. time use each decision

	Why is it good to have this data? What can it be used for	How will you obtain 50 values of this feature data?	Which variable (and which class will you collect this from?	How will you display this feature data (via summarization statistics or via graph)?
card player each round	it good when we want to why player choose to hit or stand when he have these card	i will get player card from Player card what card player get and insert to table in sqlite each round player play	self.__cards from class Player	i will show percent of player choose to hit or stand when having each card
score of player hand each round	it good when we want to show what is the most score player get	i will get these data from score each round player play	self.score from class Entity	i will show how player win or lose with each of the score show in table
win/lose rate	it good when we want to know how player win or lose	get from number of round that player played	number of win lose in db	show in pie graph or number of percent
player bet	it good to see how player lose his money	get from player play each round	self.bet from class GameUI	show total gain total lose bet show in
time use each decision	good to see how long	get time from player get each	self.start_time and find	show relation between score

	player take decision	hit or each stand	different in each time from self.player_time_stamp last index in list will be player choose to stand and another before will be hit time class GameUI	and time that player use to decision show in scatter graph

	Feature Name	Graph Objective	Graph type	x-axis	y-axis
Graph1	score of player hand each round	show histrory of player games	Histrogram	score	fraquency
Graph2	win/lose rate	show how many percent player win/lose	Pie graph	win/lose over total games	
Graph3	time use each decision	show how long player use to make decision in each score player have	scatter(hue as hit/stand)	time use	score
Table	card player each	show info of player games	Table	-	-

	round				

3.2 Data Recording Method

Record data in sql(sqlite) game will store data of how many player had play. How many time win/lose. and what score that he win with.

3.3 Data Analysis Report

win rate base on number of card and win rate base on score

4. Project Timeline

Week	Task
1 (10 March)	Proposal submission / Project initiation
2 (17 March)	Full proposal submission
3 (24 March)	Game process
4 (31 March)	Game UI
5 (7 April)	Report UI
6 (14 April)	Submission week (Draft)

5. Document version

Version: 3
Date: 31 March 2025

Date	Name	Description of Revision, Feedback, Comments

14/3	Phiranath	Don't forget to change the format from italic to normal format. Proposal needs more detail.
		- The classes are missing attributes and methods, giving some examples would be great.
		- Describe at least five features you will track in the game in data features for example, total card player drawn in each game.
		- The analysis report might be too simple, you can try storing data for each of the games then show a chart of the player's win rate based on the number of cards drawn.
		Is this game inspired by a game called Twenty One (roblox) ? You can get some idea from that game because it is also a blackjack game with skill cards.
27/3	Phiranath	There is a word "how" incorrectly used in some sentences. The class diagram relationship is incorrect, don't forget to check them out. Fighting!!! 🔥🔥
29/3	Pattapon	In the UML diagram, the composition relationship for Card and Deck should be the opposite since Deck contains Cards, also the same with GameUI and Deck. Also, there are some suggestions in my comments.