

## Team 2 Project 3 Sprint 3 Documentation

### Task Overview

Requirement ID	Description	Story Points	Priority	Sprint No.
17 – Power Chess Mode	Options and selection availability for the new game mode, power chess. In this mode, players can collect power-ups to give bonus abilities to their pieces.	5	17	3
18 – Power Chess Power-ups	Class object for the power-ups, which need to have functions to be placed on the board randomly, be collected by pieces, and unlock special powers for each unique piece to claim a power-up.	13	18	3
19 – Power-Up: King	Adds rules and abilities for the power-up that is gained when the King piece is to collect it.	5	19	3
20 – Power-Up: Queen	Adds rules and abilities for the power-up that is gained when the Queen piece is to collect it.	5	20	3
21 – Power-Up: Rook	Adds rules and abilities for the power-up that is gained when the Rook piece is to collect it.	5	21	3
22 – Power-Up: Bishop	Adds rules and abilities for the power-up that is gained when the Bishop piece is to collect it.	5	22	3
23 – Power-Up: Knight	Adds rules and abilities for the power-up that is gained when the Knight piece is to collect it.	5	23	3
24 – Power-Up: Pawn	Adds rules and abilities for the power-up that is gained when the Pawn piece is to collect it.	5	24	3
4 – Game End Logic	Add logic for being in check, game ending in checkmate, etc. Partially implemented in Sprint 2.	2	12	3

Movement Restrictions – Check	Adds logic to restrict valid moves based on check. Only valid moves are those that do not result in the player being in check.	3		3
Power Up Animations	Adds color and movement to the frontend and display powerup results based on board state in the backend. Create individual animations for each powerup.	8	25	3

## Task History

Task Name	Estimated Hours	Actual Hours	Story Points	Implementation Notes
Power Chess Mode	1.5	1.5	5	Implemented by Gunther Luechtfeld
User Story: As a player, I want to be able to play the chess game in Power Chess mode.				

Task Name	Estimated Hours	Actual Hours	Story Points	Implementation Notes
Power Chess Power-Ups	2	2	13	Implemented by Gunther Luechtfeld
User Story: As a player, I want my pieces to be able to acquire power-ups when playing in Power Chess mode.				

Task Name	Estimated Hours	Actual Hours	Story Points	Implementation Notes
Power-Up: King	1.5	0.25	5	Implemented by Jacob Kice – Very simple implementation. Planned functionality was changed with addition of King lives system
User Story: As a player, I want the King piece to perform its special moves when it has a power-up.				

Task Name	Estimated Hours	Actual Hours	Story Points	Implementation Notes
Power-Up: Queen	1.5	1.5	5	Implemented by Jacob Kice – Logic was simple to implement, but I had a bug with an unending loop that was difficult to locate
User Story: As a player, I want the Queen piece to perform its special moves when it has a power-up.				

Task Name	Estimated Hours	Actual Hours	Story Points	Implementation Notes
Power-Up: Rook	1.5	1.5	5	Implemented by Gunther Luechtfeld – Easy to implement besides checking the spots around the destination.
User Story: As a player, I want the Rook piece to perform its special moves when it has a power-up.				

Task Name	Estimated Hours	Actual Hours	Story Points	Implementation Notes
Power-Up: Bishop	1.5	2	5	Implemented by Gunther Luechtfeld – It was difficult implementing the conversion. Had to essentially change all the bishop's movement logic when it has a powerup.
User Story: As a player, I want the Bishop piece to perform its special moves when it has a power-up.				

Task Name	Estimated Hours	Actual Hours	Story Points	Implementation Notes
Power-Up: Knight	1.5	1	5	Implemented by Gunther Luechtfeld – Really easy implementation. Uses the same valid_moves() function in the knight

				class, just gives it more possible places to go.
--	--	--	--	--

User Story:

As a player, I want the Knight piece to perform its special moves when it has a power-up.

Task Name	Estimated Hours	Actual Hours	Story Points	Implementation Notes
Power-Up: Pawn	1.5	2.5	5	Implemented by Jacob Kice – More difficult than expected; had more intertwining with other functions than anticipated

User Story:

As a player, I want the Pawn piece to perform its special moves when it has a power-up.

Task Name	Estimated Hours	Actual Hours	Story Points	Implementation Notes
Game End Logic	0.5	.5	2	3 Lives for the King  victory and defeat banners on the frontend, special king defeat animation, ui three hearts, json data for kings lives added – Implemented by Srihari Meyoor

User Story:

As a player, I want to know if the game is won, lost, or still ongoing as well as how many lives my king has.

Task Name	Estimated Hours	Actual Hours	Story Points	Implementation Notes
Movement Restrictions – Check	1.5	-	3	Not implemented due to change in direction – King lives / direct capture

User Story:

As a player, I want the valid moves presented when I select a piece to not include moves that would place me in check or leave me in check.

Task Name	Estimated Hours	Actual Hours	Story Points	Implementation Notes
Power Up Animations	5	5	8	Implemented by Srihari Meyoor, I had some api and powerup issues on the backend that were fixed.
<p><b>User Story:</b> As a player, I want my powers to be visualized on the UI and the resulting actions to be maintained and tracked.</p>				

Task Name	Estimated Hours	Actual Hours	Story Points	Implementation Notes
Bug Fixes	-	1	-	Implemented by Jacob Kice – Modified pawn movement rules to correctly handle interaction with powerup tokens
<p><b>User Story:</b> As a player, I want the game to operate as intended.</p>				
<p><b>User Story:</b> As a player, I want my king to have 3 lives that replenish when gaining a power up.</p>				
Task Name	Estimated Hours	Actual Hours	Story Points	Implementation Notes
Bug Fixes	2	2	-	Implemented by Jamie King – Modified API to account for logic changes to backend to ensure proper information reporting to frontend.
<p><b>User Story:</b> As a player, I want the game to operate as intended.</p>				

Task Name	Estimated Hours	Actual Hours	Story Points	Implementation Notes
API Updates	2	2	-	Implemented by Jamie King – Added additional backend communications to report to the frontend in relation to powerups and king lives
<p><b>User Story:</b> As a player, I want the game to operate as intended.</p>				