

# Requirements Document

# School Chess Tournament Management Software

## Project Title

School Chess Tournament Manager

## 1. General Understanding

## Purpose

The software package will assist in managing a school chess tournament, including player registration, match scheduling, score tracking, and ranking generation.

## Problem Statement

Manual management of chess tournaments is time-consuming and prone to errors. The software will automate tasks, ensure accuracy, and provide an easy-to-use interface for tournament organizers.

## Goals:

- Create a Python-based application using customTKinter for a GUI.

- Ensure the system is user-friendly and adaptable for different tournament sizes.

## 2. Stakeholder Requirements

## Stakeholders:

Tournament organisers: Require an intuitive system to manage players, matches, and results.

Participants: Need access to schedules and rankings.

## Stakeholder Expectations:

- Reliable, error-free operation.

- Easy-to-navigate graphical interface.

- Support for saving and resuming tournaments.

## Stakeholder Validation:

Organisers will review prototypes and provide feedback before the final implementation.

## 3. Functional Requirements

## Player Management:

- Add, edit, and delete player information (e.g., name, age, school, rank).

- View a list of all registered players.

## Tournament Scheduling:

- Automatically generate match schedules using a Swiss-system or round-robin format.

- Allow manual adjustments to the schedule if needed.

## Score Tracking and Rankings:

- Record match results (win, loss, draw).

- Automatically calculate rankings based on tournament results.

## Reports and Exporting:

- Generate printable schedules, results, and final rankings.

- Export data to a file (e.g., CSV or JSON).

## Save and Load Tournaments:

- Save tournament progress, including player data and match results, to a file.

- Load saved tournaments to resume management.

## 4. Non-Functional Requirements

Performance: The system should respond within 2 seconds for all operations, including schedule generation.

Security: Prevent accidental data loss by implementing confirmation prompts for critical actions (e.g., deleting players or matches).

## Reliability:

- Ensure saved tournament files can be loaded without errors.

- Handle edge cases, such as mismatched player numbers, gracefully.

## Usability:

- Provide a clear and accessible interface using customTKinter.

- Ensure compatibility with Windows, macOS, and Linux operating systems.

## 5. Data Requirements

Player Information: Fields: Name, age, school, ranking, contact details.

Tournament Data: Match schedules and results, Player rankings and scores.

## File Management:

- Save and load data in a structured format (e.g., JSON or SQLite database).

- Allow exporting to CSV for external use.

## 6. System Requirements

## Hardware Requirements:

- Minimum: 2GB RAM, 1GHz CPU, 500MB storage.

- Recommended: 4GB RAM, 2GHz CPU, 1GB storage.

### Software Requirements:

- Python 3.10 or later.

- customTKinter library installed.

- Additional libraries for file handling (e.g., json, csv).

Integration Requirements: Ensure compatibility with common office tools (e.g., Excel for exported CSV files).

## 7. Constraints

Time Constraints: The software must be ready for deployment within 8 weeks.

Budget Constraints: Development is limited to free or open-source tools and libraries.

Technical Limitations: The application must function on Python’s standard libraries with minimal external dependencies.

## 8. Validation and Review

### Validation:

- Stakeholders will test the system at each milestone.

- Functional and non-functional requirements will be verified through unit testing and user acceptance testing.

### Review:

- Requirements will be revisited biweekly to ensure alignment with project goals.

## Final Check

- Requirements are documented in a clear and structured format.

- All functional and non-functional requirements are testable.

- Stakeholders have approved the final requirements document.