Table 1: Revision History

Date	**Developer(s)**	**Change**
2022-09-26	Jonathan Cels	Team meeting and communication plans, personal role, workflow plan, coding standard, project scheduling, started technology section
Date2	Name(s)	Description of changes
...	...	...

Development Plan
Chess Connect

Team #4,
Alexander Van Kralingen, vankraa
Arshdeep Aujla, aujlaa4
Jonathan Cels, celsj
Joshua Chapman, chapmj3
Rupinder Nagra, nagrar5

[Put your introductory blurb here. —SS]

1 Team Meeting Plan

The team will meet weekly on Thursdays at 10:20 AM until 11:20 AM. Team members are expected to attend the Thursday lecture and meet up following the lecture. On the event that no lecture is scheduled, the meeting time shall be changed to 9:30 until 11:20AM.

Additional meetings will be scheduled when necessary using the communication methods outlined in the Team Communication Plan.

2 Team Communication Plan

The team will communicate over a Discord group channel. Each team member is expected to have Discord downloaded and readily accessible on at least one of their devices. In the case of emergencies or time-critical situations, a team member will use SMS text messaging in place of Discord. Text messages will only be used in critical situations.

Issues will be managed using a kanban board, implemented with a Git project board. Tasks will be split into small, workable items with differing deadlines and importance.

3 Team Member Roles

3.1 Alexander Van Kralingen

3.2 Arshdeep Aujla

3.3 Jonathan Cels

- Enabling the Bluetooth connection between the application and the microcontroller
- Leading testing initiatives and ensuring that thorough testing is completed
- Assisting with development of web application
- Editing and formatting of all documentation before submission

3.4 Joshua Chapman

3.5 Rupinder Nagra

4 Workflow Plan

The project will use the feature-branch methodology in Git. An outline of the workflow is as follows:

1. Pull any changes from the master branch
2. Create a new branch for development of a specific feature or subsystem
   (a) Use branch names that are descriptive to the feature
3. Commit code frequently with descriptive messages
4. Add unit and integration tests for the changes
5. Push code to branch
6. Create a pull request
7. Another team member reviews and approves or rejects the pull request
   (a) The tests are reviewed and more tests are created if necessary
   (b) The pull request cannot be approved if all tests do not pass
8. Merge feature branch into the main branch

5 Proof of Concept Demonstration Plan

What is the main risk, or risks, for the success of your project? What will you demonstrate during your proof of concept demonstration to convince yourself that you will be able to overcome this risk?

6 Technology

- Languages and Frameworks
  - **JavaScript, HTML, CSS, and React.js:** Frontend web based development
  - **Python, FastAPI, Node.js:** Backend development and bluetooth connection
  - **C:** Microcontroller programming
  - **MongoDB:** Database solution
- Linting
  - **ESLint:** JavaScript development in VSCode
  - **Flake8:** Python development in VSCode
- Testing Frameworks
  - **React Testing Library:** JavaScript testing framework for React.js
  - **PyTest:** Python testing framework
- **Heroku:** Deployment
- **VSCode:** Code editor
- **GitHub:** Version control and project management
- **LaTeX:** Documentation
- Libraries and API's
  - **Bluez, PyBluez:** Enabling bluetooth data transfer
  - **Stockfish.js:** Chess engine to find optimal moves
- Specific plans for Continuous Integration (CI), or an explanation that CI is not being done (TBD)
- Hardware (TBD) (Microcontroller, display, circuits)

7 Coding Standard

The project will follow the Airbnb style guide for JavaScript development, and use the Flake8 style guide for Python development.

8 Project Scheduling

The project will use a GitHub project board to track and schedule tasks on a weekly basis.

Technical roles are decided on the basis of prior knowledge and interest. In the case of the team leader, the role will change with every deliverable. Team members are responsible for decomposing their tasks into kanban items, individually or alongside other team members working on the same task.

Major milestones will be tracked on the project board. Milestones include both hard and soft deadlines for task completion. Hard deadlines are the project deliverable due dates. Soft deadlines are decided by the team for the completion of technical tasks.