# ULTIMATE CHESS CLOCK

# (MOBILE APPLICATION)

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*Abstract:* "Ultimate Chess Clock" is an Android Mobile Application, it is a substitute for any chess clock, an equipment used in an official chess tournament. As per our survey we have observed that majority of the chess players in schools / colleges / sports clubs or institutions etc. play / practice without chess clock because it is delicate as well as expensive and there are chances for it to get deteriorated. Chess clock is a necessary tool / equipment for any chess tournaments but some of the tournaments are organized without it, as a result the efficient player may lose the game due to lack of time management. Some of the problems that are faced due to no use of a chess clock are, like a player can think about a move as long as he / she likes without a restricted time limit. A player in a losing state may decide not to make a move or in a confusing state might take longer time to play, in such a situation one can call a arbiter, but he / she can't force player to play as the chess clock was not used and there was no specified time limit set. So, for these reasons the mobile application "Ultimate Chess Clock" has been developed by me (Mr. Vilas Kotian) under Aarya Studios for easy handling, long lasting, at the same time the player can utilize the time efficiently and get habituated of playing with the chess clock. In the tournaments wherein the chess clock is mandatory they would be able to play with

the formation of steps i.e. to press the button after each respective move. It makes it significantly easier for the player to exactly watch and keep in mind how much time is left in a game. With regular use of "Ultimate Chess Clock" application the chess player will get mentally prepared about the restricted time limit, thereby enabling the player to be a part of chess tournament at higher level and ultimately this readily available digital chess clock will be mandatory equipment for all chess tournament.

## INTRODUCTION

"Ultimate Chess Clock" is an innovative clock specially developed for chess game wherein the players can use it according to their turn. The overall purpose of the chess clock is to keep the track of total time taken by each player and to ensure that neither of the players overly delays the set time of the game. In a challenging game like chess, each player is given a certain time limit for their chess moves. It means that both the prescribed clocks will not run simultaneously rather it will start accordingly to the turn of the player. Ultimate Chess Clock will precisely display how much time is left for both the players. If one of the players has timed out, they will lose the game and the opponent will win the game. The main objective of this project is to make the digital clock handy / easily accessible at any given point of time. It helps the chess player to get habituated to finish the game as per the restricted time limit. With use of chess clock the chess player also gets mentally prepared thereby enabling them to play for a higher tournament wherein the digital chess clock will be mandatory for the chess game.

Chess clock is a necessary tool / equipment for the tournaments but due to absence of equipment some of the tournaments are organized without it, as a result the efficient player may lose the game due to lack of time management. Problem faced without a chess clock are like: A player can think about a move as long as he/she likes without a restricted time limit. A player in a losing or confusing state may decide not to make a move or take long time, in such situation one can call arbiter but in such a scenario a chess clock was not used in the game, so one cannot force him / her to stop or to continue the game.

One of the important impacts of "Ultimate Chess Clock" is that it makes the game practical to play with much shorter time controls than ever before. It makes it significantly easier for the player to exactly watch and keep in mind how much time is left in a game. With regular use of digital chess clock the chess player gets mentally strong thereby enabling the player to be a part of chess tournament at higher level wherein the digital chess clock will be mandatory for the chess game. One of the advantages of Ultimate Chess Clock is that a player can always quickly keep a watch or set in mind on exactly how much is left for their next move without mentally adding the main and delay time.

## METHODOLOGY

The need of chess clock is not only to play against your opponent / participant but is also effective for understanding accurate chess training. If you often use a chess clock as a beginner / learner while playing chess or undertaking training to be an efficient player of chess then it is very likely that you'll become a better tournament player soon. As the time to make a move in a tournament is limited, it is recommended for chess players to put themselves under pressure from time to time at game and stimulate tournament conditions. Taking into consideration all the advantage of the chess clock, I (Mr. Vilas Kotian) have developed an android mobile application under "Aarya Studios".

*Features*: -

- Player names and moves count are displayed.
- Extremely easy to use and set the time.
- Player gets accustomed to time control/restricted time limit.
- Duration of the game is up to the player.
- A glance at the clock shows the current stage of the player.
- Can select customized time for players
- Smooth functionality between the buttons.
- Intuitive and easy to use menus.
- Large, easy-to-read buttons.
- Friendly interface.
- Pleasant sounds for buttons and "time up" alert.
- Can pause & restart the clock.
- Clock pauses automatically if the app is interrupted; can manually pause the clock at any time.
- Displays a message of opponent winning the game when a competing player runs out of time.

## ANALYSIS OF DATA

The emergence of time limit in chess tournament happened right after a panel of chess players started to grumble that it takes too much energy for them to finish the game and as a result, they lose vividness and also the ability to make use of their knowledge in game properly. More interestingly, in 1843, several onlookers described a chess match between Howard Staunton and Pierre St. Amant as a test of a physical endurance rather than a chess match. It was reported that their 21st match game took 66 moves and 14 ½ hours. This kind of purposeless prolongations and deliberate attempts to fatigue and wear out the opponent were commonplace at the time, and an average game lasted 9 hours.
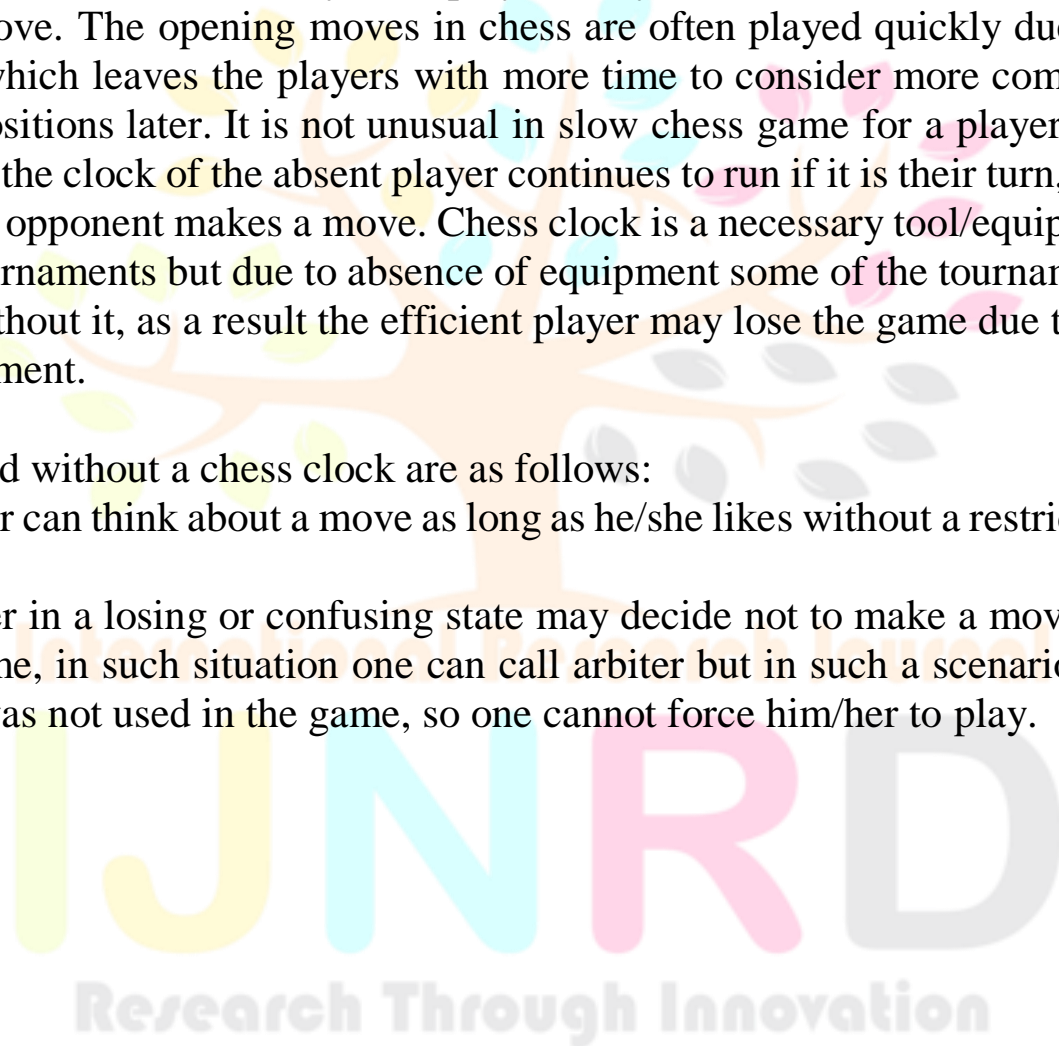
In 1850s, event organizers started innovating, just to reduce allotted time in games to something more friendly for players and fans. Initially, watches and sand-timers were
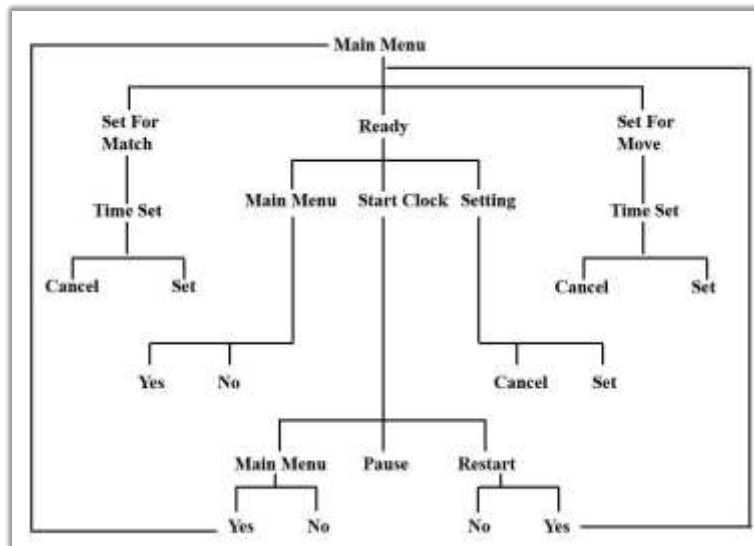
used. By 1880s, mechanical chess clocks began to appear, foreshadowing the familiar two-faced analog clocks of the 20ᵗʰ century. The invention of the chess clock saved classical chess, as making a long lasting 10-hour matches a thing of the past. But chess clocks didn't change much until the 1970s, when the first digital chess clock was invented by a student at Cornell University and that changed everything once again. Chess clocks had one other important impact: making it practical to play full game of chess with much shorter time control than ever before. There is a big difference between playing under time pressure and just playing for fun, being able to think about a move as long as you want. It is difficult to say how much attention one should dedicate towards clock management, but managing your time is part of the game and should be treated as a real enemy. The players may take more or less time over any individual move. The opening moves in chess are often played quickly due to their familiarity, which leaves the players with more time to consider more complex and unfamiliar positions later. It is not unusual in slow chess game for a player to leave the table, but the clock of the absent player continues to run if it is their turn, or starts to run if their opponent makes a move. Chess clock is a necessary tool/equipment for any chess tournaments but due to absence of equipment some of the tournaments are organized without it, as a result the efficient player may lose the game due to lack of time management.

Problem faced without a chess clock are as follows:
- A player can think about a move as long as he/she likes without a restricted time limit.
- A player in a losing or confusing state may decide not to make a move or take long time, in such situation one can call arbiter but in such a scenario a chess clock was not used in the game, so one cannot force him/her to play.

## FINDING

## Flow Chart

## Main Menu

- On the Main menu screen
  - Can insert 'White Player name' & 'Black player name'.
  - There are two options "Set for Match" & "Set for Move" and after selecting the desired option you can set the timing as per your preference.
  - Select 'Ready' option to start.



## Set For Match

- On the start screen of "Set for Match"
  - White player starts the game simultaneously black player presses the 'Start Clock' of the screen.
  - Home button to proceed to main menu.

- Setting button to modify the time.

## Timer Screen

- On the timer screen
  - Home button to proceed to main menu.
  - Pause button to pause and start the time.
  - Restart button to restart the timer.
  - Able to get the number of moves played.
  - Time left for both the players to finish their game.



## Times Up Screen

- On the timer screen when times up.
  - Home button to proceed to main menu.
  - Restart button to restart the timer.
  - Result message is displayed once the time gets over for any of the players.

## CONCLUSION

- The important impact of "Ultimate Chess Clock" is that it makes the game practical to play with much shorter time controls than ever before.
- It makes it significantly easier for the player to exactly watch and keep in mind on how much time is left in a game.

- Ultimate Chess Clock is much more accurate for speed-based games. It specifies the exact restricted time, right down to the second which players have during their turn. The high level of accuracy is absolutely essential for any game where speed is the primary factor, such as blitz chess, rapid chess and bullet chess.
- Ultimate Chess Clock gives you an exact time measurement at a glance for chess game where the time limit of each team/individual is crucial; a digital chess clock provides an instant measurement of the time. Chess players who need to know how much time is left in a glance will benefit more from the numerical style of a digital chess clock.
- When it comes to functionality, ultimate chess clock with all its present time controls and other features is most convenient for both recreational and serious chess players as also for serious chess learners.
- Ultimate Chess Clock can surely make the chess game a fun as well as improve the abilities of a chess player making the game more challenging.
- Ultimate Chess Clock has different timing modes, giving the player and the chess game much more variety in types of games to play.
- Ultimate Chess Clock are distinctive with two timers built into one unit, one for each player.
- The Ultimate Chess Clock adds an interesting dynamic to the game.

## REFERENCES

- Used Unity Engine / Software to develop the app.
- Link to download unity Engine: https://unity3d.com/get-unity/download/archive
- Unity personal edition: Unity 2020.3.48f1
- Coded in C# language
- User interface has been built with the help of the software tools.
- Gained knowledge on how to prepare an app while pursuing MCA, B.P.Ed, M.P.Ed.
- https://play.google.com/store/apps/details?id=com.aaryastudios.ultimatechess clock