



**INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY
ADVANCED SCIENTIFIC RESEARCH AND INNOVATION
(IJMASRI)**

ISSN: 2582-9130

IBI IMPACT FACTOR 1.5

DOI: 10.53633/IJMASRI

RESEARCH ARTICLE

PLANNING POKER

¹Utsav Kuchhal ²Aditya Bhardwaj, ³Shivangi Goel, ⁴Ajay Tiwari

^{1, 2, 3, 4} Department of Computer Science and Engineering, MAIT, Delhi.

Abstract

Estimating and Planning is very important for the success of any project, it is the key factor to its successful conclusion. In software project management there has been a shift from traditional plan management to agile project management. Agile project management has been viewed as the new big change in the software industry. The Project Management Institute (PMI) was founded in 1969 and offers industry-leading certifications for project management professionals. PMI, which was traditionally best known for its traditional project management certifications, has just recently started offering an agile alternative. It can certainly be said that Planning poker is becoming the new standard for software development projects. The concept of it has been around for some time, and although knowledge and usage are increasing. Understanding when to use it and which success factors to consider is important to achieve success.

Terminologies:

- **User** - a user participating in Poker Planning.
- **Group** - A group of users participating in Poker Planning.
- **Poker board** - a Dashboard where users would be playing the game.
- **Ticket** - A Ticket is a JIRA issue.

Keywords: PokerPlanner, Agile, Software Development, JIRA, Web Applications

Introduction

Planning Poker is the fun, easy way for your team to effectively plan and execute a sprint

planning session. It will be used to estimate efforts of work required to complete a set of tasks.

As customer demand drives product development, companies can no longer afford to

allow process, procedure, and documentation to slow time to market. Such delays cost companies their competitive edge and ultimately, customers. Agile software development and testing help solve this problem by figuring out customer needs. Agile software development values working software over in-depth documentation, and stakeholder engagement, customer collaboration and transparency over process.

Literature Survey

The article Planning Poker or How to avoid analysis paralysis while release planning, by James Grenning discusses the various merits of planning poker which includes the fact that everyone gets experience at estimating. The whole team plays the game, not just the most vocal, or most senior. Everyone participates.

A paper which was published on 23-28 July in the AGILE 2006 (AGILE 06) by N.C. Haugen An empirical study of using planning poker for user story estimation shows that planning poker improved the team's estimation performance in most cases, but that it increased estimation error in the extreme cases.

A thesis The Benefits and Challenges of Planning Poker in Software Development: Comparison Between Theory and Practice submitted by Zhaoyang Zhang in 2017 to Auckland university of technology.

The finding of this research included the identification of several different estimation process patterns, also identified some of the practical challenges in implementing planning poker for example domination of the discussion by a single practitioner.

There is already some work done on planning poker that provided us the motivation to work on this project.

Firepoker is a web app that already exists but there are some deficiencies in the app, there is no scope of planning history, create team and retrospective history. Also, we cannot schedule team events here. In this app we cannot chat in

rooms, for example if everyone is at a different place then there is no scope for a room where they can discuss.

There are some limitations on already existing websites which we will work on or project for example **Poinz** is also a web app for planning but with the number of functionalities already available the app does not provide support for JIRA software.

Jira is a Software used by tech giants and this is not commonly found in planning poker but we will be using it in our project to import tasks.

Background Study

Traditionally, planning poker is done in a meeting. The team members discuss an Issue to understand its complexity. Once the team has an understanding of the Issue, they simultaneously vote on the amount of effort required. If the team is in agreement, the estimate is applied to the Issue. If the team disagrees, they will continue to discuss until the team is in agreement on the estimation.

Our aim to build this project is to reduce time spent in meetings and backlog refinement, understand how much work you can commit to in a sprint, and set your team up for success by hosting your planning poker online.

Related Work

The applications which are available in the market are very useful to the users and reduce human efforts. Firepoker and Poinz are also one of those applications, with much scope in daily life. As there are many similar applications available in the market, we have added some features to make my application unique which makes it stand apart.

Firepoker is a web app that already exists but there are some deficiencies in the app, there is no scope of planning history, create team and retrospective history. Also, we cannot schedule team events here. In this app we cannot chat in

rooms, for example if everyone is at a different place then there is no scope for a room where they can discuss.

Poinz is also a web app for planning but with the number of functionalities already available the app does not provide support for JIRA software.

-Jira is a Software used by tech giants and this is not commonly found in planning poker but we will be using it in our project to import tasks.

In our planning poker project, we will be overcoming the deficiencies of already existing web apps.

- We will track the team velocity.
- We will set custom game timers and scores that fit the team.
- Boards and Planning Results can be exported in .csv and .pdf format that is not commonly seen in any planning poker web app.
- Rooms can be created and unlimited users from different time zones or those who are working from home can also equally participate by chatting in the room.
- People can also see the history of previous rooms created, also all the past retrospectives are organized in an easy-to-use dashboard. The sessions will be kept in the database for 7 days then it will be deleted permanently.
- Users will be able to create unlimited boards using 5 pre-defined templates. Interface will be user friendly.
- Users will select the graphical representation of the cards and can customize poker points. There will be Persistent settings for each channel/conversation; the app will remember the last settings you have used on that channel, including participants and poker points.
- Sessions will be protected which means it will prevent others from revealing/canceling the sessions you have created.

Methodology

System Features:

➤ **Functional Requirements**

The functional requirements of our proposed product are:

Signup: A user can sign up using email. Email would be a unique identifier for users. Users should receive an email on signup. Managers can also invite users via email if they are not already in the system.

Poker Planning:

Any user can create a Poker Board. Once a user creates aboard, the user becomes Manager of that board.

The manager can perform the following tasks on board:

- Import list of tasks from JIRA. All tickets would be validated first from JIRA to avoid permissions/accessibility problems.
 - The manager can provide a list of Ticket IDs or Sprint to import Tickets.
 - If the Sprint is provided, import all stories from that sprint.
 - The manager can also provide JQL to import Tickets.
- The manager can order the tickets before starting the session.
- Once the session starts, the ticket details will be displayed to all players as well as the manager.
- Manager would have the following options:
 - Set Estimates - It should update the estimate on JIRA. The Estimated field should be configurable per Poker Board.
 - Add comments on the ticket. It should add comments on JIRA.

- Start timer for player to estimate, configurable per Poker Board.
- Skip the process for the current ticket, and move to the end of the list.
- The manager can see everybody's estimates all the time.
- Players would have the following options:
 - A list of all possible Estimate options would be displayed as a Card.
 - Players can select any Estimate Card to submit their estimate
 - Players cannot see each other's estimates, but they can see who has submitted their estimates.
- Once the Timer ends, the Estimate Card of all players in sorted order is shown.
- Estimates of each player are stored in a database separately.
- The total number of tickets estimated are displayed at the top of the right panel.
- A list of all estimated tickets are displayed along with their estimates on the right panel.

User Profile:

- Users can update their details.
- Users can view a list of Poker boards they are associated with.
- Users can view a list of Groups they are associated with.
- Users can view a list Tickets they have estimated.
- Users can keep track of sessions.

Reports:

- Users can list tickets that have been estimated.
 - They can filter their Tickets based on Estimated Date, Ticket Type.
- How much time it takes to estimate each ticket, along with average, min and max.

➤ **Non-Functional Requirements**

- i. Security – Making the web application secure by keeping the data of all users confidential. We'll also confirm the email address of the user signing up by sending them a verification token on their email id provided.
- ii. Data integrity – Storing accurate and consistent data in relational databases to avoid any data discrepancy and ensure that the ACID properties are met.
- iii. Data Synchronisation – Keeping the information up to date to avoid any confusion or miss-match in data as seen by different users using the web app at the same time.
- iv. Friendly User interface - We aim to build an attractive easy to use interface, such that users can easily navigate the web app.

➤ **System Features**

- i. If the user is not in the system, then from the link they should be able to sign up and post signing up, the invite should get accepted automatically.
- ii. Manager can send a guest URL to anyone to participate.
- iii. Mobile friendly – The app will automatically fit according to the screen it is being viewed in, so it can be viewed on both mobile and desktop.

Implementation Dashboard and Profile: Dashboard



Fig 1

This will be the first thing that users will see. From here we can login or signup to Poker planner.

Login

On this page, a user can log in to poker planner using an E – mail id and password and if ne doesn't have an account then he can create one.

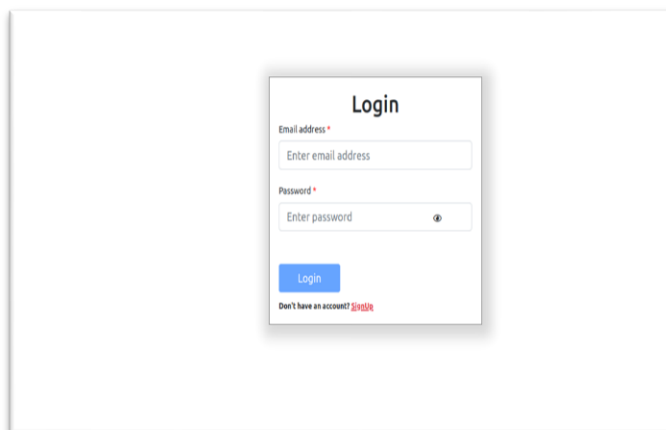


Fig 2

Edit Password

On this page, users can change their password.

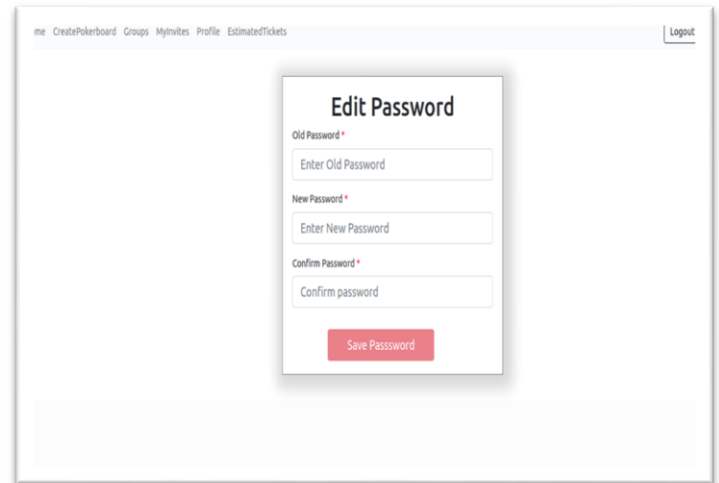


Fig 3

Profile

Here users can view our Profile and also edit the profile and password.

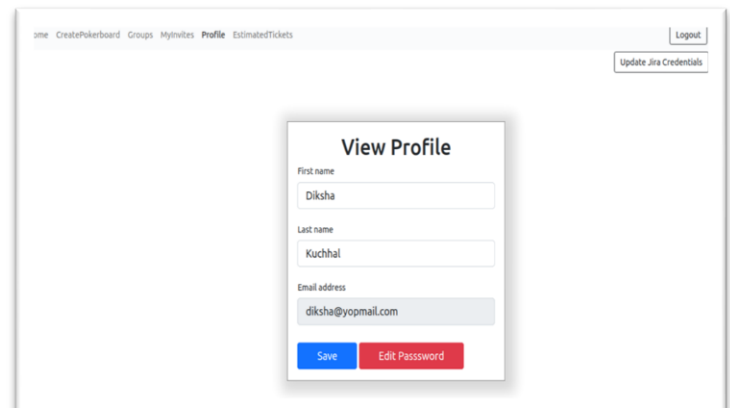


Fig 4

Poker Board:

Update Credentials

This page would allow users to update their JIRA credentials, Jira credentials required are JIRA dashboard url, registered email, JIRA api token.

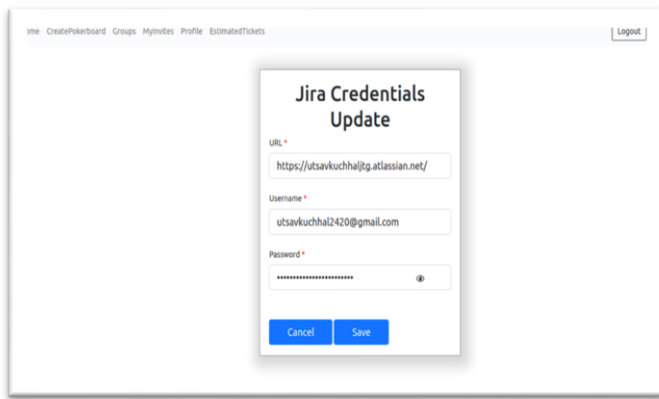


Fig 5

Create Poker Board

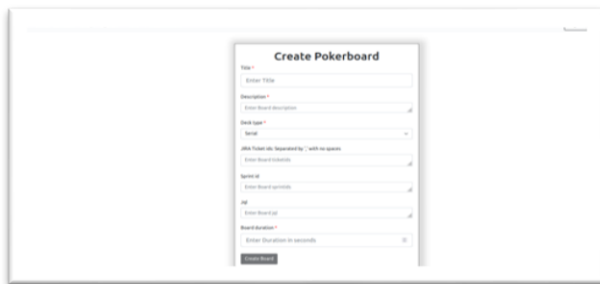


Fig 6

Here the Manager will create a Poker Board by entering Title, Description, Deck type, ticket ids that are exported from Jira software, duration of the board, etc.

Invite Players

The manager can invite players using an email address or he can create a group and invite the whole group whenever needed.

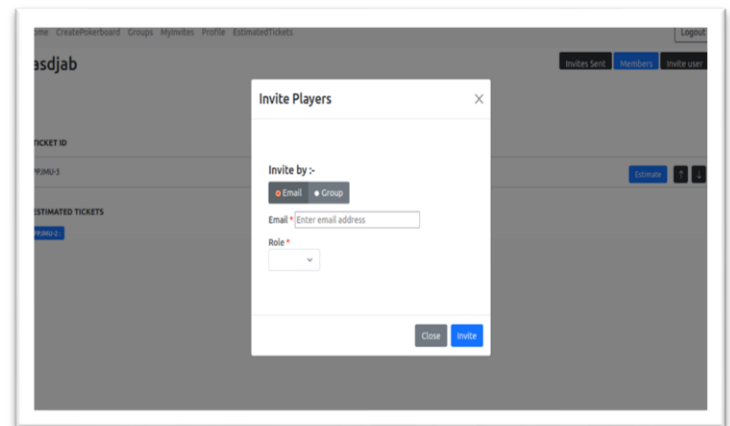


Fig 7

Available Groups

On this page, all the groups which the user is part of or has created himself would appear.

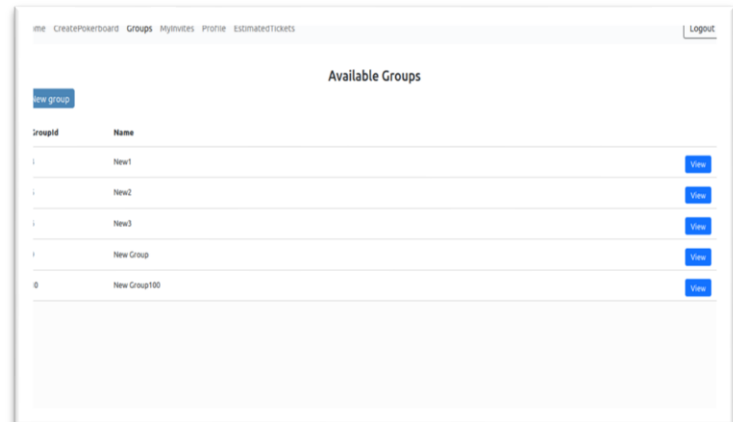


Fig 8

Create New Group

Managers can create new groups by adding and removing the members.

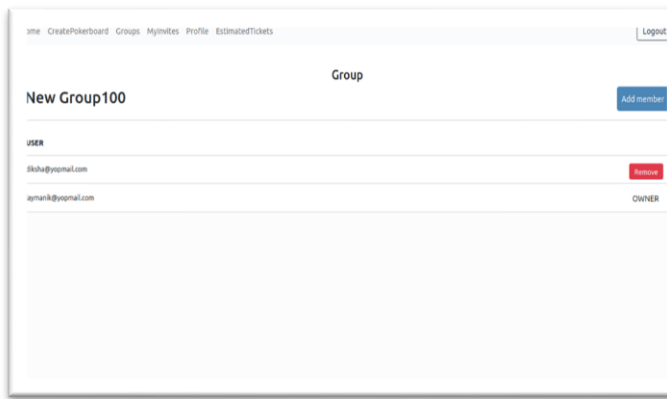


Fig 9

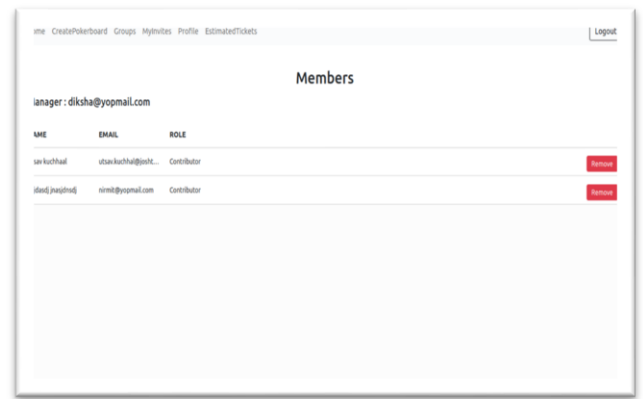


Fig 11

My invites

Users will see the invites for the poker board sent by the managers and they can accept or reject the invite.

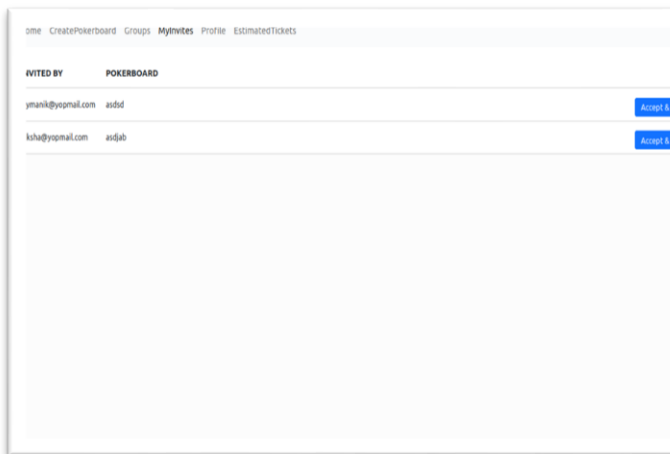


Fig 10

Pokerboard Detail Page on the user side

This is the page visible to the teammates, they can join the voting session and start estimating.

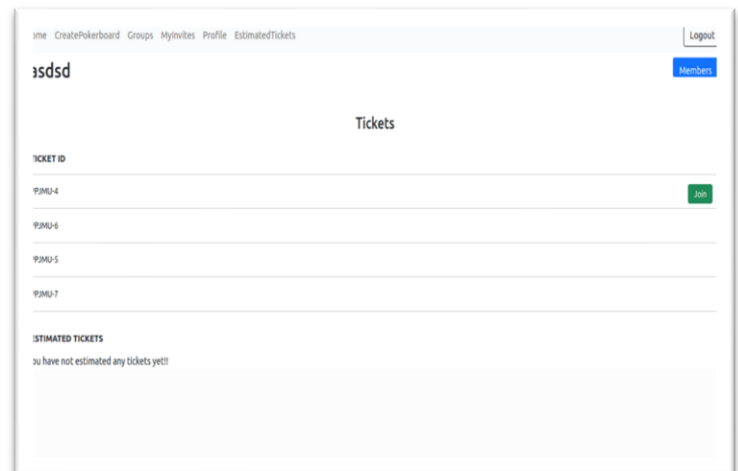


Fig 12

Members

This is the list of members that have joined the poker board. Managers can remove any member from the list.

Pokerboard Detail Page on the Manager side

This page will be visible to the manager, he can arrange the tickets, invite users, view players which are already part of the pokerboard and can see user invites status.

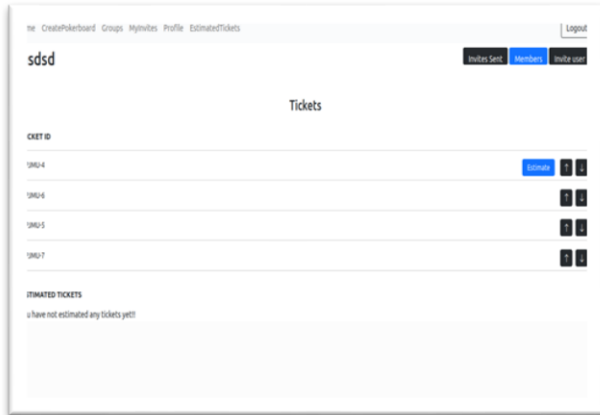


Fig 13

Estimated tickets

All the estimated tickets along with the estimate provided by user will appear on this page.

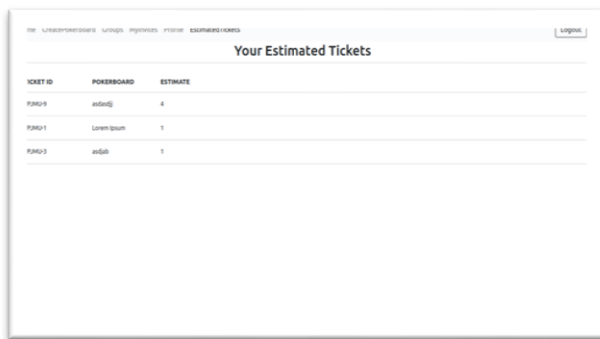


Fig 14

Your Poker Board

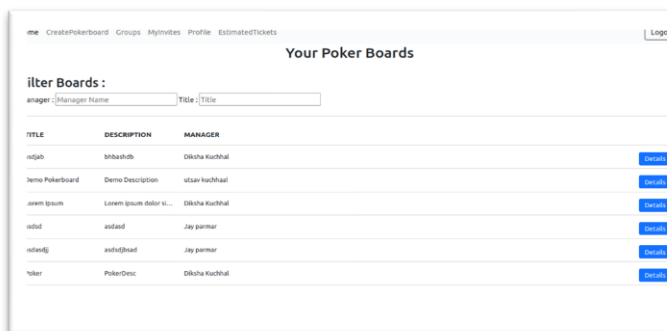


Fig 15

Here all the boards that the user is part of or has created himself will appear. He can see all the details of the boards and also can search a particular board by manager name and title.

Estimation page

On this page all the teammates will provide their estimate. Admin action can only be done by the manager, only he can start and stop the countdown or skip the session for now.

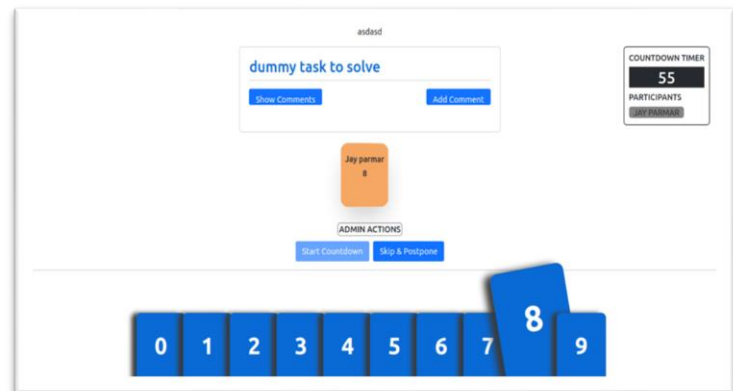


Fig 16

Voting Session

Managers can add comments for a particular ticket which can be viewed by other players.



Fig 17

Technologies used

- HTML, CSS
- Bootstrap
- Material Design
- Javascript
- Angular JS
- NodeJS
- PostgreSQL
- Django
- Socket Programming
- Celery
- Redis

Conclusion

Reference

1. <https://www.atlassian.com/software/jira/guides>
2. <https://www.sqlite.org/docs.html>
3. <https://reactjs.org/>
4. <https://reactjs.org/docs/getting-started.html>
5. <https://stackoverflow.com/>
6. <https://developer.mozilla.org/en-US/>
7. <https://www.wikipedia.org/>
8. <https://javascript.info/>
9. <https://www.freecodecamp.org/>
10. <https://dev.mysql.com/doc/>
11. <https://developer.mozilla.org/en-US/docs/Web/CSS/Reference>
12. <https://devdocs.io/html/https://www.w3schools.com/TAGS/default.ASP>
13. <https://www.theodinproject.com/>
14. <https://www.codewars.com/?language=javascript>
15. <https://css-tricks.com/>
16. <https://fontawesome.com>

Project managers and Software developers would be able to conduct the estimation process also from different time zone or if working from home, by creating a room.
