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QUALITY DASHBOARD

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We will discuss:

- ❑ What is QA Dashboard?
- ❑ Detailed walkthrough of features
- ❑ How it works in backend?
- ❑ How to contribute?



What is QA Dashboard?



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Background

- I was having a team of 35+ QA people distributed in **20 different teams**, so it was pretty hard to track on how these teams are doing
- As a manager, it was really painful to find out all the relevant data for these teams, given data set is spread across **multiple tools**
- Like - Multiple automation frameworks - Api, Web & Mobile automation, different Jira boards for each team
- Multiple testrail projects & suites - hard to get data about how each team is progressing in automation coverage



Background



- For tracking the team progress, i was using excel sheets, but it was not feasible option, as i was suppose to keep maintaining them on regular basis
- So, Last year, in my free time when Covid lockdown happened, I thought to create a dashboard which can collate data spread in multiple tools/frameworks at one place
- This gave us the much needed single dashboard - QA Dashboard



So, What is QA Dashboard?



- QA Dashboard is a tool which enables us to track QA related metrics from multiple sources at single place, not only at team level but also at Pod and Entity level.
- Right now this can collate data from these 4 sources:
 - **Test Coverage** - Different Testrail projects & suites
 - **Automation Stability** - Multiple Automation Frameworks - api, web, mobile
 - **Bug Metrics data** - From multiple Jira boards across Entity
 - **Code Coverage** - Unit tests coverage data from Dev's repos across Entity



Tools/Languages Used



- HTML
- CSS
- JavaScript & JQuery
- PHP
- MySQL
- FusionCharts





Detailed walkthrough of Features





Automation Results

This page fetch data from different automation frameworks (like web, api, mobile) and present the aggregated summary for each of your team

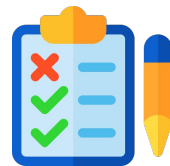
● Entity level Data

- Average '**regression**' & '**sanity**' **percentage** for all projects in last N days [on Staging]
- Average '**prodSanity**' **percentage** for all projects in last N days [on **Production**]
- Average 'regression' & 'sanity' **execution time** for all projects in last N days [on **Staging**]
- Average 'prodSanity' **execution time** for all projects **in last N days** [on Production]

● Team specific Data

- One click access to results of **last 30 'regression' and 'sanity' builds** of your project
- Trend Chart on how **Pass Percentage** is changing **daily/weekly/monthly**
- Trend Chart on how **Execution Time** is changing **daily/weekly/monthly**
- Trend Chart on how **Count of automation cases** is changing **daily/weekly/monthly**





Testrail Numbers

This page fetch data from multiple testrail projects as well as from suites via testrail API and present the aggregated summary for each of your team

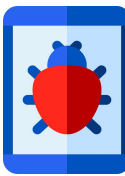
● Entity level Data

- P0, P1 & Full Automation Coverage Percentage of **whole Entity**
- **Count of number of testcases automated** in last N days [Each Project]
- **Change in P0 & P1** Automation Percentage in last N days [Each Project]
- Overall Testcase Distribution in Testrail [Each Project]

● Team specific Data

- P0, P1 & Full Automation Coverage Percentage of **your Project**
- Pie Chart to present overall testcase breakdown for your Project
- Column chart to show Already Automated vs Total Automation cases comparison for your Project
- Trend Chart on how **count of testcases** is changing **daily/weekly/monthly**





Bug Metrics

This page fetch data from multiple JIRA projects using JIRA filters and present the aggregated summary for each of your team

● Entity level Data

- Total Tickets Tested, Total Bugs as well as Only Production bugs found in last N days for **whole Entity**
- Count of Total Bugs found in Last N days in **each Team within your Entity**
- **Teamwise comparison chart** on Bugs found per 100 Jira tickets tested (**Bug percentage**)
- Similar chart for **Only Production** Issues found so far

● Team specific Data

- Total Tickets Tested, Total Bugs as well as Only Production bugs found for **your Project**
- **Priority wise** Bugs Breakdown in last N days for your Project
- Trend Chart on how **Number of Bug found** is changing **daily/weekly/monthly**
- Trend Chart on how **Bug Percentage** is changing **daily/weekly/monthly**





Unit Test Coverage

This page fetch unit test coverage data of Developer's repo and present the aggregated summary for each of your team

● Entity level Data

- Unit tests coverage percentage for **whole Entity**
- **Change in Unit Tests Coverage percentage** in last N days for each project
- **Current Unit Tests Coverage percentage** for each project in whole Entity

● Team specific Data

- Unit tests coverage percentage for **your Project**
- Code coverage bar graph of last N days for your project.
- One click access to module wise coverage reports of your project.
- Trend Chart on how **coverage is changing for Lines, Statements, Branches & Functions** in last N days for your project.





How it works in Backend?



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Behind The Scenes



● MySQL database

- Each Entity have 4 separate tables like this:
- <entityName>_results
- <entityName>_testrail
- <entityName>_jira
- <entityName>_bugs
- <entityName>_units

● For Automation Results

- Automation Results use GCP bucket flow to send the data into results table
- All the data whether its for Api, Web or Mobile is stored in same format and in same table
- From that <entityName>_table various queries are executed via PHP to present the data in the dashboard



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Behind The Scenes



● For Testrail Numbers

- For Each Entity we are fetching data directly from testrail using testrail API
- For fetching the data we need to put Testrail Project ID and suite ID in a predefined config file
- After that we store this data in **<entityName>_testrail table** which is separate for every Entity

● For Bug Metrics

- For Each Entity we are fetching data directly from JIRA API by passing the required filter name
- This means we need to create a filter in Jira for each Entity for maintaining the linking between individual projects and Entity
- Then for fetching the data we need to put Jira Project KEY in the in the predefined config file
- After that we store this data in **<entityName>_jira & _bugs tables**, these are separate for every Entity
- From that table various queries are executed via PHP to present the data in the dashboard



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Behind The Scenes



● For Unit Tests

- Developer's repo should have tool like Jacoco to calculate unit test coverage.
- Unit test coverage data should be sent to GCP bucket in [particular csv format](#).
- Data from GCP is extracted and stored in respective Entity table: **<entityName>_units**.
- From that **<entityName>_units table** various queries are executed via PHP to present the data in the dashboard





How to Contribute?



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Want to contribute further?

- As source code is [publicly available](#), so refer readme for more technical details
- Anyone who wants to contribute can just clone and raise the MR
- Everything is present in same repo be it Backend or Frontend
- Code related to Frontend is placed in “**Website**” folder
- And Code related to Backend is in “**src**” folder
- Needless to say, MR will follow the review process





Thank you!



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