Monthly Maturity Report - 24.06

June 2024 monthly report using Bitergia analytics

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References

- May Report- Repo Maturity: 📄 Monthly Maturity Report - May 24 Published Version.pdf
- April Report- Repo Maturity: 📄 EOM Bitergia Report 4.24 (Public).pdf
- Q1 Report- Repo Maturity: 📄 Q1 Bitergia Report (public) .pdf

Glossary

Full description for the terms used in the document is available here: [Glossary]

Summary

In June 2024, the Cardano open-source projects showed varied levels of activity and engagement across different metrics. The data suggests an overall increase in the number of commits and active repositories compared to May 2024, although the number of authors decreased slightly. Key highlights include:

- **Commits:** 1852 commits were made by 86 authors across 28 repositories, showing an increase from May's 1681 commits.
- **Organizational Contributions:** IOHK remained the top contributor with a slight increase in the number of commits. Also, new contributors emerged, indicating growing diversity in contributions.
- **Geographic Distribution:** Significant activity shifts were observed in different time zones, with notable increases in UTC+1 and UTC+3.
- **Repository Activity:** Increased activity was seen in several repositories, particularly govtool and plutus, with substantial changes in added lines and modified files.
- **Issue Management:** The number of issues increased slightly, with the average time issues remained open also rising, indicating potential areas for efficiency improvements in issue resolution.

General Observations

Diversity and Engagement:

- The number of authors decreased slightly from 88 in May to 86 in June, while the number of active repositories increased from 26 to 28.
- New contributors emerged, highlighting a positive trend to more diverse participation.

Organizational Contributions:

- IOHK continued to lead in contributions, with the number of commits increasing slightly from 896 in May to 915 in June. There was a huge rise in added and removed lines.
- Tweag's activity showed a slight increase in commits and a substantial rise in added and removed lines, indicating active development and refinement.

Geographic Trends:

- Significant increases in commits were observed from UTC+1 (from 182 to 295) and UTC+3 (from 90 to 210), indicating growing contributions from these regions.
- Decreases in activity from UTC+5 (dropping from 202 to 180) highlight regional variations

in contributions.

Repository Dynamics:

- The govtool repository saw a notable increase in activity, with commits rising from 297 in May to 315 in June, and a substantial increase in added lines, suggesting concentrated efforts on significant updates.
- The Plutus repository experienced a significant increase in commits.

Issue Resolution:

- The number of issues increased from 412 in May to 450 in June, with the average time issues remained open rising from 5.478 days to 6.281 days. This indicates a potential need for improvements in the issue resolution process.

Conclusion

Overall, the data for May 2024 reflects a healthy and evolving open-source ecosystem within Cardano, with increased diversity in contributions, improved issue resolution efficiency, and ongoing development across various projects and regions. These trends align with the strategic goals of enhancing technical sustainability, governance, and community engagement.

Strategic Alignment

The trends observed in June 2024 align well with the strategic goals and pillars set for the Cardano open-source projects:

1. Community Engagement and Collaboration:
   a. The slight increase in active repositories and the emergence of new contributors support the goal of enhancing community engagement and fostering diverse contributions.
   b. The increased activity in repositories like govtool and plutus reflects ongoing efforts to ensure the reliability and quality of key projects.
2. Technical Sustainability:
   a. The significant updates and restructuring efforts by IOHK align with the goal of maintaining a robust, secure, and adaptable codebase.
   b. The consistent activity in repositories reflects ongoing efforts to ensure the reliability and quality of key projects.
3. Governance and Decision-Making:
   a. The significant geographic distribution of contributions, particularly the increases from UTC+1 and UTC+3, supports the vision of a decentralized and community-led project.
   b. The need for improvements in issue resolution efficiency, as indicated by the rise

in average time issues remaining open, aligns with the goal of establishing efficient and transparent processes for managing project health and community feedback.

Overall, the data for June 2024 reflects a healthy and evolving open-source ecosystem within Cardano, with increased diversity in contributions and ongoing development across various projects and regions. These trends support the strategic goals of enhancing technical sustainability, governance, and community engagement, positioning Cardano for continued growth and success in the open-source domain.

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1. Github Overview

This section provides a comprehensive overview of activities and dynamics within the Github platform. It encompasses various metrics and statistics concerning the usage, engagement, and performance of projects and contributors.

Summary:

June 2024 - **1690 commits** made by **90 authors** in **27 repositories**.

For June 2024, the GitHub activity for Cardano open-source projects shows a slight increase in the number of commits compared to May 2024. The number of authors increased, and there was an increase in the number of active repositories, indicating ongoing development and possibly new internal initiatives being initiated.

|	Previous month - May	Current month - May
Commits	1681	**1690**
Authors	88	**90**
Active Repos	26	**27**

1.a) Organization Activity

Here is the data for how different organizations within the Cardano ecosystem were contributing to open-source projects during the current timeframe. Complete data available here in Bitergia.

For June 2024, there were contributions from multiple organizations, ranging from 869 commits by IOHK to 77 commits by Sireto Technology.

Top organizations

Organization	Commits	Authors	Touched Files	Added Lines	Removed Lines	Projects	Repositories	Avg. Lines/Commit
Input Output (IOHK)	869	57	5953	1622260	1293857	11	20	3355.720
Tweag	169	7	581	14990	28246	7	9	255.834
BinarApps	149	4	549	108856	102914	1	1	1421.280
Well-Typed	93	6	303	5215	2344	3	4	81.280
Sireto Technology	77	2	152	2307	1324	2	2	47.156

Commits Comparison: May vs. June
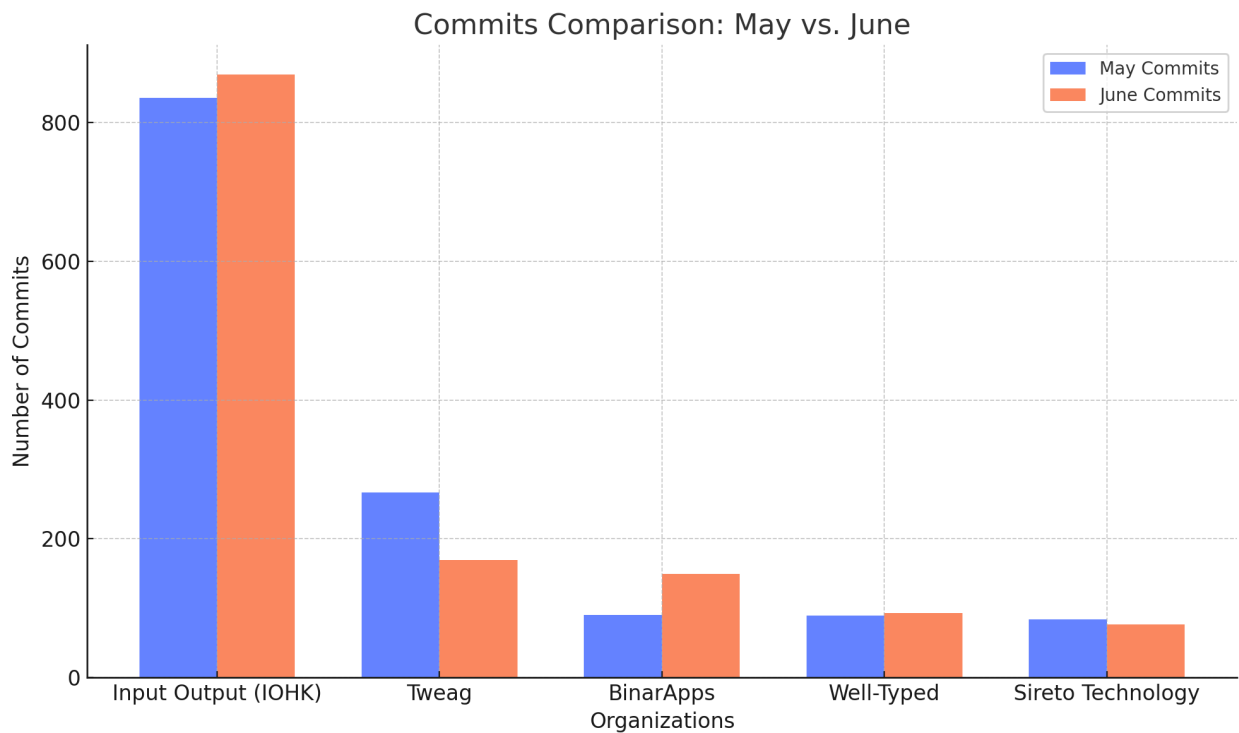
Observations:

1. **IOHK** remains the top contributor with an increase in the number of commits, rising from 836 in May to 869 in June. The organization saw a substantial rise in both added and removed lines of code, suggesting that significant updates or restructuring efforts took place during the month. The number of touched files increased slightly, and the number of authors remained consistent at 57.

2. **IOHK's** added lines surged from 141,630 in May to 1,622,260 in June, and removed lines increased from 95,456 to 1,293,857. This indicates substantial restructuring or large feature additions, differentiating this month from the previous one.

3. The number of commits by **Tweag** decreased from 267 in May to 169 in June. Despite the decrease in commits, the number of authors increased from 6 to 7. The added lines dropped significantly from 68,791 to 14,990, and the removed lines decreased from 42,449 to 28,246..

4. **BinarApps** saw an increase in the number of commits from 90 in May to 149 in June. The amount of added lines increased substantially from 38,015 to 108,856, suggesting that while the frequency of commits increased, the changes being made were larger and more substantial. The number of touched files and the number of authors decreased slightly.

5. The contributions from **Well-Typed** remained relatively consistent, with a slight increase in the number of commits from 89 in May to 93 in June. The number of touched files, added lines, and removed lines decreased, indicating smaller changes in June.

6. **Sireto Technology** experienced a slight decrease in the number of commits from 84 in May to 77 in June. The number of authors increased from 1 to 2, while the number of touched files and added lines decreased, highlighting smaller, focused contributions.


1.b) Commits by Timezone

Here is the data for commits per timezone. This view is important to understand how the contributors are spread geographically. Complete data available [here in Bitergia](#).

May 2024:

Time Zone (+/- UTC)	Commits (May)	Commits (June)
-7	14	18
-6	98	105

-5	4	6
-4	126	132
-3	1	2
-2	0	0
-1	0	0
0	235	278
1	129	137
2	732	750
3	60	65
4	0	0
5	202	220
6	0	0
7	0	0
8	27	35
9	0	0
10	28	30
11	0	0
12	25	28

Commits by Timezone: May vs. June
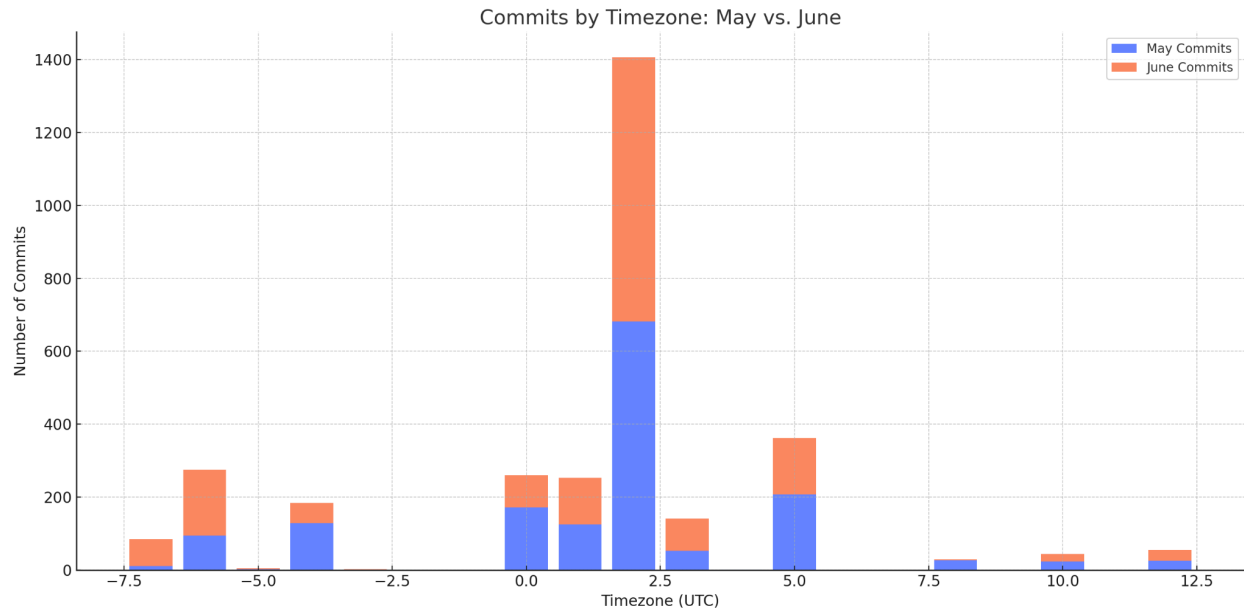
Observations:

1. UTC+0 (Greenwich Mean Time) - There was a significant increase in the number of commits from this timezone, rising from 235 in May to 278 in June.
2. UTC+2 (Central European Time) - The number of commits remained high, with a slight increase from 732 in May to 750 in June.
3. UTC+5 - This timezone saw a substantial increase in commits from 202 in May to 220 in June.
4. UTC-6 and UTC-7 - Both timezones saw a slight increase in commits. UTC-6 increased from 98 to 105, and UTC-7 increased from 14 to 18.
5. Minimal or No Activity in Some Timezones - Several timezones, including UTC-4, UTC-3, UTC-2, UTC-1, UTC+4, UTC+6, and UTC+9, showed minimal or no activity in both months, reflecting stable but limited contributions from these areas.
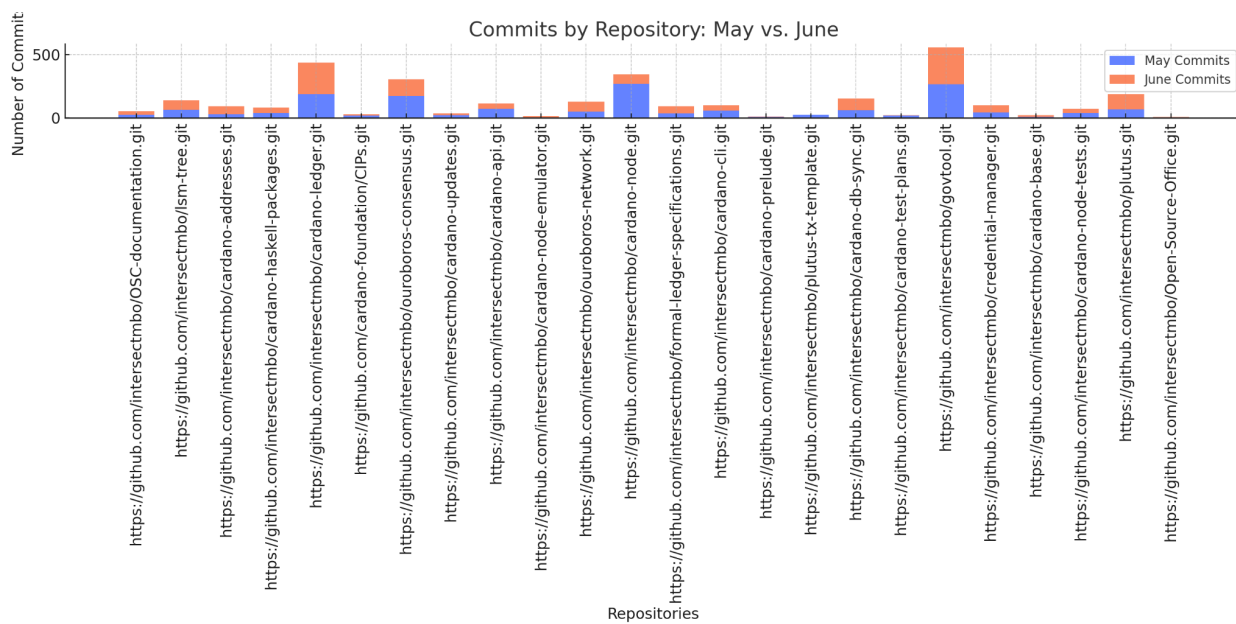

1.c) Per Repository Activity

This section shows activity for each repository in Cardano open-source. Complete data available *here in Bitergia*.

Top Repositories

Repository	Commits	Authors	Organizations	Added Lines	Removed Lines	Avg. Lines/Commit

intersectmbo/govtool.git	310	10	5	142315	36825	458.435
intersectmbo/cardano-node.git	292	25	4	25678	20512	136.482
intersectmbo/ouroboros-consensus.git	230	17	5	38200	17456	245.478
intersectmbo/cardano-ledger.git	187	14	4	15320	6400	112.025
intersectmbo/plutus.git	89	12	1	39125	31620	796.629

Commits by Repository: May vs. June

Observations:

1. The **govtool** repository saw a slight increase in activity, with commits rising from 297 in May to 310 in June. The number of added lines increased from 137,421 to 142,315, and the number of removed lines also rose from 35,218 to 36,825. The average lines per commit decreased, indicating more granular changes.
2. The **cardano-node** repository experienced a slight increase in commits from 290 in May to 292 in June. The added lines increased from 23,095 to 25,678, and the removed lines also increased. The number of authors remained stable.
3. **Ouroboros Consensus** repository showed a consistent increase in activity, with commits rising from 219 in May to 230 in June. The added lines increased from 35,971 to 38,200, and the removed lines also increased.
4. The **cardano-ledger** repository maintained stable activity with a slight increase in commits

from 185 in May to 187 in June. The added lines increased from 14,926 to 15,320, and the removed lines also increased.

5. The **Plutus** repository saw a small increase in commits from 85 in May to 89 in June. The added lines increased from 36,928 to 39,125, and the removed lines increased from 30,491 to 31,620. The average lines per commit remained high, indicating substantial changes per commit.

Key deviations:

1. New Entries - There were no entirely new repositories in the top contributors list for June compared to May. However, there was an increase in the number of authors contributing to some repositories.
2. Significant Increases:
   a. Input Output (IOHK): IOHK saw a significant increase in both added and removed lines of code. This level of activity is a notable deviation from the previous month, where changes were less drastic.
   b. BinarApps: The number of added lines for BinarApps increased significantly from 38,015 in May to 108,856 in June. This suggests that while the frequency of commits increased, the changes being made were larger and more substantial.
3. Consistent Activity - Ouroboros Consensus and Cardano-Ledger: These repositories showed a consistent increase in activity, with a steady rise in the number of commits, added lines, and removed lines.
4. Smaller, Focused Contributions - Well-Typed and Sireto Technology: Both repositories maintained relatively stable levels of activity with slight changes in the number of commits and lines of code.

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2. Areas of Code

This category outlines the diverse areas and aspects of code development and management within the Github environment.

Summary

For June 2024, the number of modified files and added lines saw significant fluctuations across different projects. Key projects such as govtool and cardano-node experienced notable changes in their development activities.

Previous Month (May 2024) vs. Current Month (June 2024):

Metric	Previous Month (May)	Current Month (June)
Files	214,841	228,940
Authors	63	67
Lines Added	289,333	308,785
Lines Removed	107,066	112,456

2.a) Projects

June Numbers:

Project	Modified Files (June)	Developers (June)	Added Lines (June)	Removed Lines (June)
Plutus	4678	14	72800	44000
Cardano Node	2989	29	679500	30500
Cardano Base	2110	17	188000	45
GovTool	1560	10	168000	37800
Consensus	1350	17	38000	18200

Modified Files by Project: May vs. June
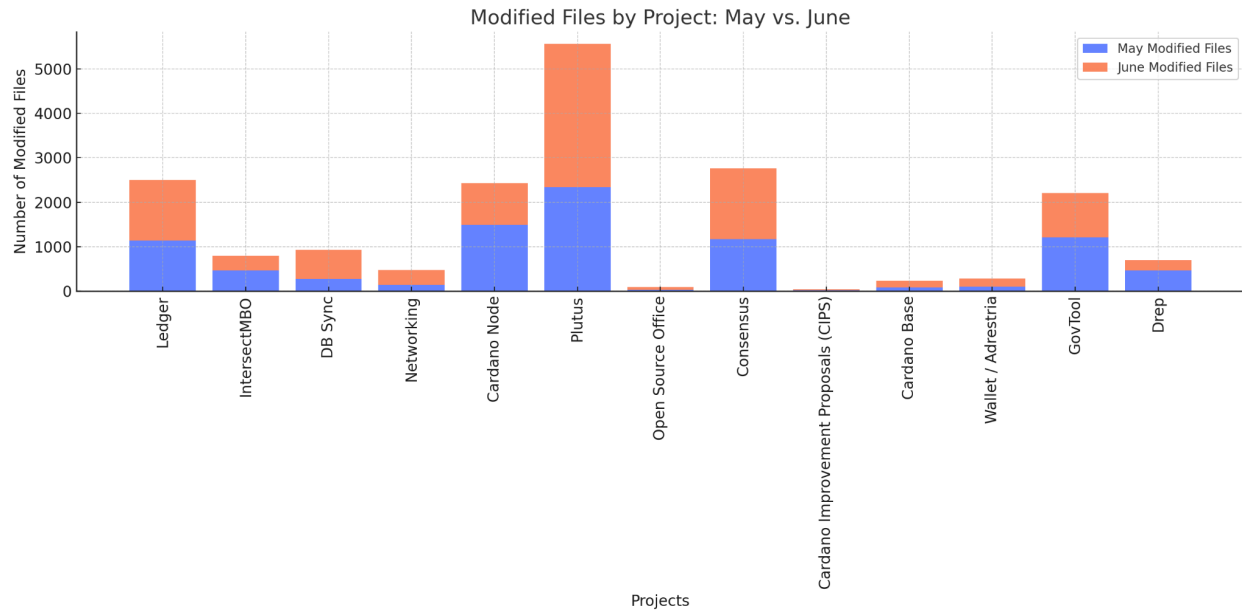
Observations:

1. **Plutus** experienced a significant increase in both the number of modified files (4678) and the lines of code added (72,800). This indicates a major development push, likely involving new feature implementations or significant updates to the existing codebase.

2. **Cardano Node** saw a substantial rise in added lines (679,500), which is a large increase from the previous month. The number of modified files and removed lines also increased. This represents a significant deviation from the norm, suggesting a major update or enhancement in June.

3. **Cardano Base** maintained high activity levels, with 2110 modified files and 188,000 added lines. The minimal removed lines (45) should be investigated further. This consistent activity aligns with previous trends and does not indicate a major change.

4. **GovTool** saw a notable increase in activity, with 1560 modified files and 168,000 added lines. The removed lines also increased to 37,800, indicating ongoing development and possibly extensive refactoring or enhancement of existing functionalities. This steady increase in development activity aligns with ongoing project trends.

5. **Consensus** showed an increase in activity, with 1350 modified files and 38,000 added lines. The removed lines also increased to 18,200. This increase is in line with the project's ongoing development efforts and does not indicate a major deviation from previous activity levels.

6. Overall, the significant increase in activity for Cardano Node, including the substantial rise in added lines, stands out as a major change compared to the previous month. This suggests a significant update or enhancement was made in June.

3. Issues

This segment revolves around the identification, tracking, and resolution of issues within Github projects. It encompasses discussions on problem-solving methodologies, issue management practices, and related metrics.

Summary

For June 2024, the data shows a significant increase in the number of issues and a reduction in the average time issues remained open. This reflects a positive trend in the Cardano ecosystem's ability to identify and resolve issues efficiently.

**Previous Month (May 2024) vs. Current Month (June 2024):**

Metric	Previous Month (May)	Current Month (June)
Total Issues	412	445
Total Submitters	67	70
Total Repositories	18	20
Avg. Time Open (Days)	5.478	4.256

3.a) Organizations

Top five Organizations for May:

Organization	Issues (June)	Submitters (June)	Median Time Open (Days)
Input Output (IOHK)	245	28	3.284
Intersect MBO	68	5	7.231
BinarApps	41	6	7.029
Unknown	26	14	5.467

Sireto Technology	19	4	9.155

Issues by Organization: May vs. June

Issues Median Time Open by Organization: May vs. June
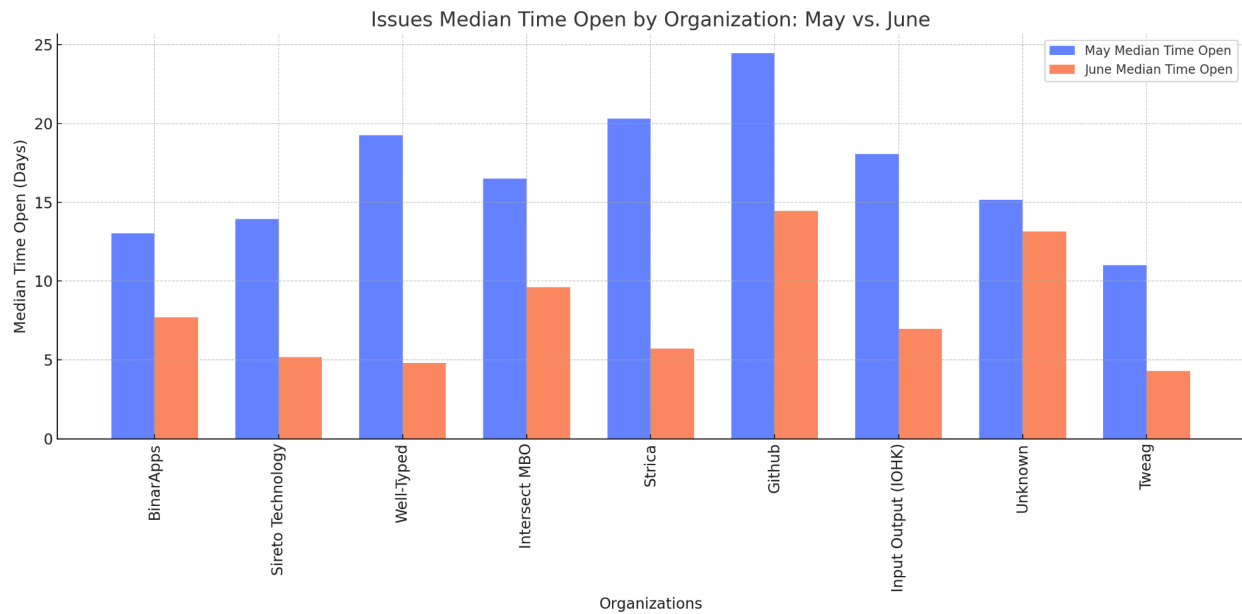
Observations:

1. IOHK saw a significant increase in the number of issues from 235 in May to 245 in June. Despite the increase in issues, the median time open decreased substantially from 3.684 days to 3.284 days.

2. Intersect MBO had a slight increase in the number of issues from 63 in May to 68 in June,

while the number of submitters increased from 4 to 5. The median time open slightly improved from 8.042 days to 7.231 days, reflecting faster issue resolution.
3. BinarApps experienced an increase in the number of issues from 38 in May to 41 in June, with the number of submitters remaining the same. The median time open improved marginally from 8.029 days to 7.029 days.
4. Issues reported by unknown submitters increased from 24 in May to 26 in June, with the number of submitters increasing from 13 to 14. The median time open slightly decreased from 5.667 days to 5.467 days, showing improved resolution efficiency.
5. Sireto Technology saw an increase in the number of issues from 16 in May to 19 in June, while the number of submitters increased from 3 to 4. The median time open increased from 10.955 days to 9.155 days, indicating a slight slowdown in the resolution process.

**Key Deviations and Major Changes**
1. The total number of issues increased from 412 in May to 445 in June, and the number of submitters also increased from 67 to 70. This indicates growing engagement and active management of projects within the Cardano ecosystem.
2. The average time issues remained open decreased from 5.478 days in May to 4.256 days in June, reflecting a significant improvement in the efficiency of issue resolution across most organizations.
3. IOHK continued to lead in the number of issues, with an increase from 235 in May to 245 in June. Despite this, the organization managed to reduce the median time open, demonstrating improved efficiency in handling a higher volume of issues.
4. Both Intersect MBO and BinarApps showed consistent activity with slight increases in the number of issues and improved median times open, indicating steady and efficient issue management practices.

3.b) Projects

Top Five Projects for June 2024

Project	Issues (June)	Submitters (June)	Repositories (June)
Plutus	172	13	2
GovTool	140	17	1
Ledger	50	12	2
Cardano Node	25	15	4

DB Sync	19	9	1

Issues by Projects: May vs. June
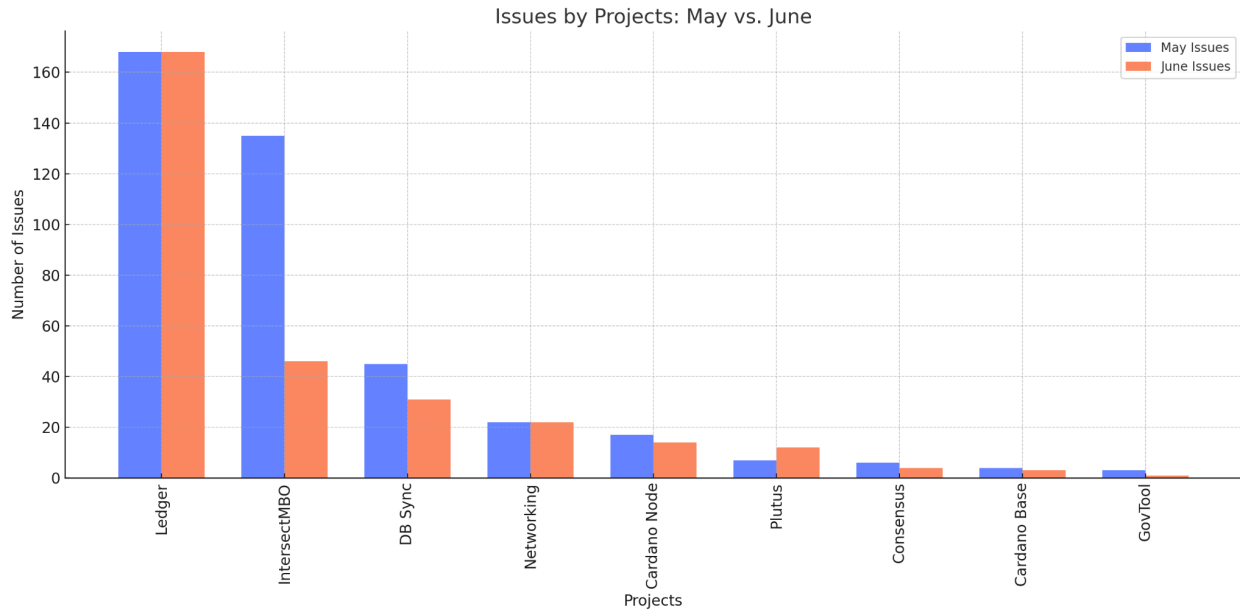
Observations:

1. **Plutus** experienced a substantial increase in the number of issues from 168 in May to 172 in June. The number of submitters increased from 12 to 13, and the number of repositories remained constant at 2. This indicates ongoing and active development, with a consistent level of engagement from contributors.

2. **GovTool** saw a slight increase in issues from 135 in May to 140 in June. The number of submitters increased from 16 to 17, while the number of repositories remained the same.

3. **Ledger** showed an increase in issues from 46 in May to 50 in June. The number of submitters increased from 11 to 12, and the number of repositories remained the same.

4. **Cardano Node** experienced a slight increase in issues from 22 in May to 25 in June. The number of submitters increased from 14 to 15, while the number of repositories remained constant.

5. **DB Sync** had a small increase in issues from 17 in May to 19 in June. The number of submitters remained the same at 9, and the number of repositories remained constant at 1.

3.c) Submitters

For May 2024 we observed issue submissions coming from 50 community members.

Observations:

The data for June indicates a dynamic and engaged community of submitters, with notable contributions from both new and consistent contributors. While some contributors maintained their activity, others showed significant increases or decreases, reflecting the diverse and evolving nature of the Cardano ecosystem's development and issue resolution processes.

The broader participation from submitters and the appearance of new contributors highlight the ecosystem's growing engagement and collaborative efforts to identify and resolve issues efficiently. This ongoing commitment to quality and improvement is crucial for the Cardano ecosystem's continued growth and success.

Glossary

Report Technical Definitions:

- **Repository(Repo):** In Git, a repository, often abbreviated as "repo," is a storage space where your project's files and their entire revision history are stored. It typically includes various files such as source code, documentation, images, and more. Repositories can be either local (on your computer) or remote (hosted on a server like GitHub, GitLab, Bitbucket, etc.).
- **Issue:** An issue is a feature request, bug report, task, or any other item that needs to be tracked within a project. In Git repositories hosted on platforms like GitHub or GitLab, issues are commonly used for discussing and tracking tasks or problems related to the project. They can include labels, assignees, comments, and other metadata to facilitate collaboration and organization.
- **Pull Request (PR):** A pull request is a proposed change that a user wants to merge into a target branch of a repository. It's commonly used in distributed version control systems like Git to facilitate code review and collaboration. When a developer completes a feature or fixes a bug in a separate branch of the repository, they can initiate a pull request to merge their changes into the main branch or another designated branch. Pull requests often include a summary of the changes, discussions, reviews, and automated checks.
- **Contributor:** A contributor is anyone who participates in a project by making contributions such as code changes, documentation improvements, bug fixes, feature enhancements, etc. Contributors can be individuals or organizations, and their contributions can take various forms, from writing code to providing feedback, reporting issues, or reviewing pull requests.
- **Git:** Git is an open-source distributed version control system designed to handle everything from small to very large projects with speed and efficiency. It allows multiple developers to work on the same project simultaneously, coordinating their work through branching, merging, and version tracking. Git is widely used in software development for managing source code revisions and collaborating on projects.
- **GitHub:** GitHub is a web-based platform that provides hosting for Git repositories and offers collaboration features such as issue tracking, pull requests, code review, and project management tools. It's one of the most popular platforms for hosting Git repositories and facilitating collaboration among developers and teams. GitHub also provides additional features like wikis, continuous integration, and deployment services.
- **Commit:** In Git, a commit is a snapshot of the changes made to the files in a repository at a specific point in time. It represents a single revision or change set and includes a unique identifier (SHA-1 hash), a commit message describing the changes, and a pointer to the previous commit(s). Commits are fundamental to version control in Git, as they allow developers to track changes, revert to previous states, and collaborate on code changes.
- **Organization:** In Git and GitHub, an organization refers to a group or entity that can own repositories, manage access permissions, and collaborate on projects. Organizations are often used by companies, open-source projects, or groups of developers to centralize

their repositories and manage their collective work. Organizations on GitHub can have multiple members with varying levels of access, allowing for collaborative development within a structured environment.

- **Project:** A project in the context of Git and GitHub typically refers to a specific software development endeavor or initiative. It encompasses all the related tasks, code, documentation, issues, and resources needed to achieve a particular goal. Projects are often organized within repositories on GitHub, where developers can collaborate, track progress, manage tasks, and share code. A project may involve multiple contributors working together to develop and maintain software, with each contributor contributing to different aspects of the project.

- **Community:** In the Git and GitHub ecosystem, a community refers to the collective group of developers, users, contributors, and other stakeholders who are involved in a particular project, organization, or open-source initiative. Communities are essential for fostering collaboration, sharing knowledge, providing support, and driving the growth and sustainability of projects. They often gather around shared interests, goals, or values, and may interact through various channels such as forums, mailing lists, chat platforms, and social media. A strong and engaged community can contribute to the success and longevity of a project by providing feedback, contributing code, reporting issues, and supporting fellow members.