Manage technical debt with AI Mentor Studio

Overview

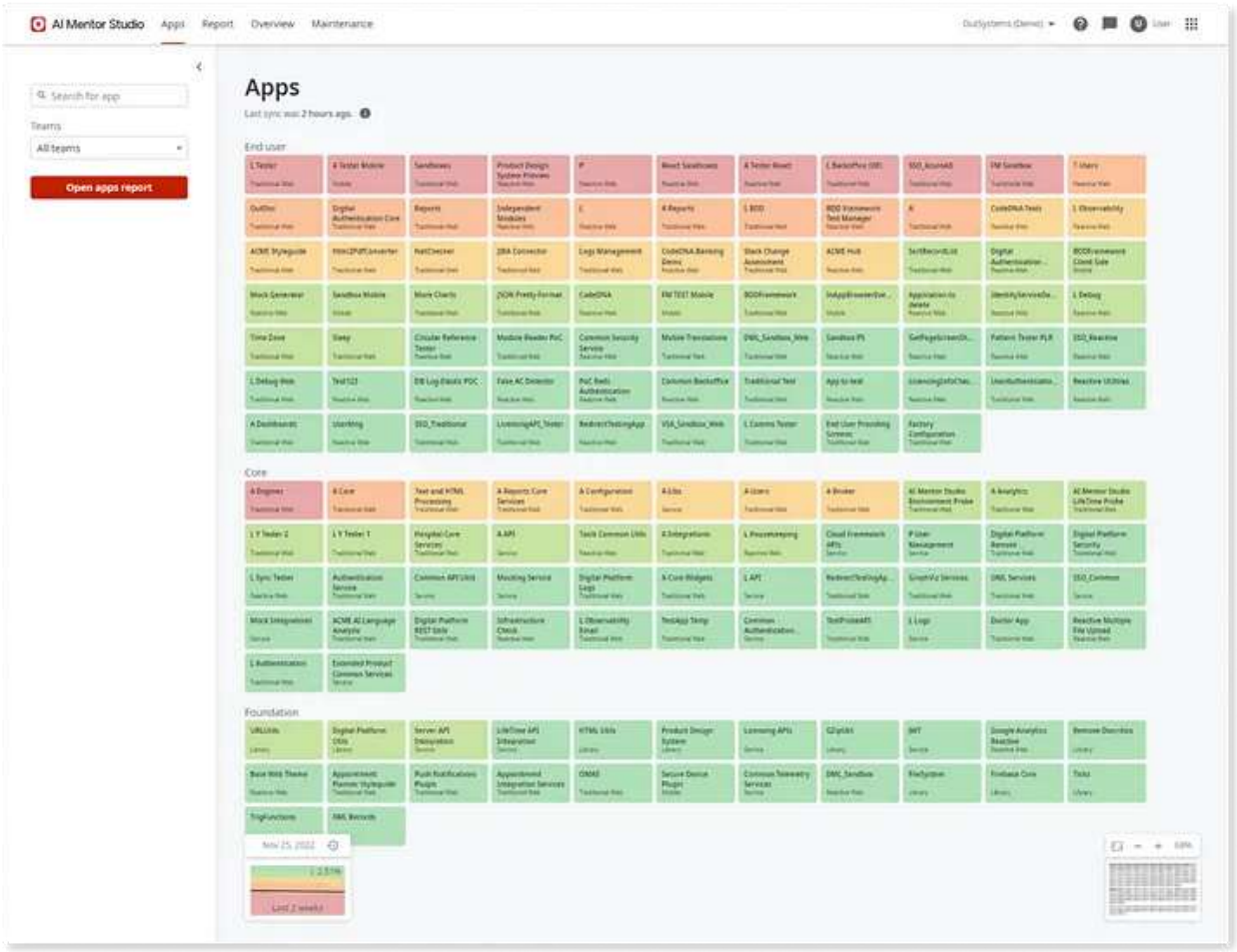
AI Mentor Studio is the OutSystems technical debt monitoring tool. It enables IT leaders to visualize complex cross-portfolio architectures and identify problems while also helping developers follow best practices and avoid common pitfalls.

AI Mentor Studio is a SaaS tool that enables developers, team leads, and architects to view and manage technical debt - improving the apps they develop by following development best practices for code quality and performance.
It is an AI-powered development assistant offered by OutSystems, a leading low-code application development platform. AI Mentor Studio aims to enhance the productivity and efficiency of developers by providing intelligent recommendations, code suggestions, and best practices throughout the application development lifecycle.

Key features of AI Mentor Studio include:

1. **Code Quality Analysis:** AI Mentor Studio analyzes code written in OutSystems and provides suggestions for improving code quality, adherence to best practices, and performance optimization.
2. **Automated Code Generation:** The platform offers automated code generation capabilities, generating code snippets or templates based on developer input to accelerate development.
3. **Predictive Modeling:** AI Mentor Studio utilizes predictive modeling techniques to anticipate potential issues or bugs in the application code, allowing developers to address them proactively.
4. **Intelligent Documentation:** It assists in generating documentation for the application, including comments, annotations, and explanations for various components and functionalities.
5. **Integration with Development Environment:** AI Mentor Studio seamlessly integrates with the OutSystems development environment, providing real-time feedback and suggestions as developers write code.

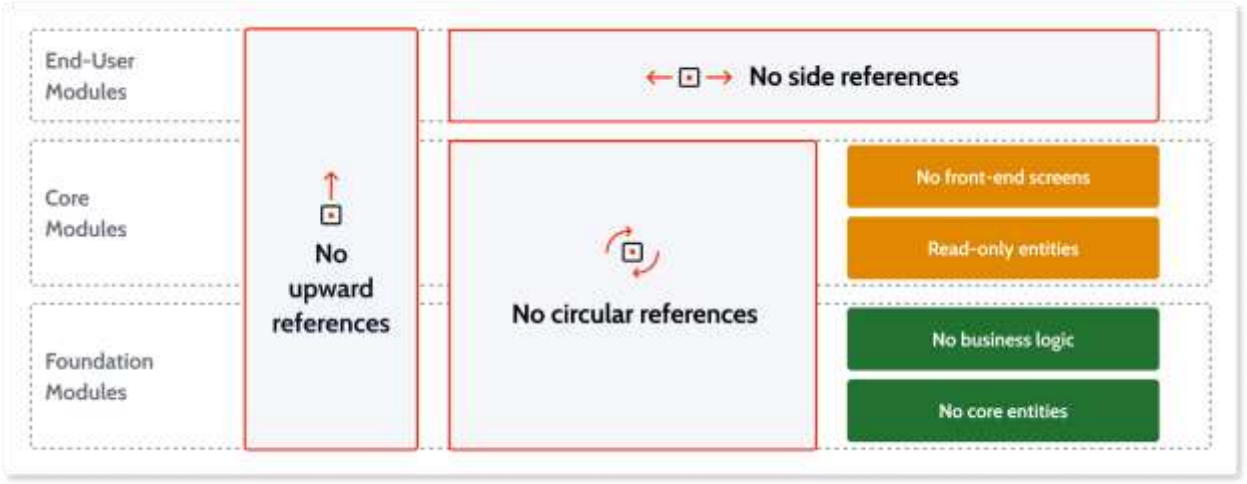
6. **Continuous Improvement:** Through machine learning algorithms, AI Mentor Studio continuously learns from developer interactions and feedback, improving its recommendations and suggestions over time.



This is how AI Mentor Studio shows you all the developed modules.
We can analyze the technical debt by seeing the color of each or our module.

AI Mentor Studio uses the following validation rules to evaluate the architecture of your applications:

- No upward references
- No side references among end users
- No circular references between the foundation and core layers

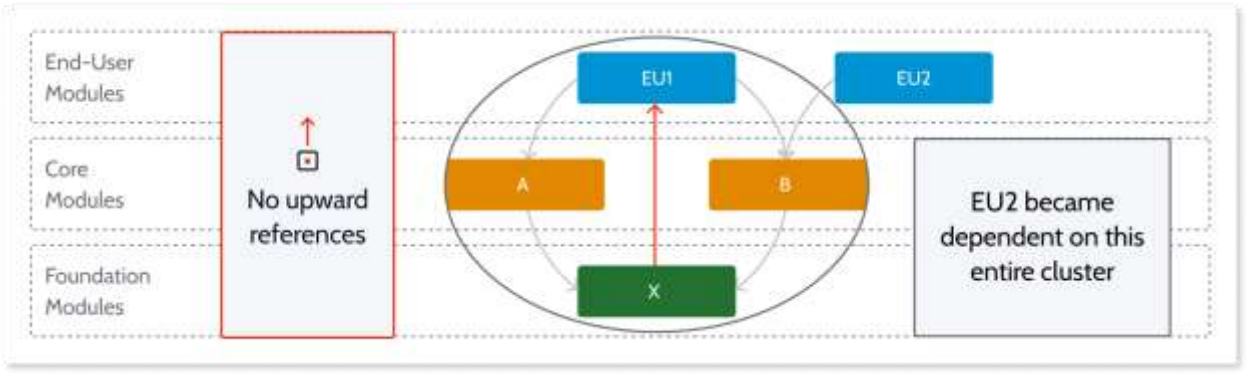


Validation rules

The following validation rules are used for correct architecture design of all of the modules in your development environment.

No upward references:

An upward reference tends to create a cluster where any two modules, directly or indirectly, have a circular dependency.

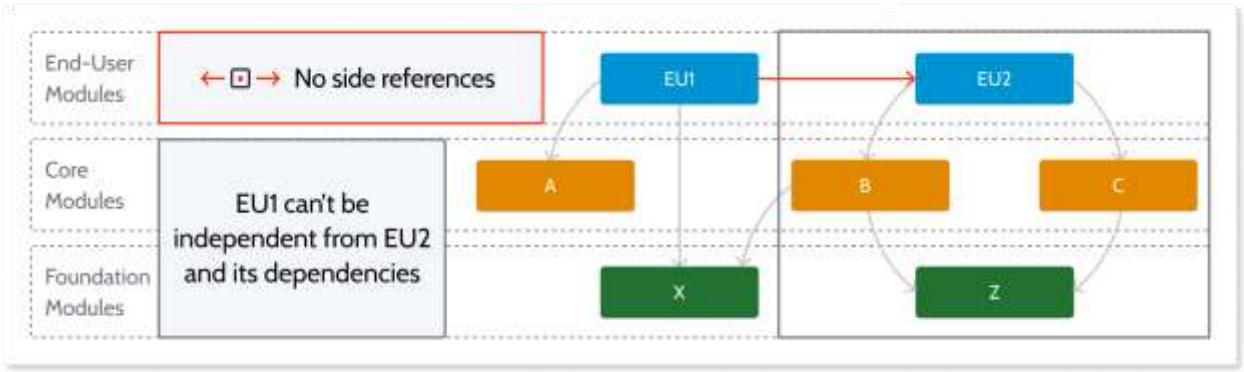


In the example above, foundation module X — by definition non-functional — shouldn't depend on functional or end-user modules.

Another unexpected effect of this upward reference from foundation module X is that end-user 2 (EU2), by consuming core module B, makes it dependent on EU1's cluster. Aside from giving ER2's runtime an unnecessarily large footprint, it will also be impacted by changes made in modules which have no relevance to its function.

No side references between end users:

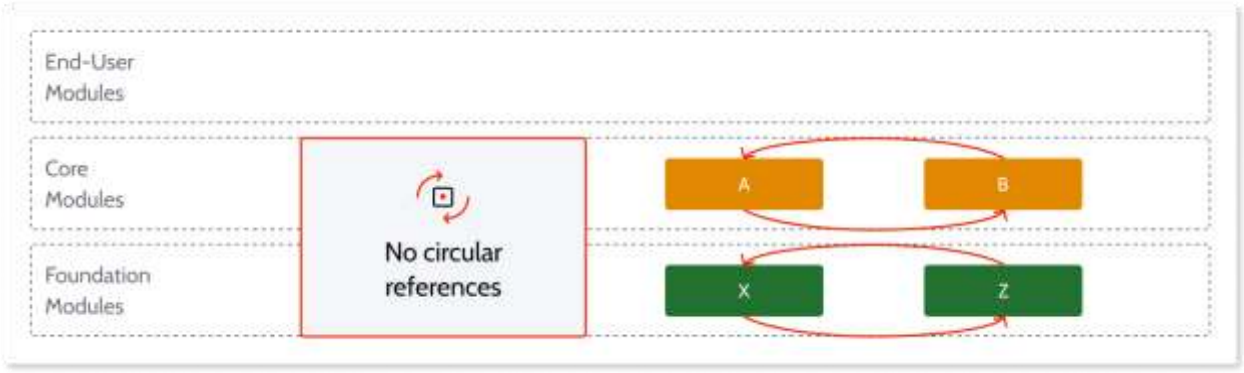
End-user modules shouldn't provide reusable services, as seen in the figure below. The side reference between EU1 and EU2 means that their lifecycles are linked and they can only be released at the same time.



Maintaining correct isolation between end-user modules give them independent lifecycles with a versioning pace set by their different sponsors or project teams.

No circular references:

A cycle is always undesirable, since it brings unexpected impacts and hard-to-manage code. A cycle between modules indicates that the concepts aren't correctly abstracted.

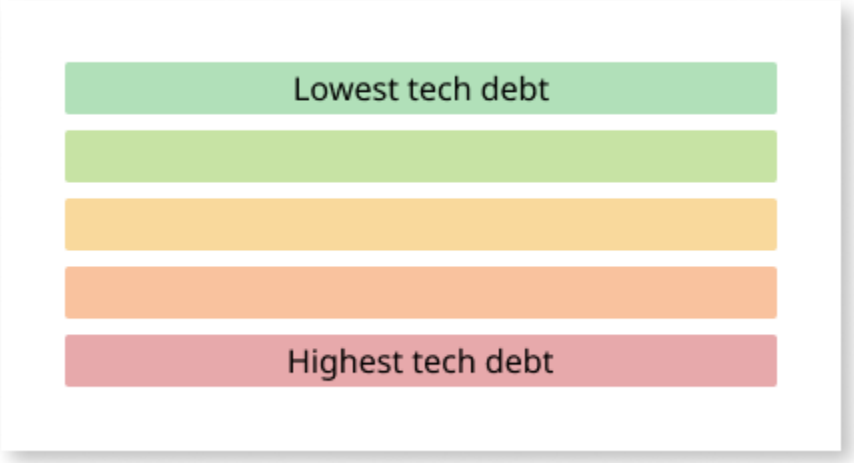


AI Mentor Studio as a developer:

As a developer, AI Mentor Studio provides you with an overview of the organization's technical debt. It also provides you with a detailed overview of the technical debt of the apps in the infrastructure that need to be fixed so that the overall technical debt score is reduced.

The apps page gives you an overview of the apps in the infrastructure that you have access to. Each square is an app. It shows the app name and the app type. The color of each app shows you how high or low technical debt is in that app. Technical debt tells you how difficult or easy it is to change and maintain an app or module.

You should be having an **IT user role** associated with AI Mentor Studio.



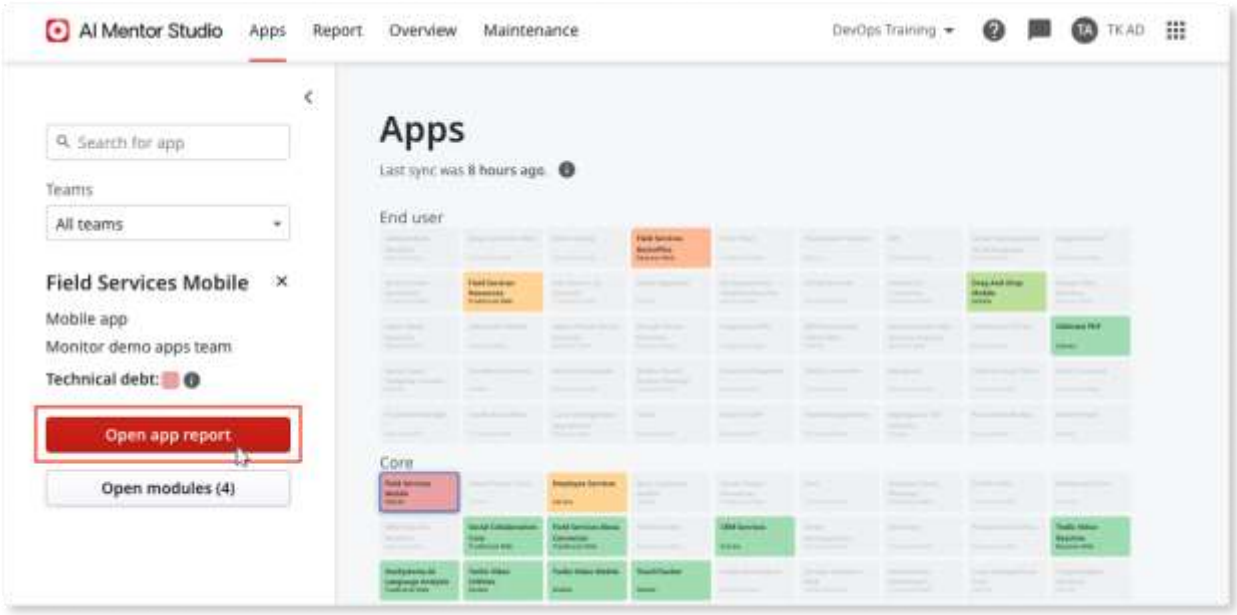
AI Mentor Studio as a team lead:

As a team lead, AI Mentor Studio provides you with an overview of the technical debt of an organization's technical debt as well as a detailed overview of the technical debt of your team's apps.

From the Apps canvas, you can drill down into the team's problematic modules, and take the necessary steps to reduce the technical debt score for these areas.

You have the **Administrator** role in LifeTime.

Team lead can generate an app report in excel format of a module who is having technical debt.


AI Mentor Studio
Apps
Report
Overview
Maintenance
DevOps Training
TK AD
Search for app
Teams
All teams
Field Services Mobile
Mobile app
Monitor demo apps team
Technical debt:
Open app report
Open modules (4)
Apps
Last sync was 8 hours ago
End user
Core