Towards Collaborative Code Editing: Case CoRED

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CoRED is a browser-based collaborative real-time code editor for Java applications. It contains highlighting, indentation, semantic error checking, code completions, collaborative editing and additional collaboration features inspired by social media.

- **Java Error Checking**
The Java code is compiled on the server side using the Java Development kit (JDK). The errors and the diagnostic messages are presented to the user within the code.

- **Automatic Code Completion**
CoRED can give code suggestions, such as methods of an object before a typed dot. The suggestions are generated with the help of the JDK. Along with generic Java suggestions, it is possible to implement more domain-specific suggestions.

- **Code Editing Aids**
Ace editor [1] is used as a frontend component. It provides syntax highlighting and automatic indenting, among other code editing features.

- **Facebook Connect**
Supports Facebook user authentication. More features coming soon.

- **Collaborative Editing**
Implemented using Differential Synchronization. [2]

- **Co-operation Features**
Users can comment specific portions of the code. Other users can reply to the comments. In addition, it is possible to temporarily lock a portion of the code to be edited just by one person.

- **Extendability**
CoRED is implemented as a Vaadin [3] component. Its architecture allows for developing custom error checkers and code completion modules.

1. ACE – Ajax.org Cloud9 Editor. [http://ace.ajax.org/](http://ace.ajax.org/)

- [http://jlautamaki.virtuallypreinstalled.com/CoRED](http://jlautamaki.virtuallypreinstalled.com/CoRED)
- [http://www.youtube.com/user/TUTCoRED](http://www.youtube.com/user/TUTCoRED)
- Coming soon to: [http://vaadin.com/directory](http://vaadin.com/directory)
- For more information: antti.h.nieminen@tut.fi