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# Software Wartung und Evolution

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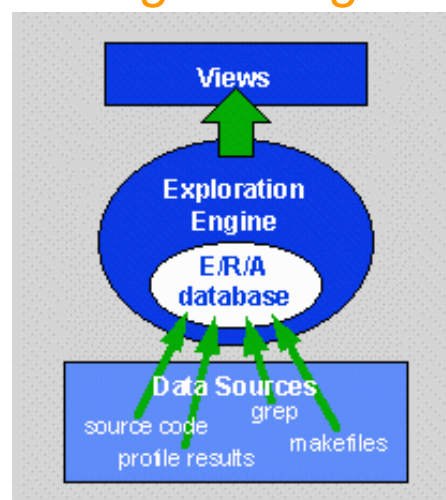


# Chapter 4

## Chapter 4

- Inhalte
  - Tool Demo
    - Reverse Engineering mit Imagix4D
    - Refactoring mit IntelliJ IDEA
    - Architektur- und Evolutionsanalyse mit dem Sotograph
    - Software Analyse mit dem Eclipse CREOLE Plugin

## Reverse Engineering: Imagix 4D



# Refactoring: IntelliJ IDEA

```

public class ListUsersAction extends Action {
    /**
     * Base Action performs(ActionMapping, ActionForm, HttpServletRequest, HttpServletResponse)
     */
    public ActionForward perform(ActionMapping mapping,
        ActionForm form,
        HttpServletRequest request,
        HttpServletResponse response)
        throws IOException, ServletException {
        // Validate the request parameters specified by the user
        ActionErrors errors = new ActionErrors();

        ListUsersForm myForm = (ListUsersForm) form;

        try {
            if (!StringUtil.isLoggedin(request)) {
                UserServiceAuth us = UserServiceUtil.getAuth();
                UserService us = us.create();

                Collection result = null;

                String id = request.getParameter("id");
                if (id == null) {
                    result = us.searchAllUsers();
                } else {
                    result = us.find(id);
                    result.add(us.searchUsersByid(id));
                }

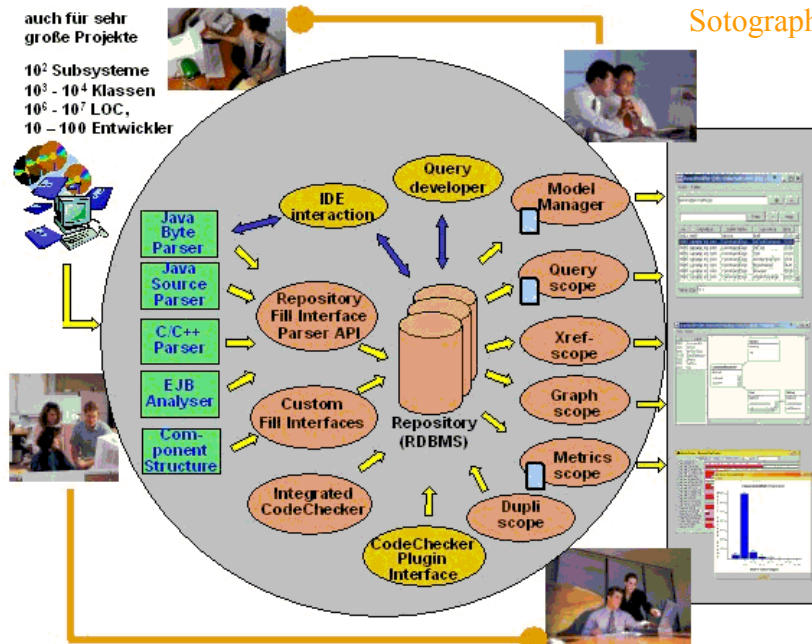
                myForm.setExistingUsers(result);
            }
        }
    }
}
    
```

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auch für sehr große Projekte  
 10<sup>2</sup> Subsysteme  
 10<sup>3</sup> - 10<sup>4</sup> Klassen  
 10<sup>6</sup> - 10<sup>7</sup> LOC,  
 10 - 100 Entwickler

## Sotograph



## CREOLE

- Eclipse plugin by „The Chisel Group“
  - Computer Human Interaction & Software Engineering Lab
  - [<http://www.thechiselgroup.org/creole>]
- „Creole is the term used to describe our plugin to the Eclipse platform which integrates SHriMP with the Eclipse platform's Java Development Tools (JDT).“
- SHriMP = **S**imple **H**ierarchical **M**ulti-**P**erspective