Introduction to Subversion and the Eclipse Subversion plug-in

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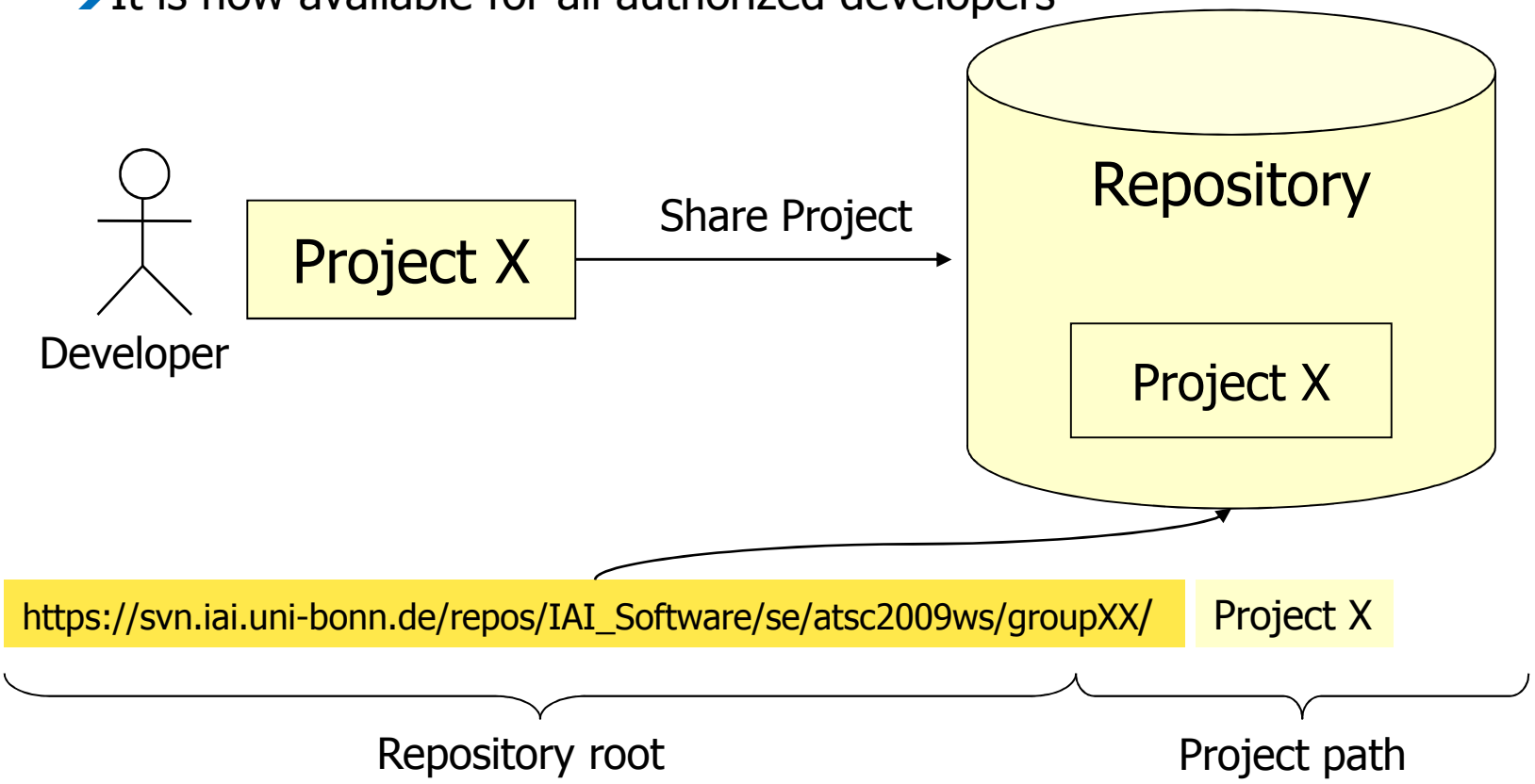
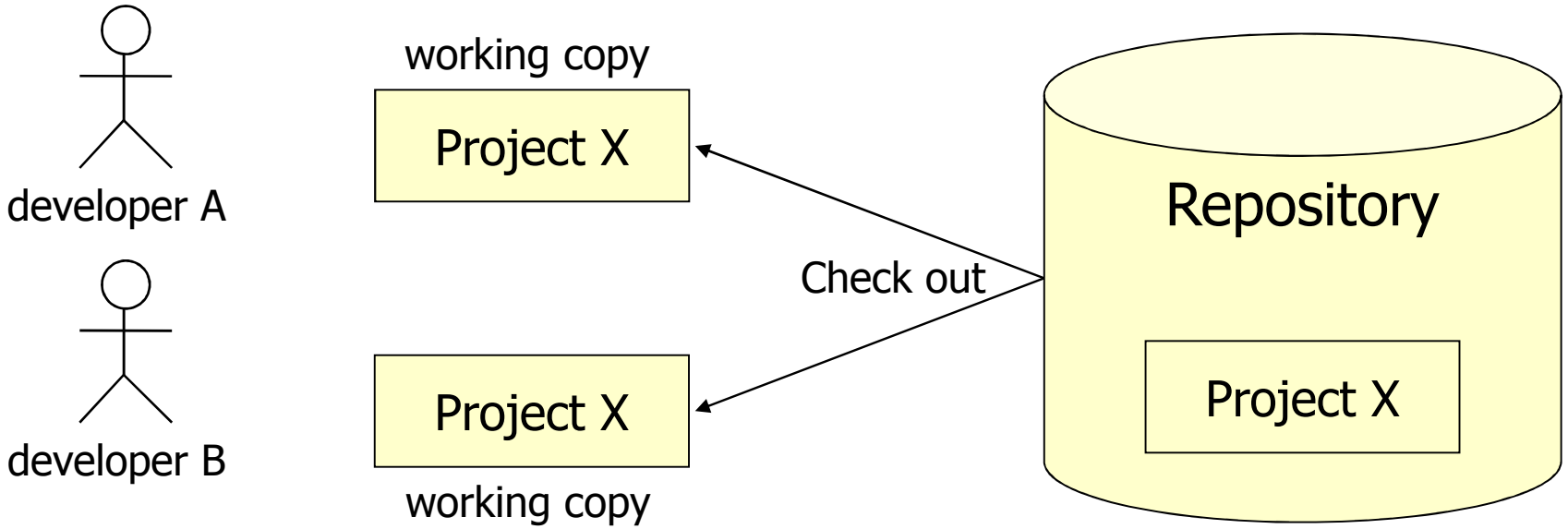
Sharing / Checkout: Put Project Under Version Control

- A repository exists
- Your project exists but you didn't share it.
- **Sharing:** The project is added to the repository
  - ➔ It is now available for all authorized developers



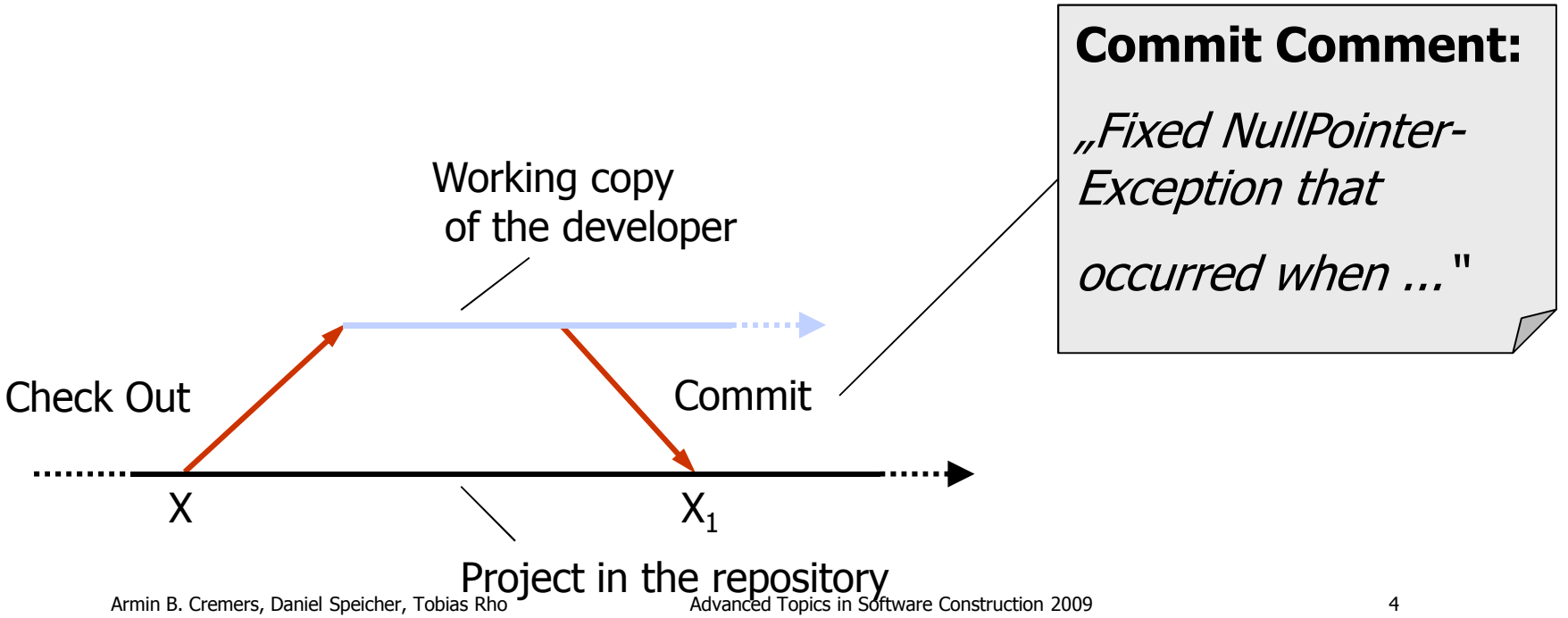
Check Out: Initial Project Download

- Developers check-out the project
  - get a local **working copy**
- From now on they can work on the project
- Check-out is only done once!
  - Get new versions → **Update**



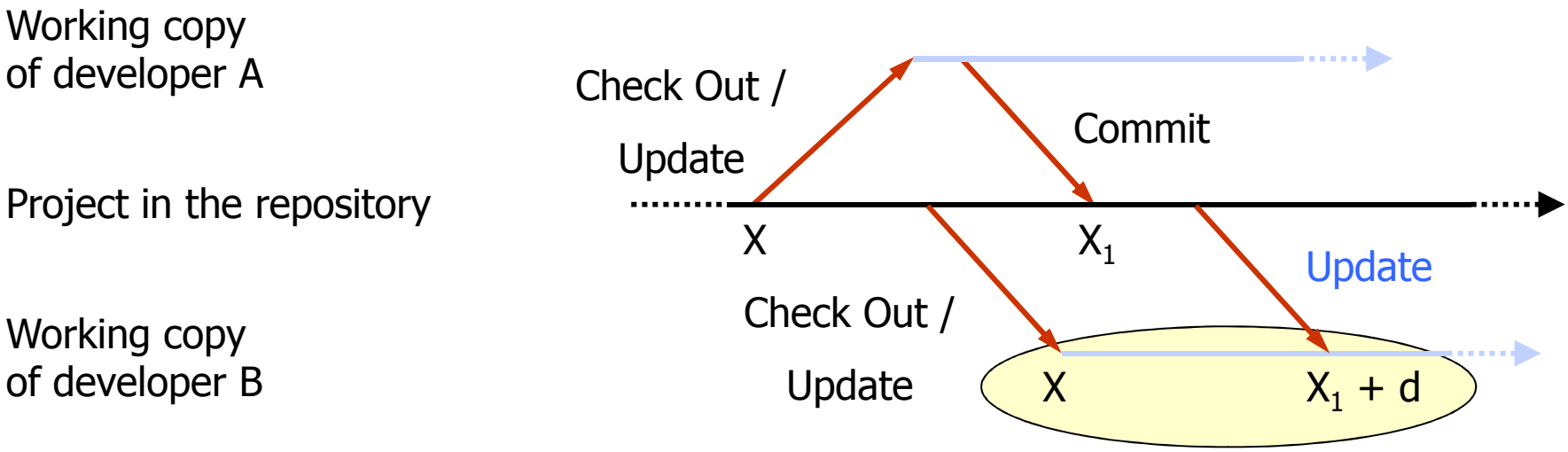
Commit: Writing Changes To The Repository

- The developer changes his working copy
- He adds his changes to the repository (Commit)
- A Commit Comment describes what has changed and why



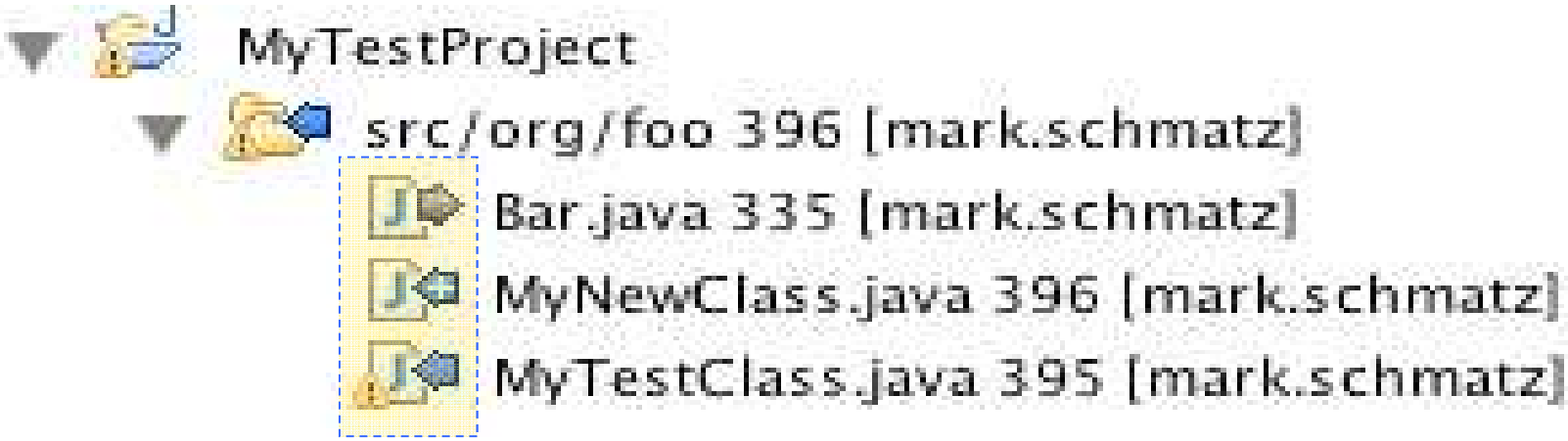
Update: Get Latest Changes From the Repository

- Updates the working copy with the **current state** of the repository
- Problem: Changes are not verified
- Better: → Use „**Synchronize**"

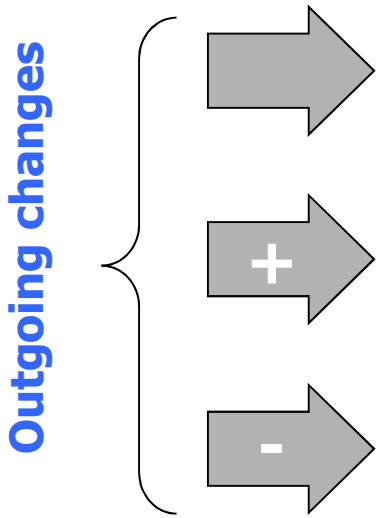


Synchronize: Synchronize The Project

- Motivation
  - Compare the local version and the repository version
    - automated overview comparison
    - automated detailed comparison
  - Decide yourself what to copy
  - Perform selective update or commit
- Automated overview comparison
  - Comparison at project level



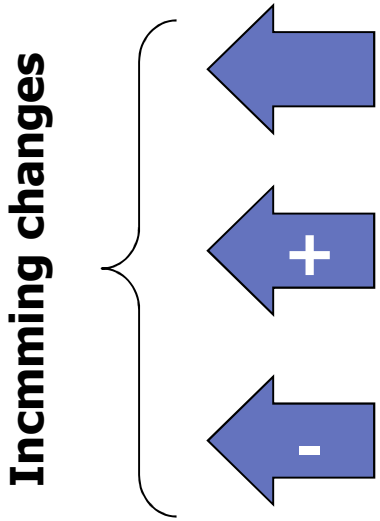
Synchronize: Meaning of Symbols in „Synchronize View“



File has been changed locally and exists in the repository
→ Copy local version into the repository

File has been added locally and doesn‘t exist in the repository
→ Add the file to the repository

File has been deleted locally and exists in the repository
→ Delete the file from the repository



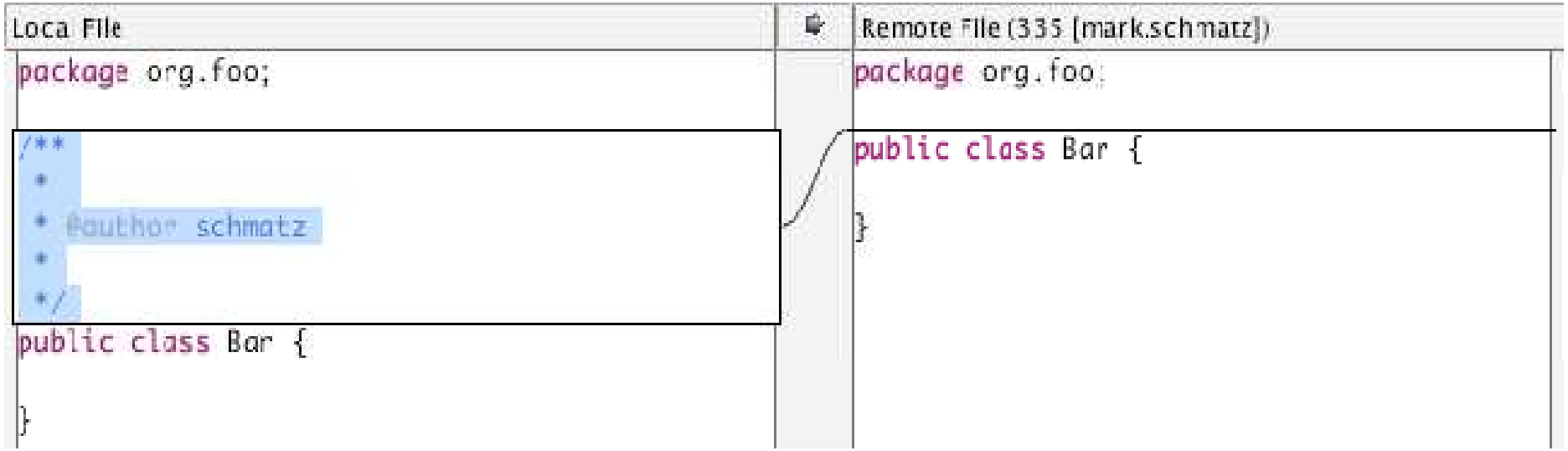
File has been changed in the repository and exists locally
← Copy repository version into the the working copy

File has been added to the repositoryand doesn‘t exist locally
← Add the file to the local workingcopy

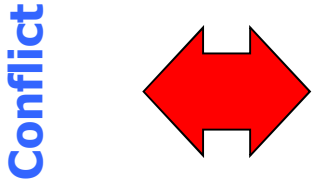
File has been deleted from the repository and exists locally
← Delete the file from the local workingcopy

Synchronize: Automated Detailed Comparison

- ... opens the **Compare** window
  - The local workingcopy and the repository versions are compared
  - Selective updates are possible now
    - fine-grained: individual change



Synchronize: Synchronize The Project



File has been changed in the local working copy **and** in the repository
←→ Manual conflict resolution of the necessary

- Conflict resolution needs detailed comparison at file level
  - see next 2 slides

Solving Conflicts

- SVN / CVS helps comparing versions
- Programmer decides what to do
  - **„Overwrite and Update"**: overwrite local changes with repository version
  - **„Overwrite and Commit":** overwrite repository changes with local version
  - Merge the files „by Hand" and convert the conflict into an „outgoing change" by selecting „mark as merged" in the context menu