

# מודלים לפיתוח מערכות תוכנה

## Software Systems Modeling

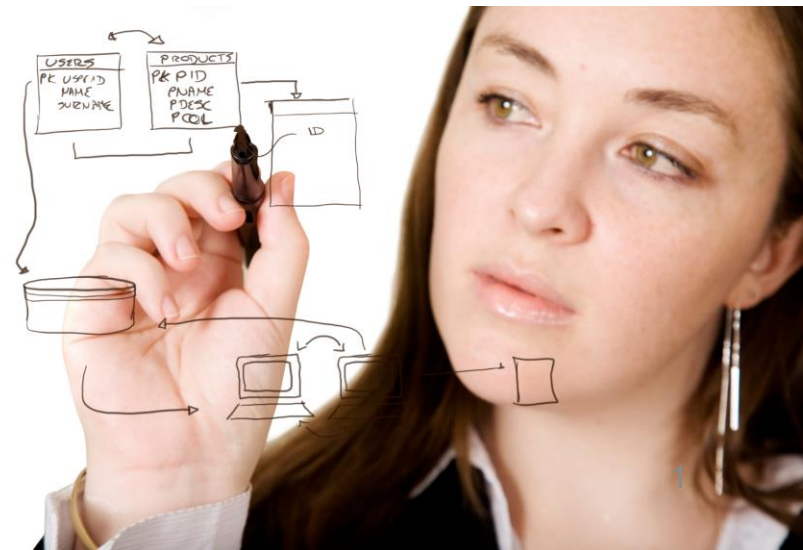
קורס 12003

סמסטר ב' תשע"ה

### 4. Git Modeling

### Cloud Computing Concepts - intro

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# הפעם

- git
  - ומידול
  - הדגמה לפרויקט
- CCC
  - מבוא
- תרגיל 1 – השלמה

# מקורות

- Git
  - The Architecture of Open Source Applications, Vol. II, Chap. 6. <http://www.aosabook.org/en/git.html>, 2012
  - “What’s Wrong with Git? A Conceptual Design Analysis” ([MIT paper](#), 2013)
  - www...
- Cloud Computing **Concepts**
  - Indranil Gupta, University of Illinois at Urbana-Champaign
  - <https://www.coursera.org/course/cloudcomputing>
  - <https://www.coursera.org/course/cloudcomputing2>

# Git Intro

- Distributed Version Control System
- Linux
  - Many contributors
  - Using tarballs / patches
  - BitKeeper & CVS
  - Linus develop alt. scripts, Goals:
    - Distributed workflows
    - Guard against content corruption
    - Performance

# Distributed VCS

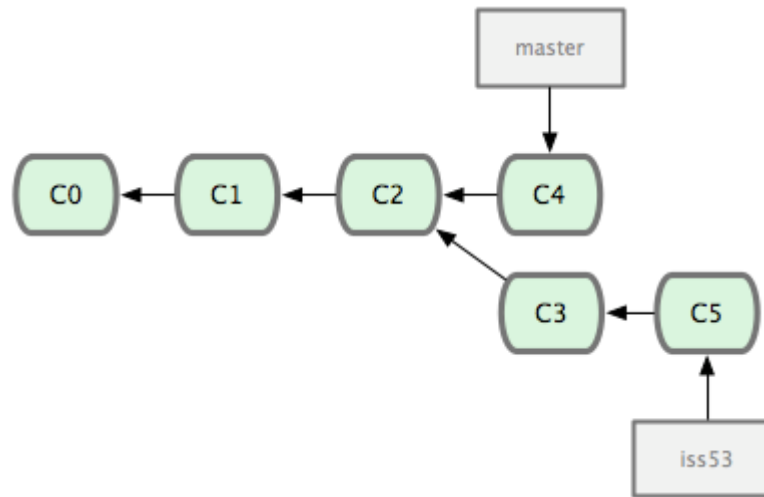
- Providing the ability for collaborators to work offline and commit incrementally
- Allowing a collaborator to determine when his/her work is ready to share
- Offering the collaborator access to the repository history when offline
- Allowing the managed work to be published to multiple repositories, potentially with different branches or granularity of changes visible
- Other: Bazaar, Darcs, Fossil, Mercurial, Veracity

# VCS Core Req.

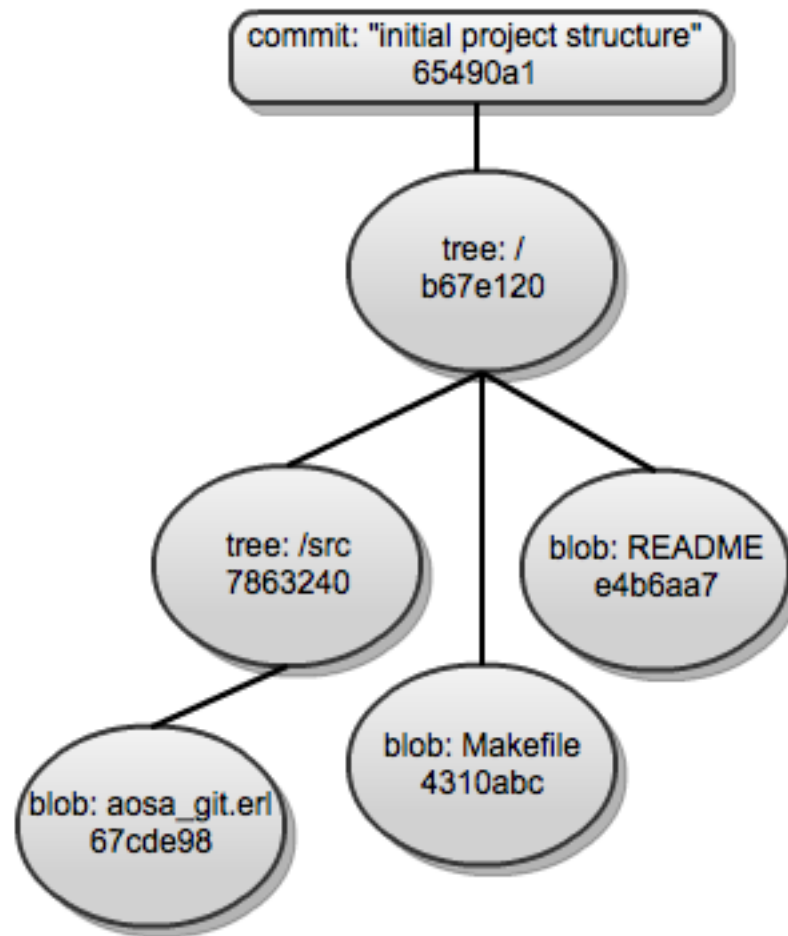
- Storing content
- Tracking changes to the content (history including merge metadata)
- Distributing the content and history with collaborators
- => Design

# Content

- DAG



# Commit and Merge Histories



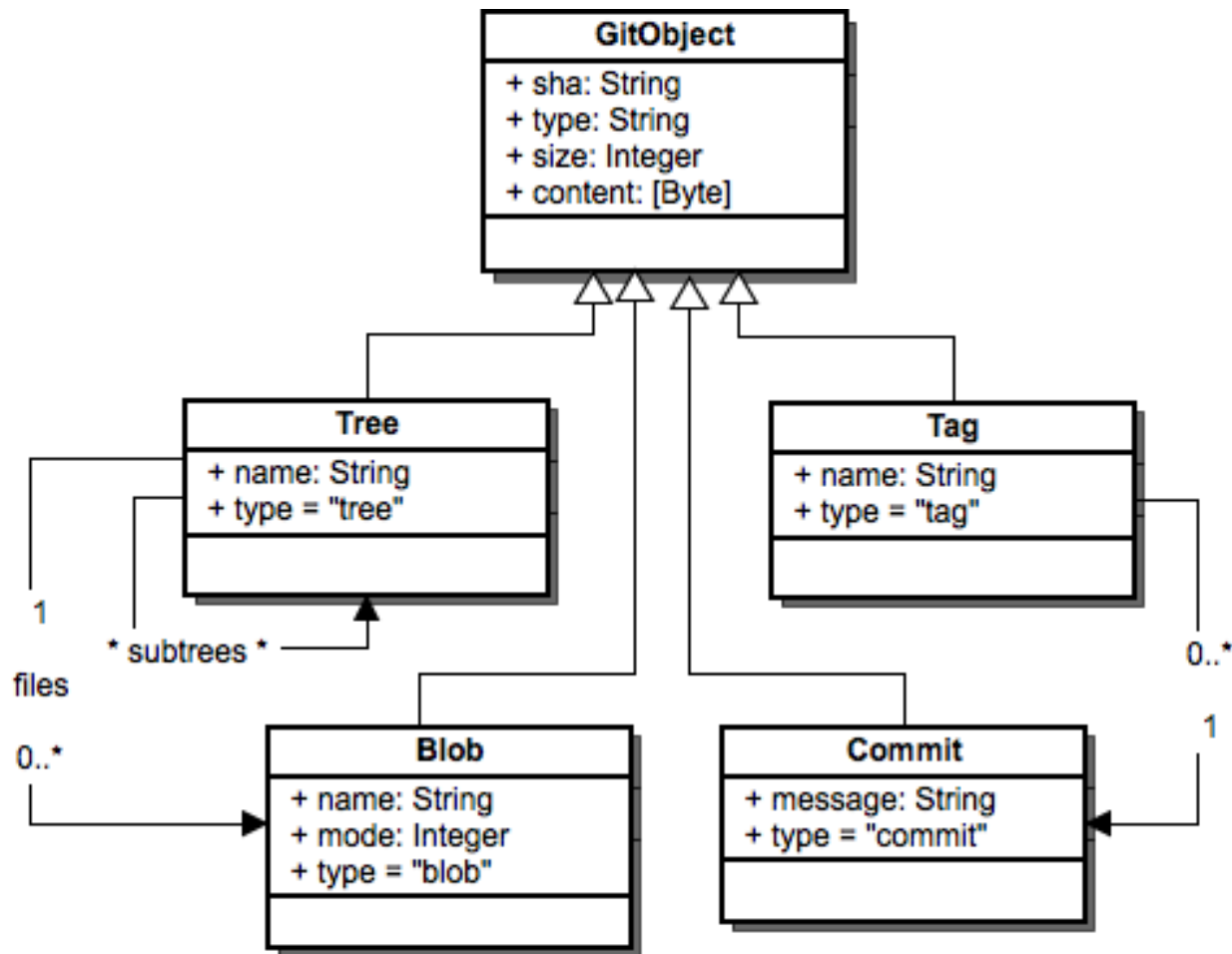


# Git 3 Trees

# Git Init

```
tree .git/  
.git/  
|-- HEAD  
|-- config  
|-- description  
|-- hooks  
|   |-- applypatch-msg.sample  
|   |-- commit-msg.sample  
|   |-- post-commit.sample  
|   |-- post-receive.sample  
|   |-- post-update.sample  
|   |-- pre-applypatch.sample  
|   |-- pre-commit.sample  
|   |-- pre-rebase.sample  
|   |-- prepare-commit-msg.sample  
|   |-- update.sample  
|-- info  
|   |-- exclude  
|-- objects  
|   |-- info  
|   |-- pack  
|-- refs  
    |-- heads  
    |-- tags
```

# Object Database



# Cons

- IDE Integration (not anymore really)
- Script based (“)
- Toolkit => complexity / confusion for users

# סיכום

• OCL

– דוגמאות <https://github.com/jcabot/ocl-repository>

• בהמשך

– MDA/MDSE

– Eclipse Ecore/EMF