Mining Version Histories to Verify the Learning Process of LPP

• Mining the Boundary of Openness of an Open Source Software Project
• Explore if we can apply Open Source Development (OSD) Process to Proprietary Software
• Show the Boundary of Openness during OSD

National Chiao Tung University
Shih-Kung Huang, Kang-min Liu
Method

• Team Members
  – Core= Relatively Important Developers
  – NonCore = All – Core

• Source Code
  – Kernel = All – NonKernel
  – NonKernel = \{d | d is touched by one of the NonCore\}

• Project Characteristic function
  – \( f(x) = \{y | y \text{ is the kernel ratio with respect to the core ratio of } x\} \)
  – Kernel Ratio = \((\text{Kernel Size})/\text{All}\)
  – Core Ratio = \((\text{Core Team Size}) / \text{All}\)
Conclusions

• Obtain the characteristic function of each project team
  – Reveal different team constitutions with varied involvement in the software

• An Implication to develop a hybrid software process model to embed OSD into commercial software.
  – OpenDarwin: Mac OS X
  – Helix: Real Network Server