This following Elective is the second of the three electives in collaboration with Anna University – KBC Research Centre, MIT Campus under the project supported by DIT.

## CA4953  Enterprise Application Development using FOSS

| SE | 4Hrs/week |
|---|---|
| | (2 Hrs. Theory + 2Hrs. Lab Tutorial) |
| II Year/ V Semester | 4 Credits |

**Objective:** The user will become proficient in Software Development processes, Databases, Middleware components to be productive in a software development environment that uses OSS components. Improved ability to review OSS code

Total: 45 hours Pre requisite: FOSS Elective -- I OR Familiarity with its contents.

**Unit -- 1: Open Standards for Enterprise Applications 9 hrs.**

Application examples from Banking and e-Governance, Enterprise level requirements, Layered Architecture applications, Open Standards, Royalties, FOSS Licensing & Business models

**Unit -- 2: FOSS Development Methodology & Tools 9 hrs.**

Collaborative Software Development : FOSS Community structure & dynamics, Mailing lists, chat, wiki, messaging, Integrated Development Environments, Version Control (tagging, branching, merging), Issue tracking (bugs, new features), Documentation. [Recommended tools: Eclipse, Subversion, Trac/Scarab, Mediawiki, LaTeX]

**Unit -- 3: Presentation Layer 9 hrs.**

Client Environment : Browsers (extensions, cookies, applets), Hand-held devices, Thin clients, Web page design & Client-side scripting (XHTML, WML, AJAX, CSS, XSL). [Recommended tools : Firefox, Nvu, Open Office web module] Spring.

**Unit -- 4: Datastore Layer 9 hrs.**

Data modeling refresher : RDBMS fundamentals, Dublicore, Database Administration : Access control, Security; Disaster recovers (Backups, Replication). [Recommended tools: MySQL] .  Hibernates.

**Unit -- 5: Business Logic Layer 9 hrs.**

Model View Controller (MVC) Framework, Server-side programming (CGI, page tempaltes), Data access, database connectivity , Report generation. [Recommended tools: PHP, Apache, adodb, php-pdf]

# REFERENCES:

Text book:

"*Enterprise Application Development using FOSS",* ed. NRCFOSS Team, An NRCFOSS (Anna University) Publication, -- being published
Reference books :
1. **"*Understanding Open Source Software Development"***, J Feller and B Fitzgerald, Addison Wesley 2002
2. ***"Shared leadership in the Apache project"*** Fielding RT..CACM,42(4), April 1999.
3. ***"A case study of Open Source development: The Apache Server",*** A Mockus, RT Fielding,and J Herbsled.ICSE'2000
4. ***Harnessing Hibernate,*** **James Elliott, Tim O'Brien, Ryan Fowler.**
5. ***Hibernate in Action,*** **Christian Baner and Gavin King.**

URLs: http://wiki.go-opensourse.org
http://www.utoronto.ca/ian/talks/
http://www.w3.org
http://www.openldap.org.
URLs: http://www.tutos.org
http://opensource.mit.edu/papers/mockusapache.pdf
URLs: http://developer..mozilla.org/en/docs/AJAX
http://www-128.ibm.com/developerworks/web/library/wa-ajaxintro1.html
http://developer.mozilla.org
http://www.tricknology.org/foilware/
URLs: http://java.sun.com/blueprints/patterns/FrontCont roller.html
http://java.sun.com/blueprints/patterns/MVC.html
http://struts.apache.org/