Chapter 8

System Development

8.1 System Development

During the development phase preliminary studies on HIS System, Knowledge Base and Search Engine was done. Careful planning was done on methods and tools to be used. A modular approach was followed to build this project.

The development phase is divided into two secondary phase: Study and Construction & production readiness. In the study phase all the required materials were gathered and a detailed study was made of HIS Systems, Search Engine techniques and methods. Parsing and text extraction from Non-Web documents is a challenging task and so enough time was given to learn and use them.

In the construction stage all subsystems, modules and components of On-coSys were fully documented. Earlier test results were reviewed and operational support arrangements were finalized during production release stage.

The Production Readiness Stage ends with successful completion of the Production Readiness Review marked the completion of production reading stage. This review affirms that Testing has been successfully completed and
OncoSys is suitable for use.

**Tasks done in the development phase were:**

- Allocate the resources to support the current software
- Acquired equipments required
- Performed module construction and application assembly of reusable components, and complete integration
- Performed system testing activities to include functionality testing, compatibility testing etc.

### 8.1.1 Software Development and Construction

Application code, databases, interfaces, and code to integrate subsystems in the OncoSys are constructed during the Development Phase. The points applicable during the software development are:

- To enhance documentation and maintainability of software, whenever possible, changes to OncoSys application code will be implemented using C#. For later enhancement or maintenance, features can be added according to the need of the developer and physician. Since Object Oriented Programming principles are followed, coding enhancement can be done very easily and effectively.
- The concept, tool and technique used during the development of product will be reviewed by the physician and administrator to evaluate the efficiency, accuracy, completeness and the utilization.
- The software developer will thoroughly document and test the components of software where the supporting documentation will be reviewed
by the Physician and Administrator for efficiency, completeness, and ease of use. The supporting documentation will be reviewed by the Physician and Administrator for efficiency, completeness, and ease of use.

8.1.2 Integration

The components tested related to the software and its documentation are gathered into a functional system and subsystems with respect to the configuration management plans. The assembling component may be used to build the entire application. A verification of the installed component would be conducted to evaluate the installation procedure work. The developer will update and complete the documentation related to the system design and support as per the applicable guidelines. Adding features to the application should be done with proper guidance because a bad modular development may lead to slowing down the application. The documentation of the entire steps involved with the integration shall be documented. Integration is completed when the entire OncoSys has been assembled, integration level testing has been performed.