

## **Change Control**

So far, we have assumed that the nature of the deliverables has not changed. When a document such as the user requirements is being developed there may be many different versions of the document as it undergoes cycles of development and review. Any change control process at this point would be informal and flexible. At some point what is assumed to be the final version will be created. This is baselined, effectively frozen. Baselined products are the foundation for the development of further products - for instance interface design documents may be developed from baselined user requirements.

### **Changes in scope of a system**

A common occurrence with IS development projects is for the size of the system gradually to increase. One cause of this is changes to requirements that are requested by users. The scope of a project needs to be carefully monitored and controlled. One way is to re-estimate the system size in terms of SLOC or function points at key milestones.

### **Configuration librarian's role**

Control of changes and documentation ought to be the responsibility of someone who may variously be named the configuration librarian, the configuration manager or the project librarian.

### **The role of configuration librarian:**

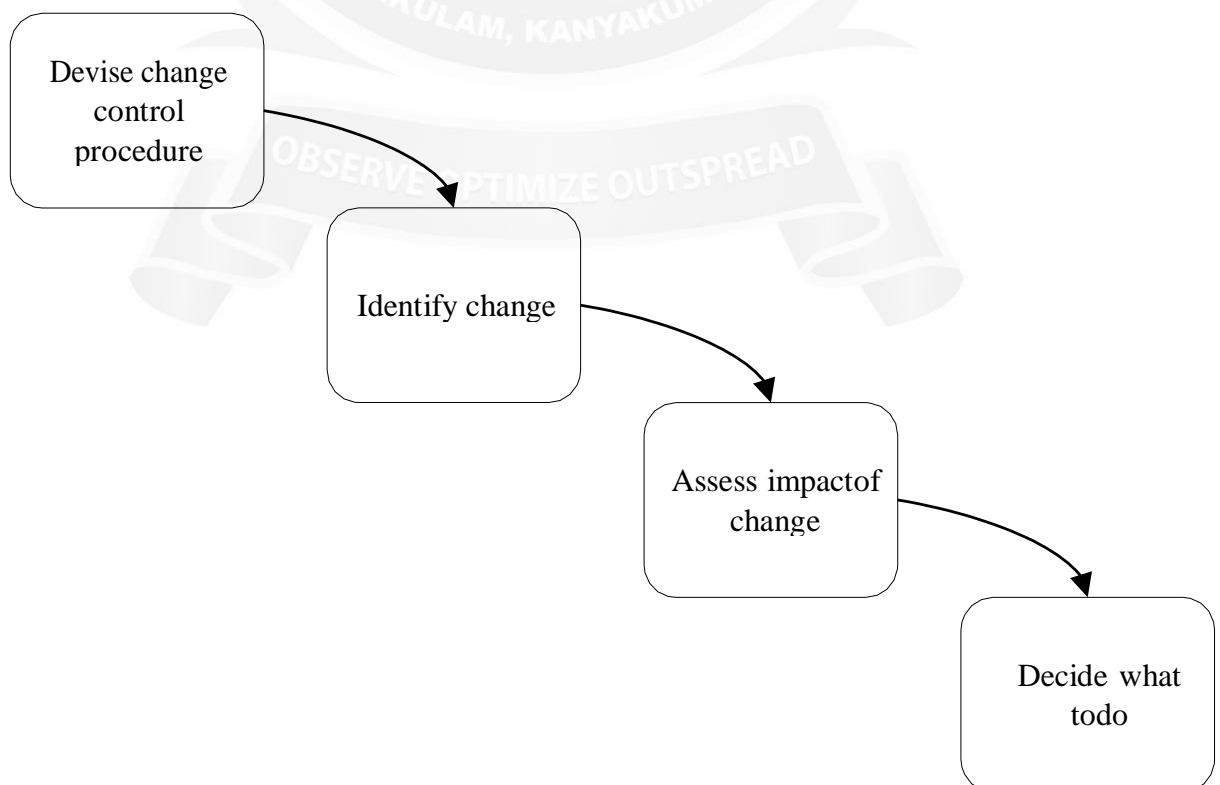
- **Identifying items that need to be subject to change control** - it is unlikely, for example, that a feasibility report would be subject to change control once agreement has been obtained to start the project
- **Management of a central repository of the master copies of software and documentation**
- **Administering change procedures** - It is important that someone ensures that there is adherence to change control procedures.
- **Maintenance of access records**- A situation to be avoided is where two different developers are making changes to the same software component.

### **Typical change control process**

- 1. One or more users might perceive the need for a change** - The user community itself must come to a consensus about whether a proposal for a change should go forward. A change deemed desirable by one part of the user community could cause opposition with other users.
- 2. User management decide that the change is valid and worthwhile and pass it to development management**

3. **A developer is assigned to assess the practicality and cost of making the change**
  - 2 and 3. This part of the process often involves a multipart form, initially raised by a user representative and then completed with a response by the developers.
4. **Development management report back to user management on the cost of the change; user management decide whether to go ahead** - There could be a change control board with user and developer representatives that oversees this decision-making process
5. **One or more developers are authorized to make copies of components to be modified** - The configuration librarian would control this release
6. **Copies modified. After initial testing, a test version might be released to users for acceptance testing** - Note that it is a copy that is modified; the original would still exist as the current operational version
7. **When the development of new versions of the product has been completed the user management will be notified and copies of the software will be released for user acceptance testing.**
8. **When users are satisfied then operational release authorized – master configuration items updated** - The previous version of the configuration items would be archived but preserved. If there are unforeseen problems with the new version when it is made operational then a fall-back to the previous version could be considered

### Change control and configuration management



- **Change control**
  - Set of procedures to ensure that changes made only after a consideration of the full impacts.
- **Configuration management**
  - Version control to ensure that all changes are properly recorded and managed – and so that knock-on effects on other projects can be identified.

A definition of software Configuration Management

- “The process of identifying and defining the configuration items in a system,
- controlling the release and change of these items throughout the system life cycle,
- recording and reporting the status of configuration items and change requests,
- verifying the completeness and correctness of configuration items.”
- An engineering management procedure that includes
  - configuration identification
  - configuration control
  - configuration status accounting
  - configuration audit

#### **Difference between version control and change control is**

Version control is the management of changes to documents, computer programs, large web sites, and other collections of information.

Change control is a formal process used to ensure that changes to a product or system are introduced in a controlled and coordinated manner.