# Issues Related to Internationalization of E-Books

Sharad Garg, Ph.D.

[Sharad.garg@intel.com](mailto:Sharad.garg@intel.com)

Intel Corporation

There is worldwide trend to move paper textbooks to digital format.  Many major text book publishers are already converting their paper books to e-content. E-textbooks provide several benefits over paper book. Few examples:

- Lower cost to produce
  - Produce once, use/distribute multiple time
- Portability
- Richer content
- Easy to distribute
- Ease-of-use
- Easy to modify and produce updated editions

However, E-textbooks pose several challenges and issues. Here are few to mention:

- Un-authorized access: can be easily copied and distributed.  Although, there are DRM solutions to prevent un-authorized copies, however, existing DRM solutions can be circumvented.
- Distribution:
  - Need Internet connectivity to distribute e-textbook over Net. There are still many places around the world with low bandwidth or no connectivity.
- DRM:
  - Multiple DRM solutions exist each with its own strengths and weaknesses. No common DRM for future textbook formats. Existing DRM solutions may not be sufficient for future e-textbooks.
- Metadata:
  - Metadata plays an important part of e-books. Metadata is used to define e-book properties. For example,
    - subject
    - grade level
    - age group
    - publisher info
    - e-book identification # (ISBN)
    - price
    - etc
- Internationalization issues
  - Localization: translation to different languages without losing content, functionality, and interactivity

- o Different editions could be targeted towards different Geos: E.g., DVD content is produced and restricted for different geos. In the future, e-books may follow a similar guideline, thus, restricting distribution outside of permissible geo.

- Different countries and geos may have different guidelines, standard and government policies regarding several issues mentioned above.

For a successful worldwide e-book publishing and deployment, several issues mentioned above must be resolved. In this work, we will work with publishers/academia, investigate these issues, and propose solutions. In addition, proposal for standards will be developed as needed.

Internationalization of e-books is a key part of broad success and adoption of e-books. We would like to discuss several of these issues in the conference, propose formation of working groups and investigate solution.