

Professional, Scholarly and Enterprise Publishing: Moving Beyond the PDF



How publishers and companies embrace the latest generation ebook format (epub3) to improve mobility, accessibility and interactivity.

6 A disease that manifests slowly and is present for a long period is said to be:

- a Acute
- b Asymptomatic
- c Chronic
- d Congenital

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Presented by John L Lardee
Senior Project Manager eBooks, Apps and Mobile
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Date 29 May 2014

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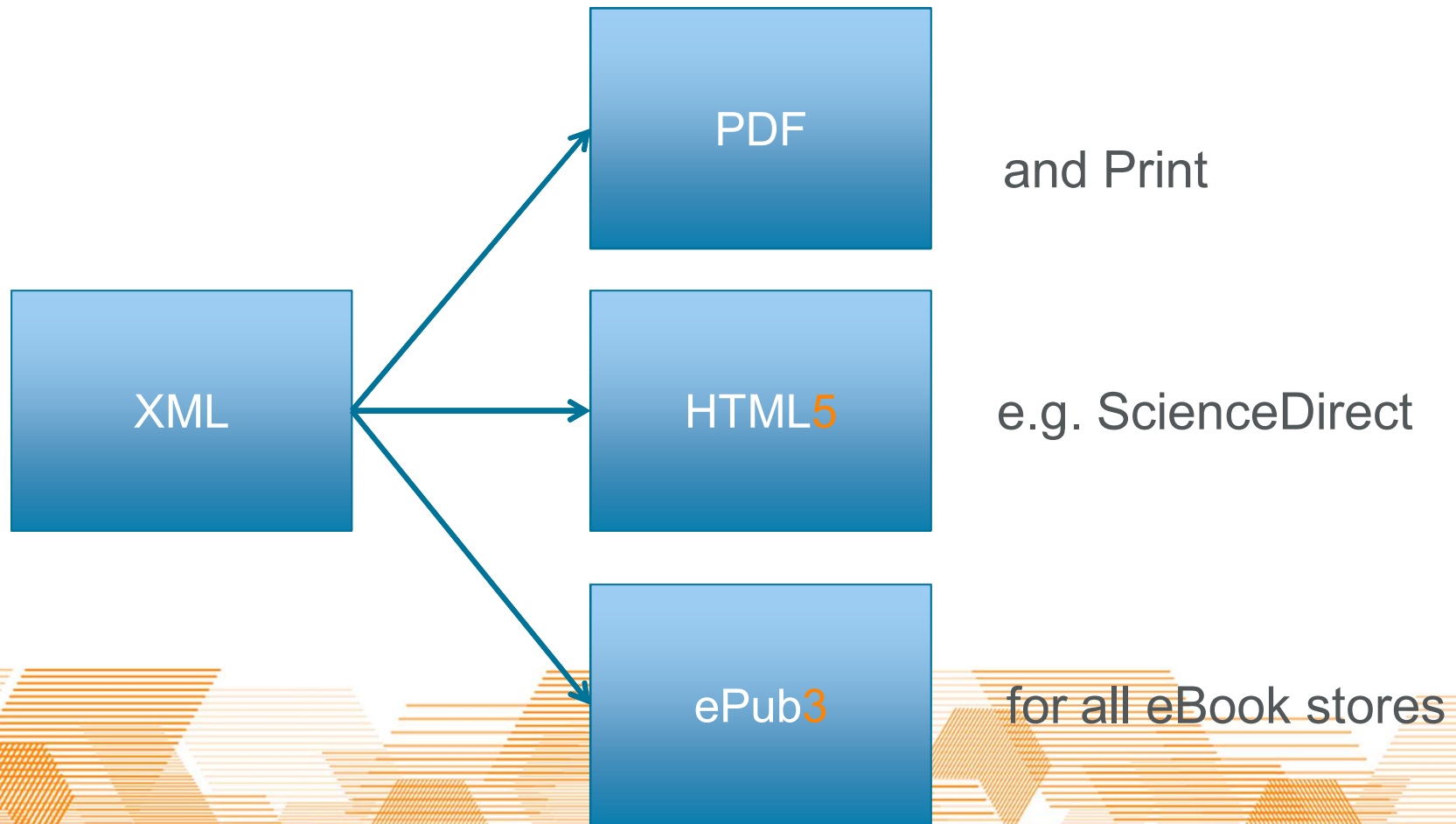
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From ePub2 to ePub3



Since March this year, Elsevier moved over to the ePub3 format (from epub2) for all front list titles.

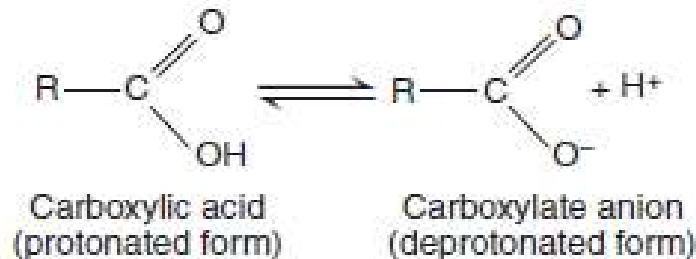
Now we can cater for some basic needs:

- Better navigation, accessibility and mathml support (*this first step is ePub3 Basic*)

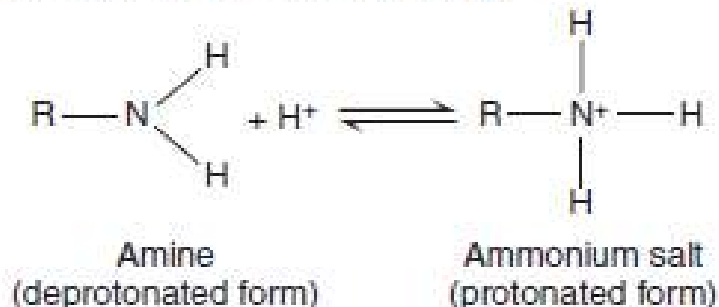
And some more advanced needs (ePub3 Enhanced):

- Interactive elements like video, quizzes, tables

carboxyl group, which is the distinguishing feature of the organic acids:



The protonation-deprotonation reaction is reversible; therefore, the carboxyl group is a Brønsted-Lowry acid. Amines are also basic molecules. In their ammonium salt is the conjugate acid:



Carboxyl groups, phosphate esters, and phosphodiester are the most important acidic groups. They are mainly deprotonated and negatively charged at pH 7. In layout, navigation and many elements like figures, tables and now also interactivities.

IONIZABLE GROUPS ARE CHARACTERIZED BY THEIR pK VALUES

The equilibrium of a protonation-deprotonation reac-

This equation is called the **Henderson-Hasselbalch equation**, and the pK value is defined as the negative logarithm of the dissociation constant. The pK value is a property of an ionizable group. If a molecule has more than one ionizable group, then it has more than one pK value.

In the Henderson-Hasselbalch equation, pK is a constant, whereas $[\text{R}-\text{COOH}]/[\text{R}-\text{COO}^-]$ changes with the pH. When the pH value equals the pK value, $\log [\text{R}-\text{COOH}]/[\text{R}-\text{COO}^-]$ must equal zero. Therefore $[\text{R}-\text{COOH}]/[\text{R}-\text{COO}^-]$ must equal one: *The pK value is the pH at which the ionizable group is 50% protonated.* At pH values below their pK (i.e., low $[\text{H}^+]$ or high alkalinity), ionizable groups are mainly protonated. At pH values above their pK (i.e., high $[\text{H}^+]$ or low alkalinity), ionizable groups are mainly deprotonated (*Table 1.4*).

CLINICAL EXAMPLE 1.1: Acidosis

Blood and extracellular fluids have to provide a constant environment for our cells. Physiological levels of inorganic ions have to be maintained, and maintenance of a constant extracellular pH of 7.3 to 7.4 is required. Deviations from the normal pH by as little as 0.5 pH units can be fatal. An abnormally high pH of blood and extracellular fluids is called alkalosis, and an abnormally low pH is called acidosis. Acidosis is caused by metabolic derangements leading to excessive formation of acidic products from nonacidic substrates. For example,



Some toxins are converted into acids in the human body, causing acidosis. For example,

Table of Contents



Table of Contents sidebar items:

- Preliminary Solutions Assessment
- Quick Scan Life Cycle Assessment
- Evaluation of the Design
- Portable equipment/appliances
- Hand-held equipment/appliances
- Moveable equipment/appliances
- Chapter 5. Acquiring Sustainable Design Competences
 - Teaching Sustainable Development
 - Sustainability Complexity Transferred into Design Competences
 - Hints on Acquiring Key Competences
 - Appendix A. Supplementary data
- References
- Index
- Glossary

Main text area content:

This fifth chapter providing practical proven advice on how to acquire the sustainable design competences by teaching and self-education may provide the same joy the authors obtained by writing this book.

Appendix A. Supplementary data

The supplementary assumptions, equat various figures.

Figure list sidebar items:

- Figure 2.3
- Figure 2.4
- Figure 2.5

Main text area content:

departments or background (safety, health environmental (SHE), economics, and marketing) on LCA impacts, on social criteria: meeting government regulations, consumer need, social acceptance, human toxicity and human accidents, and on economic criteria. The score is qualitatively from 1 to 5 for both the new design and the reference case. The score of the new design and the reference case is placed in a so-called

Better TOC improves navigation

List of figures sidebar items:

- Table 5.1
- Table 5.2
- Table 5.3
- Table 5.4

List of figures

- Figures in Chapter 1
 - Figure 1.1
 - Figure 1.2
- Figures in Chapter 2
 - Figure 2.1
 - Figure 2.2



Figure list sidebar items:

- Figure 3.8
- Figure 3.9
- Figure 3.10
- Figure 3.11
- Figure 3.12

Figures in Chapter 4

- Figure 4.1
- Figure 4.2
- Figure 4.3
- Figure 4.4
- Figure 4.5

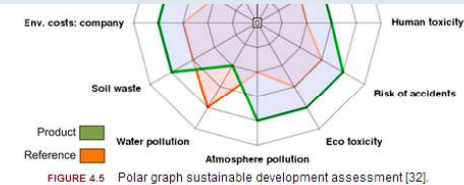
Figures in Chapter 5

- Figure 5.1
- Figure 5.2

Landmarks

- Audio and Video
- Table of Contents
- Cover Image
- Title Page

Select a page



This shows directly where the new design scores less favorably than the existing case. In general, this is unacceptable. The new design should at least be equal in all aspects and score significantly better on several aspects.

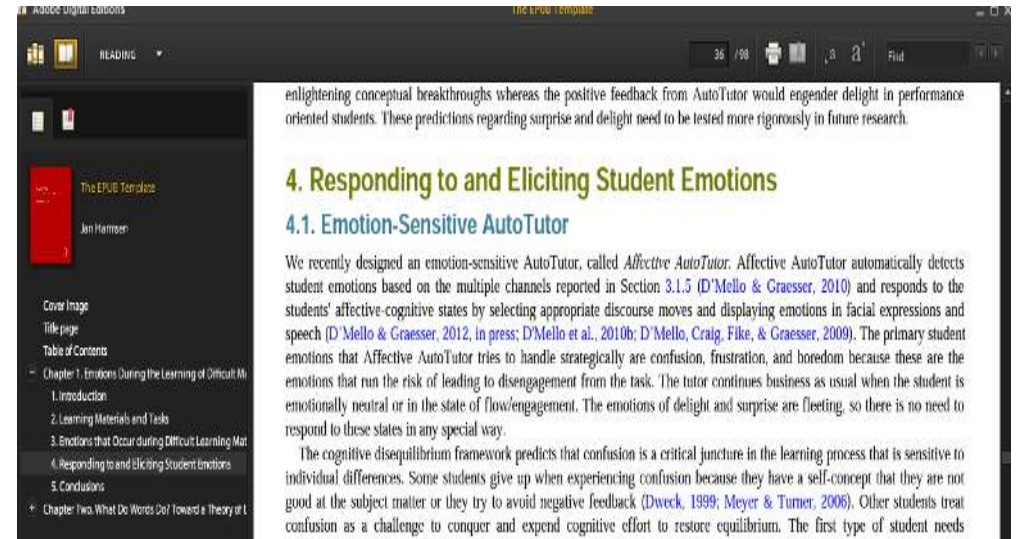
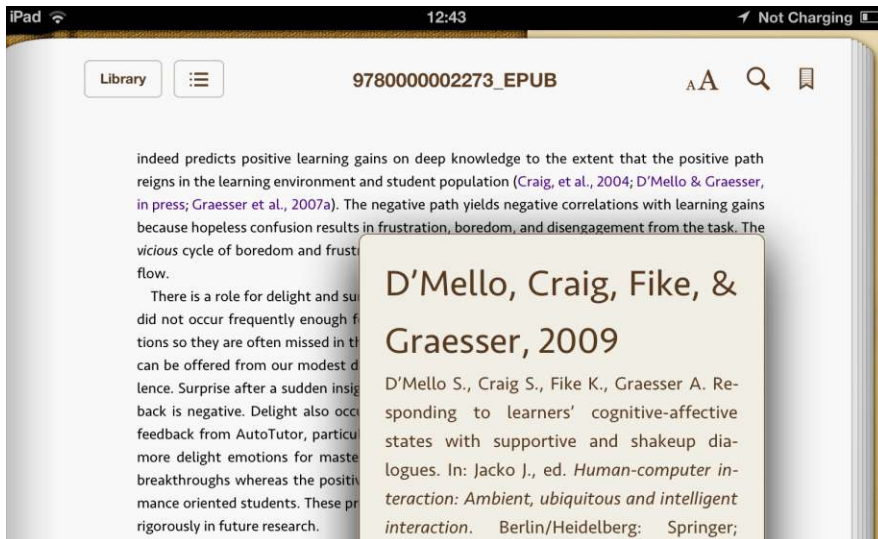
The strength of this method is that it is fast and that various performance aspects of the design can be directly analyzed and compared with the reference case. Only the relative difference to the reference case is important. The weakness is that it is subjective. However, by having a complementary panel this subjectivity is limited. The standard deviation of the panel score was in general sufficiently small to obtain meaningful assessment and outlier results can be discussed to obtain clarification.

This rapid method can also be used for rapid preliminary process design assessment.

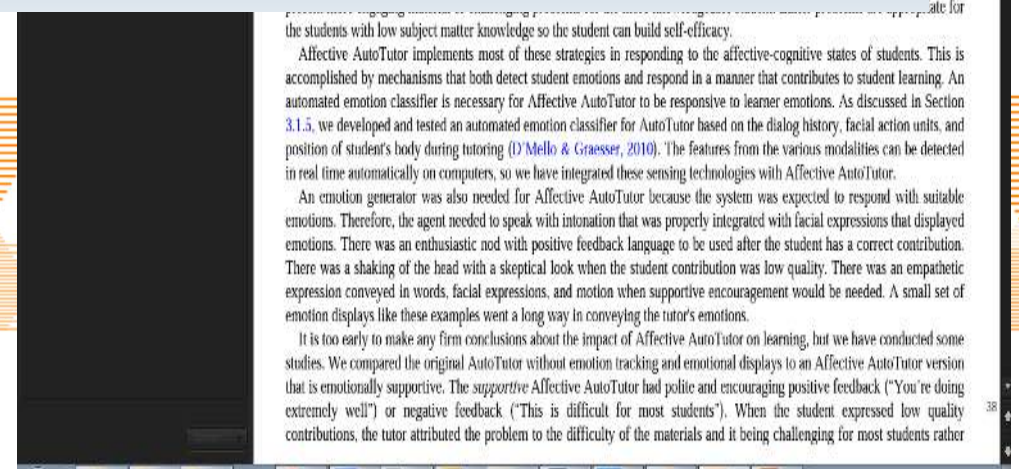
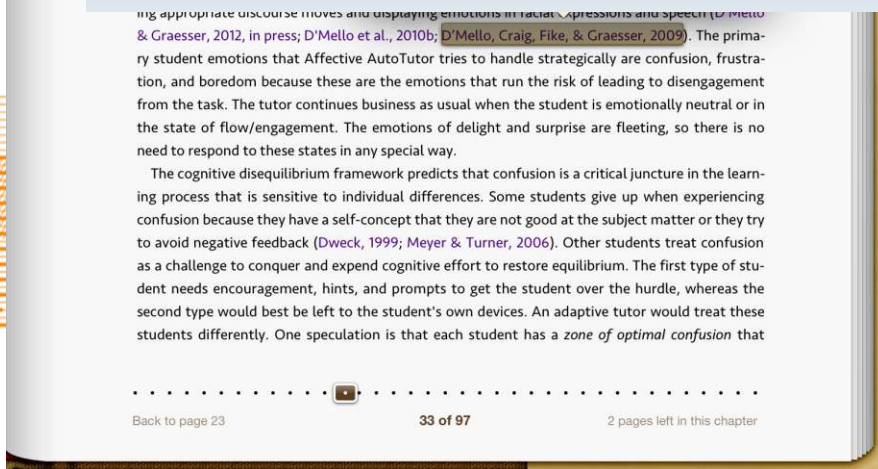
Scenario Set Building For Robustness Test To Future Uncertainties

A powerful tool for testing a new design on robustness to future uncertainties is making a set of scenarios. The scenarios are conceivable pictures of the future. Each scenario in the set should be based on different assumptions about the future resulting

Reference citations



Pop-ups improve navigation



ePub 3 – iBooks on iPad

ePub 2 – ADE

Interactive Table

BIOGEOCHEMISTRY



Table 3.6
Tropospheric Ozone Budget

Reset Table Show/Hide Columns

Search:

Source or sink	Pre-industrial	Present	Human impact
Stratospheric injection	+696	+696	0
Tropospheric production (i.e., dirty atmosphere reactions)	+199	+686	+487
Tropospheric sink (i.e., clean atmosphere reactions)	-435	-558	-123
Dry deposition	-459	-825	-366

Showing 1 to 4 of 4 entries

Note: All values in Tg (10¹² g) of O₃/year
Source: From Levy et al. (2007)

Better table navigation

stratospheric and tropospheric air (e.g., Hocking et al. 2007), where it contributes to the budget of ozone in the troposphere (Table 3.6). However, observations of high ozone concentrations in the smog of polluted cities (e.g., Los Angeles) alerted atmospheric chemists to reactions by which ozone is produced in the troposphere (Warneck 2000).

View interaction

Dry deposition	-459	-825	-366
----------------	------	------	------

Note: All values in Tg (10¹² g) of O₃/year
Source: From Levy et al. (2007)

When NO_x is present in the atmosphere, it is dissociated by sunlight (hv):



followed by a reaction producing ozone:



This reaction sequence is an example of a homogeneous gas reaction, that is, a reaction between atmospheric constituents that are all in the gaseous phase. The net reaction is



which is an equilibrium reaction, so high concentrations of NO tend to drive the reaction backward. Sunlight is essential to form ozone by these pathways, so they are known as photochemical reactions. At night, ozone is consumed by reactions with NO to form nitric acid (Brown et al. 2009):

Both NO_x and NO₃, collectively known as NO₃, are found in polluted air in which they are derived from industrial and automobile emissions.¹ Small concentrations of both of these

Quiz / assessment



RADIOGRAPHIC PATHOLOGY FOR TECHNOLOGISTS

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Submit

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Submit

Reset

9 The relative ease with which an organism can overcome normal bodily defenses refers to its:

- a Infection
- b Necrosis
- c Pestilence
- d Virulence

Submit

10 A neoplastic growth is evaluated to determine its degree of histologic differentiation. This is termed:

- a Grading
- b Metastasis
- c Morphology
- d Staging

Submit

11 Generalized increase in cell size refers to:

- a Hypertrophy
- b Atrophy
- c Metaplasia
- d Hyperplasia

Submit

12 Which of the following terms refers to abnormal changes of mature cells?

Thank you!



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