TeX as an eBook reader

Kaveh Bazargan

RIVER VALLEY
TECHNOLOGIES

What I'll say

What I'll say

A bit about River Valley

What I'll say

A bit about River Valley

A problem with eBooks

What I'll say

A bit about River Valley

A problem with eBooks

Our workflow

What I'll say

A bit about River Valley

A problem with eBooks

Our workflow

A solution for eBooks

What I'll say

A bit about River Valley

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Our workflow

A solution for eBooks

A bit about River Valley


Delhi
Calcutta
Bombay
Banglore
Madras
Trivandrum

2010

2005

2000

1995

1990

1985

1980

2010

2005

2000

1995

1990

1985

Physics (holography)

1980

TEX

TeX

Physics (holography)

2010

2005

2000

1995

1990

UK Company (Illustration, TeX)

1985

TeX

Physics (holography)

1980

2010

2005

2000

Visit India

1995

1990

UK Company (Illustration, TeX)

1985

TeX

Physics (holography)

1980

2010

2005

2000

Companies merged
Visit India

1995

1990

UK Company (Illustration, TeX)

1985

TeX
Physics (holography)

1980

2010

New campus completed

2005

2000

Companies merged
Visit India

1995

1990

UK Company (Illustration, TeX)

1985

TeX
Physics (holography)

1980

2010

New campus completed

2005

2000

Companies merged
Visit India

1995

1990

UK Company (Illustration, TeX)

4 acres

1985

TeX
Physics (holography)

1980

2010

New campus completed

2005

2000

Companies merged
Visit India

1995

1990

UK Company (Illustration, TeX)

4 acres
Eco-friendly

1985

TeX
Physics (holography)

1980

2010

New campus completed

2005

2000

Companies merged
Visit India

1995

1990

UK Company (Illustration, TeX)

1985

TeX
Physics (holography)

1980

4 acres
Eco-friendly
Rain water harvesting

2010

New campus completed

2005

2000

Companies merged
Visit India

1995

1990

UK Company (Illustration, TeX)

1985

TeX
Physics (holography)

1980

4 acres
Eco-friendly
Rain water harvesting
Fully accessible

2010

New campus completed

2005

2000

Companies merged
Visit India

1995

1990

UK Company (Illustration, TeX)

1985

TeX
Physics (holography)

1980

4 acres
Eco-friendly
Rain water harvesting
Fully accessible
Organic vegetable garden

2010

New campus completed

2005

2000

Companies merged
Visit India

1995

1990

UK Company (Illustration, TeX)

1985

TeX
Physics (holography)

1980

4 acres
Eco-friendly
Rain water harvesting
Fully accessible
Organic vegetable garden
Kitchen

2010

New campus completed

2005

2000

Companies merged
Visit India

1995

1990

UK Company (Illustration, TeX)

1985

TeX
Physics (holography)

1980

4 acres
Eco-friendly
Rain water harvesting
Fully accessible
Organic vegetable garden
Kitchen
Sports, yoga

We typeset Math journals and books

We typeset Math journals and books

140 staff

We typeset Math journals and books

140 staff

90 journals

We typeset Math journals and books

140 staff

90 journals

~ 200,000 pages per year

Clients

Clients

IOP

20 years

Clients

IOP

20 years

ELSEVIER

7 years

Clients

IOP

20 years

ELSEVIER

7 years

5 years

A problem with eBooks

A problem with eBooks

Bad line breaking

A problem with eBooks

Bad line breaking

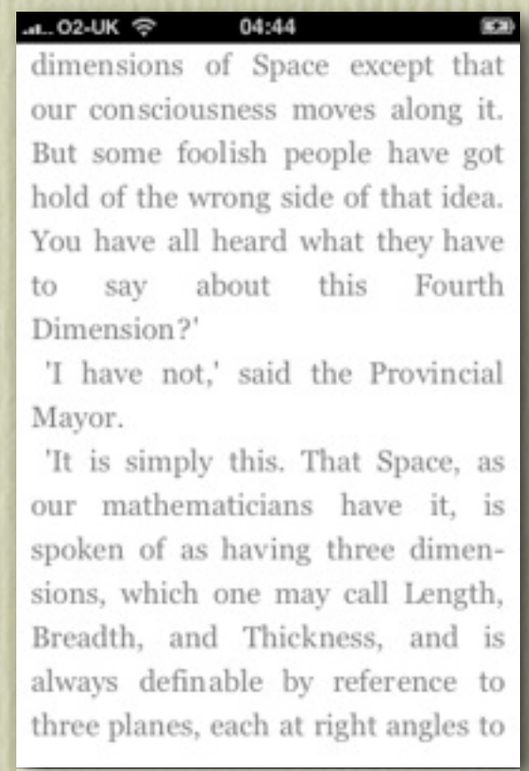
Hard to view math

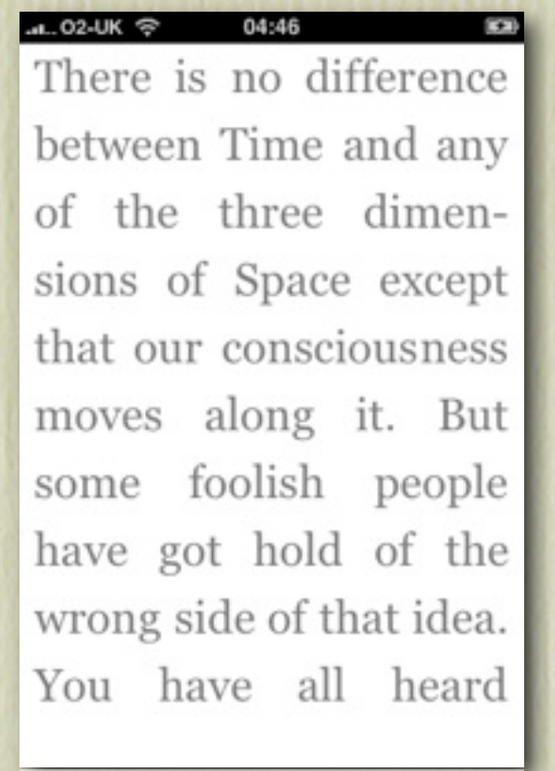
A problem with eBooks

Bad line breaking

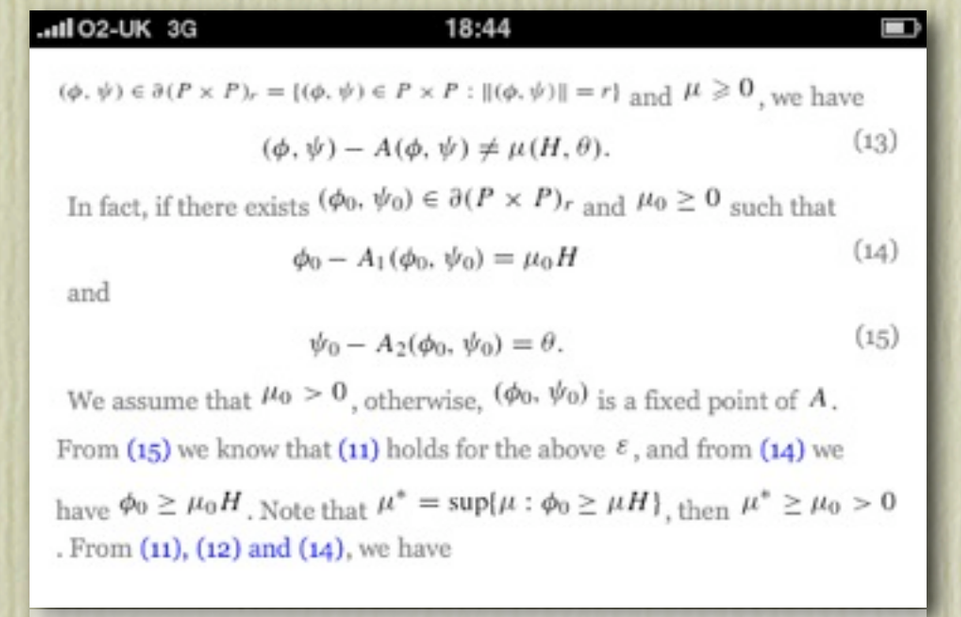
Hard to view math

Stanza


O2-UK
04:44
dimensions of Space except that our consciousness moves along it. But some foolish people have got hold of the wrong side of that idea. You have all heard what they have to say about this Fourth Dimension?'
'I have not,' said the Provincial Mayor.
'It is simply this. That Space, as our mathematicians have it, is spoken of as having three dimensions, which one may call Length, Breadth, and Thickness, and is always definable by reference to three planes, each at right angles to


O2-UK
04:46
There is no difference between Time and any of the three dimensions of Space except that our consciousness moves along it. But some foolish people have got hold of the wrong side of that idea. You have all heard

Stanza



O2-UK 3G 18:44

$(\phi, \psi) \in \partial(P \times P)_r = \{(\phi, \psi) \in P \times P : \|(\phi, \psi)\| = r\}$ and $\mu \geqslant 0$, we have

$$(\phi, \psi) - A(\phi, \psi) \neq \mu(H, \theta). \tag{13}$$

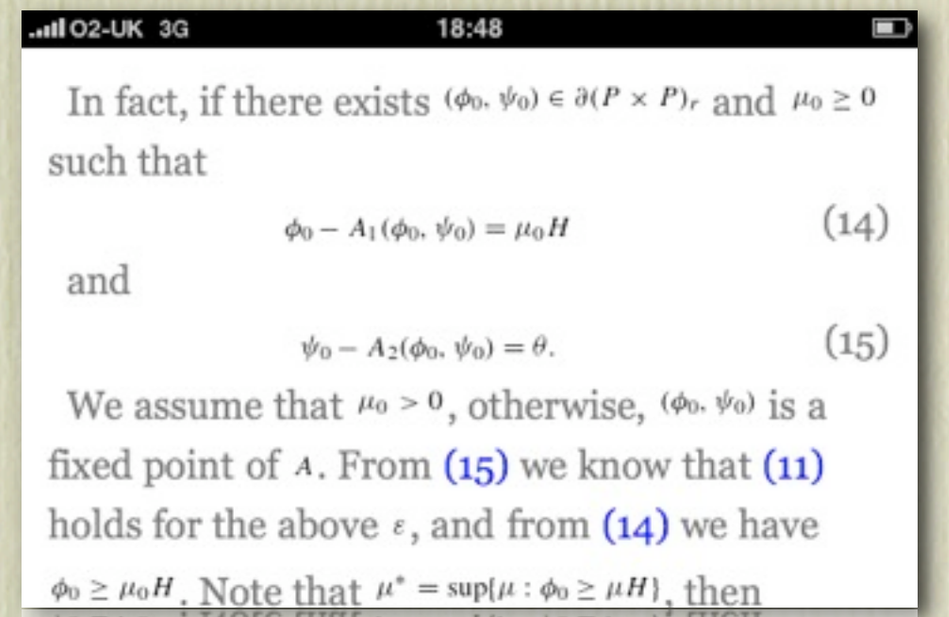
In fact, if there exists $(\phi_0, \psi_0) \in \partial(P \times P)_r$ and $\mu_0 \geq 0$ such that

$$\phi_0 - A_1(\phi_0, \psi_0) = \mu_0 H \tag{14}$$

and

$$\psi_0 - A_2(\phi_0, \psi_0) = \theta. \tag{15}$$

We assume that $\mu_0 > 0$, otherwise, (ϕ_0, ψ_0) is a fixed point of A. From (15) we know that (11) holds for the above ε, and from (14) we have $\phi_0 \geq \mu_0 H$. Note that $\mu^* = \sup\{\mu : \phi_0 \geq \mu H\}$, then $\mu^* \geq \mu_0 > 0$. From (11), (12) and (14), we have



O2-UK 3G 18:48

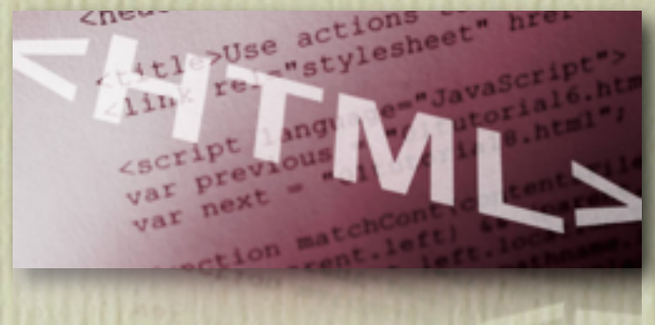
In fact, if there exists $(\phi_0, \psi_0) \in \partial(P \times P)_r$ and $\mu_0 \geq 0$ such that

$$\phi_0 - A_1(\phi_0, \psi_0) = \mu_0 H \tag{14}$$

and

$$\psi_0 - A_2(\phi_0, \psi_0) = \theta. \tag{15}$$

We assume that $\mu_0 > 0$, otherwise, (ϕ_0, ψ_0) is a fixed point of A. From (15) we know that (11) holds for the above ε, and from (14) we have $\phi_0 \geq \mu_0 H$. Note that $\mu^* = \sup\{\mu : \phi_0 \geq \mu H\}$, then



palm

Adobe® PDF

MOBIPOCKET

amazon

SONY

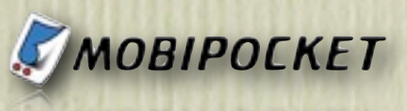

HTML


ePUB

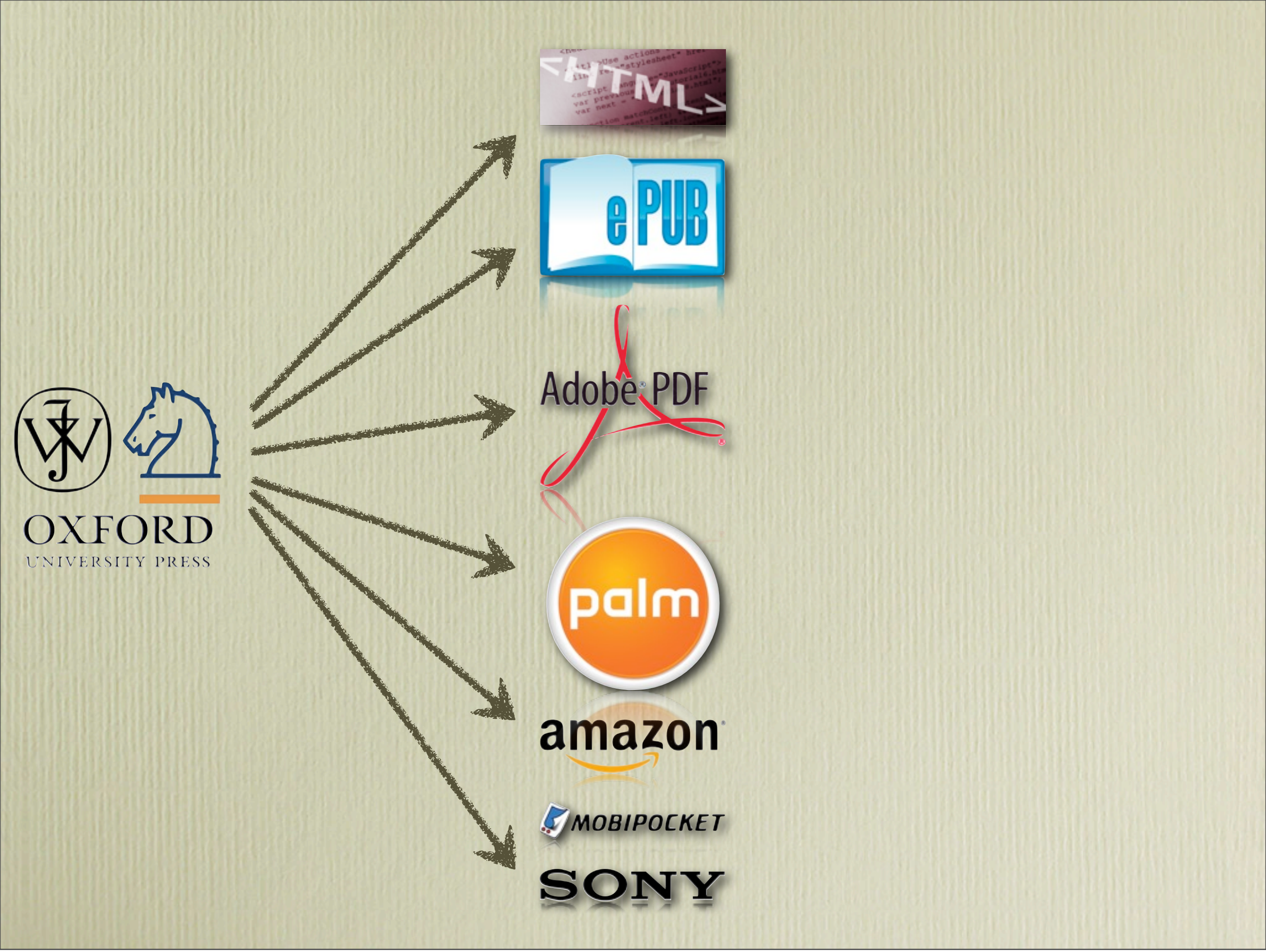

Adobe PDF


palm


amazon


MOBIPOCKET


SONY

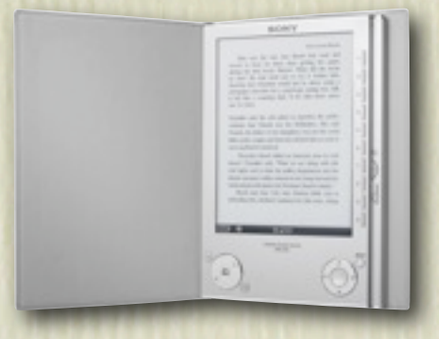

OXFORD
UNIVERSITY PRESS
HTML
ePUB
Adobe PDF
palm
amazon
MOBIPOCKET
SONY

How it should be

How it should be

OXFORD
UNIVERSITY PRESS

ePUB



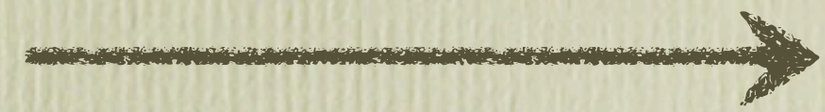
?

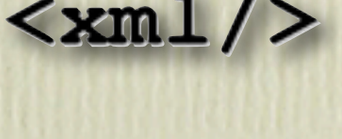
How we work

The deliverables

The deliverables

TEX



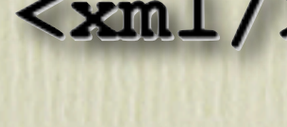


$$M = E - e \cdot \sin(E)$$

...

Traditional route

TEX

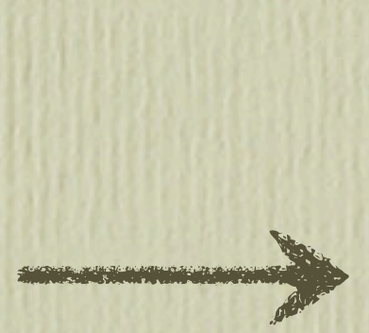


$$M = E - e \cdot \sin(E)$$

...

Traditional route

TEX



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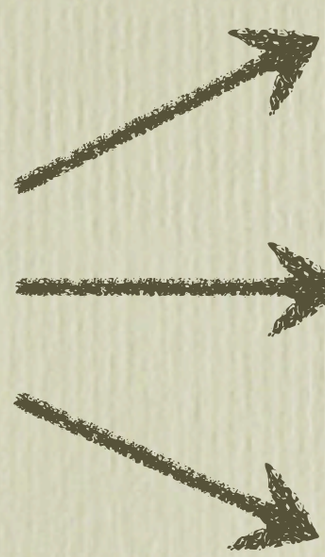

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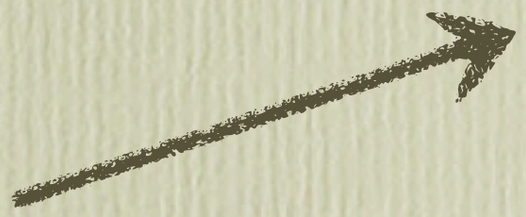
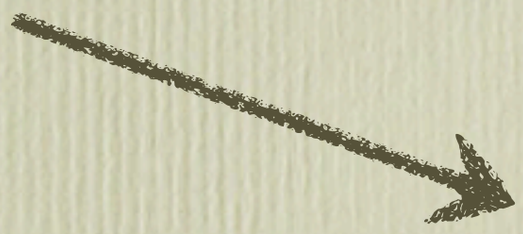
$$M = E - e \cdot \sin(E)$$

...

Nightmare scenario

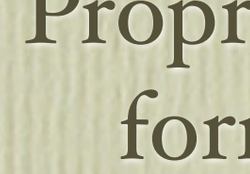
Proprietary format

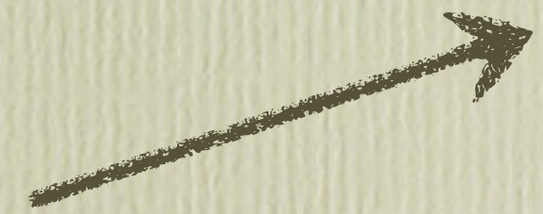


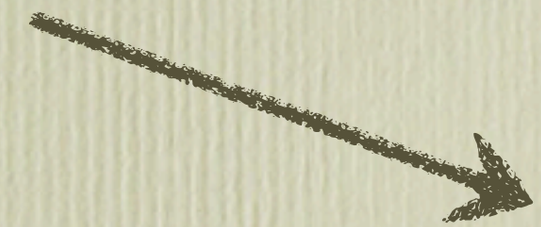


Nightmare scenario

Proprietary format

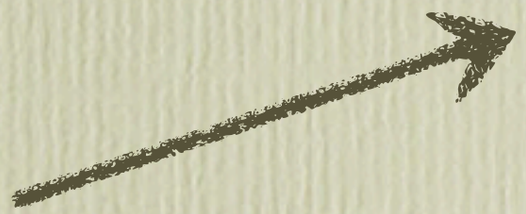




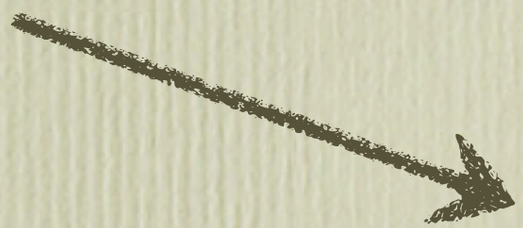


Nightmare scenario

Proprietary format Σ



Adobe PDF Σ



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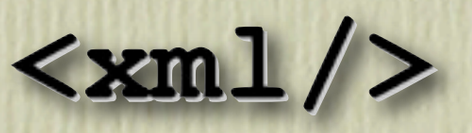
Nightmare scenario

Proprietary format Σ

Adobe PDF Σ

<xml/> Π

Our solution



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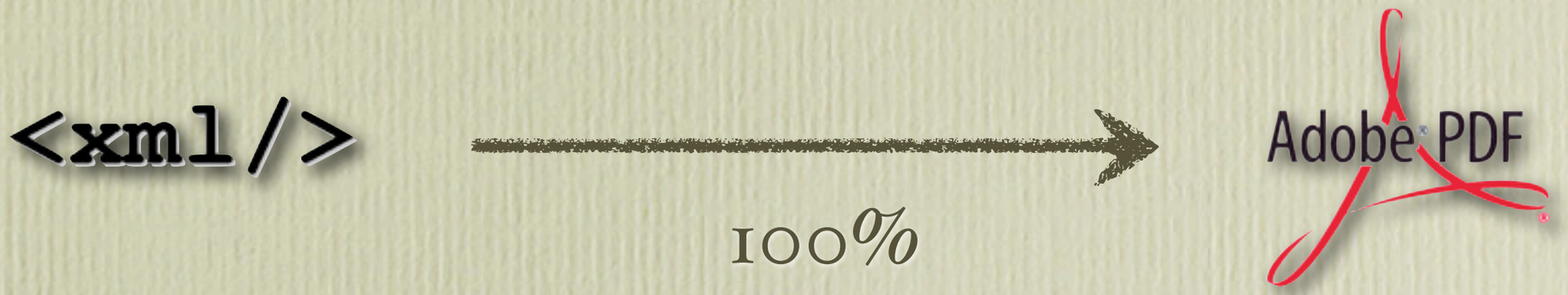
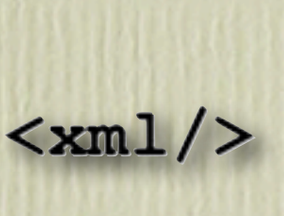
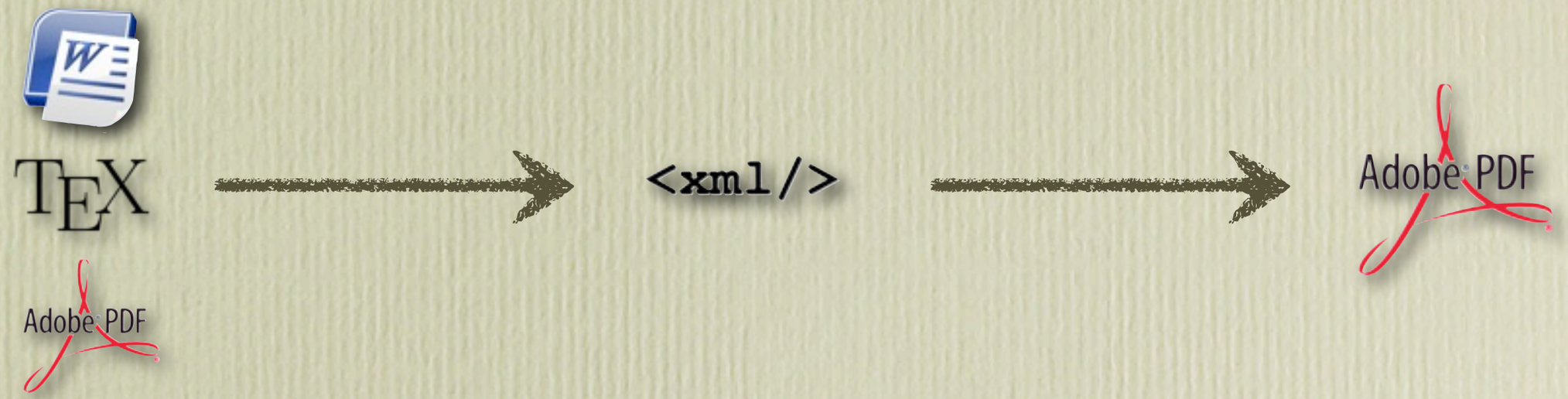


100%
automation

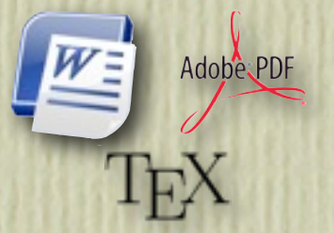
The workflow



The workflow



A bit more detail



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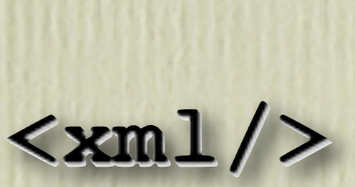

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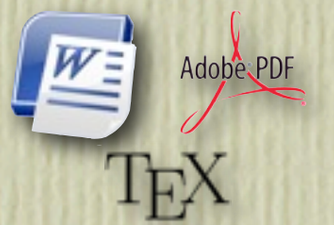

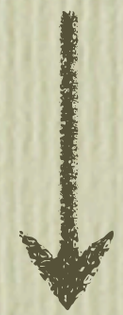

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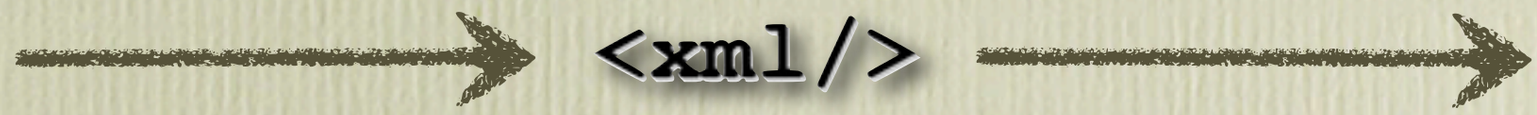

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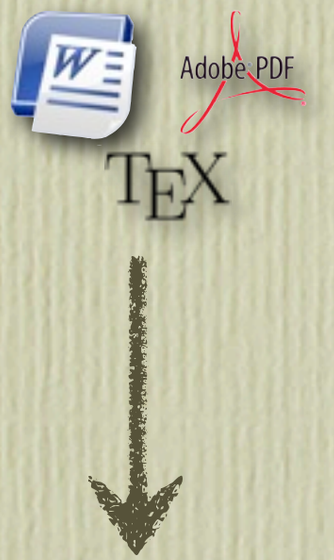

Structured TeX

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        \pinit{}
        \psnm{Azimi-Sadjadi}
        \email[azimi@engr.colostate.edu]
        }

...

\bibitem[Scharf \and Mullis(2000)]{art:ScharfMullis}
\begin{article}
\fnm{L.}
\snm{Scharf}
\fnm{C.}
\snm{Mullis}
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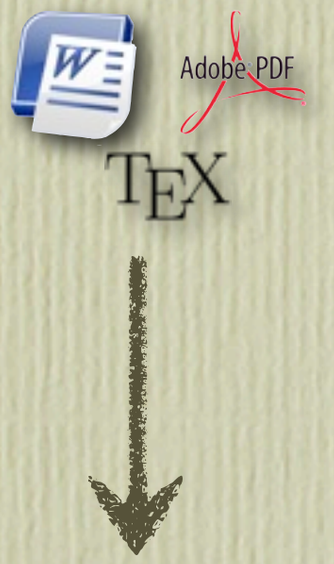
A bit more detail



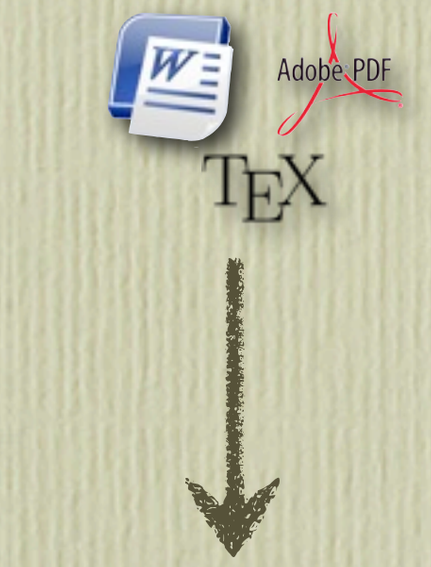
Structured TeX

Auto

<xml/>

Auto

A bit more detail



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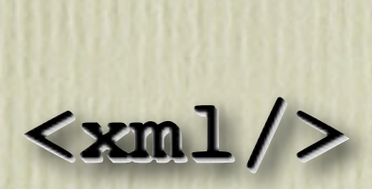
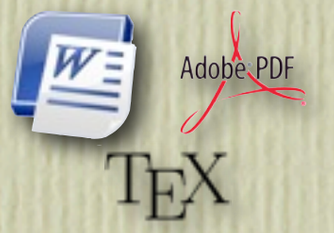


Auto

Auto

$$M = E - e \cdot \sin(E)$$ ...

Yet more detail



Structured
TeX

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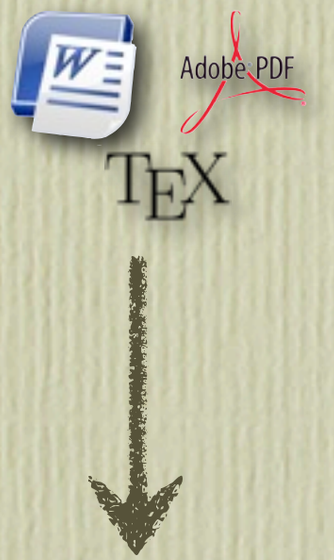
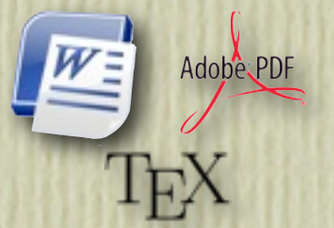
Slave
TeX

Yet more detail



Structured TeX → Auto → <xml/> → Auto → Slave TeX → Auto → Adobe PDF

Yet more detail



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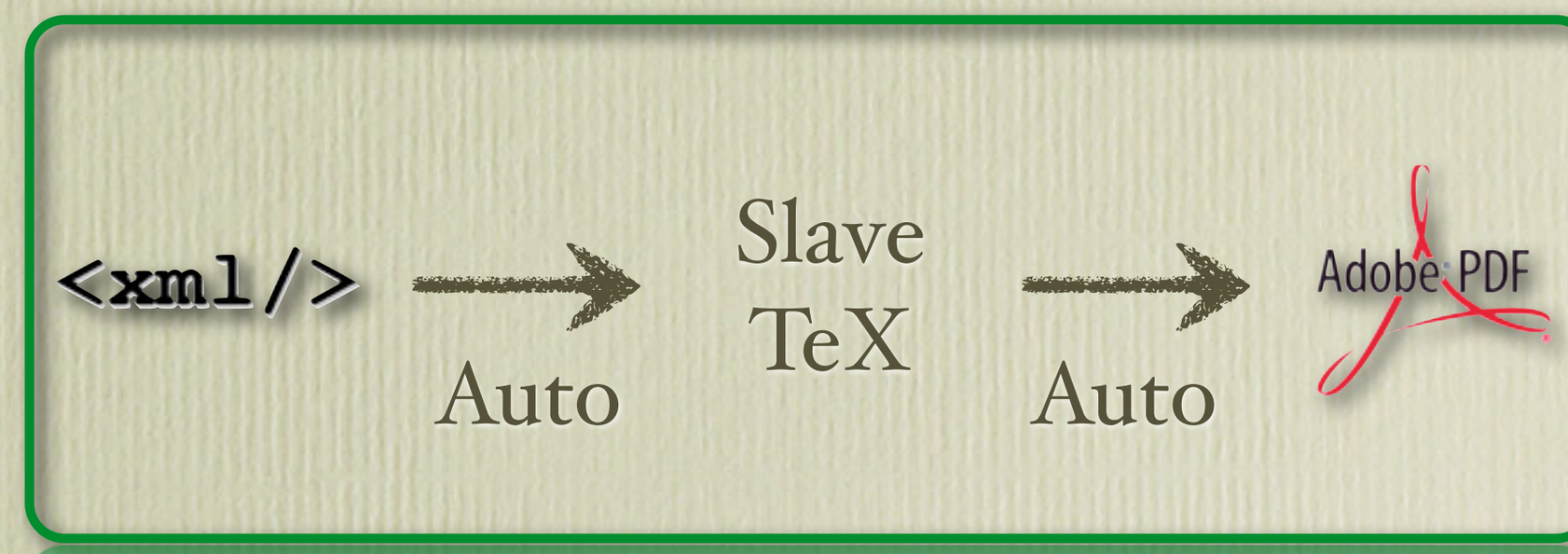
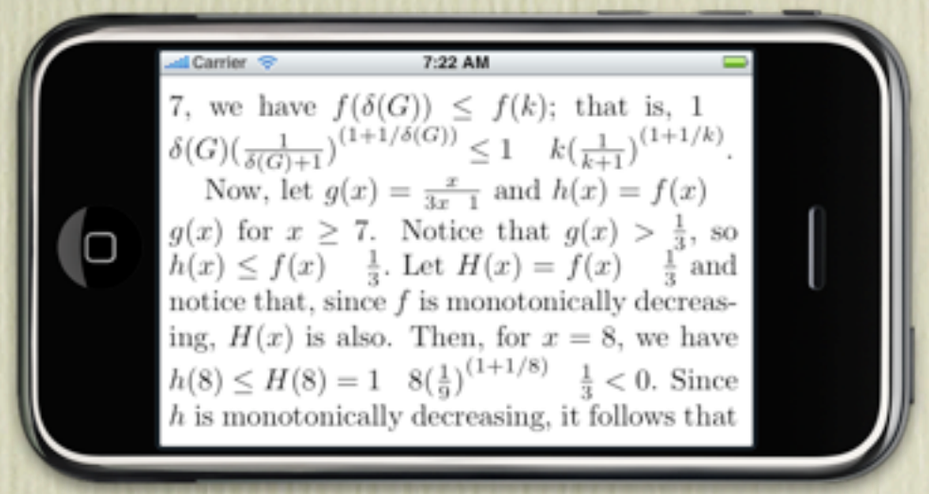


Back to eBooks

Challenge:
Reflowing math on iPhone

Challenge:
Reflowing math on iPhone



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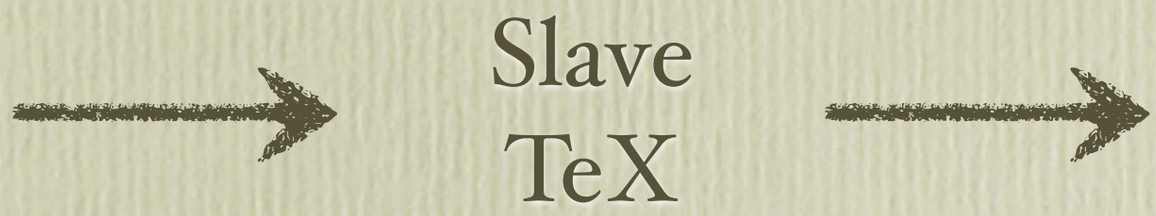
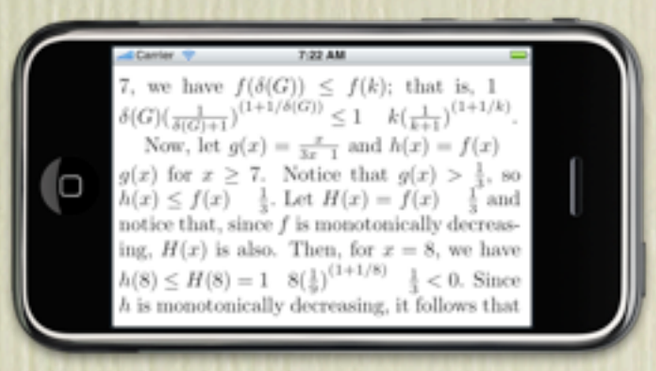


Similar to current workflow

Slave
TeX



Similar to current workflow

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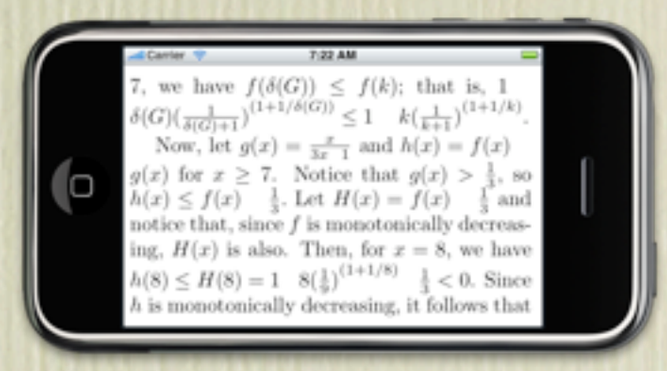
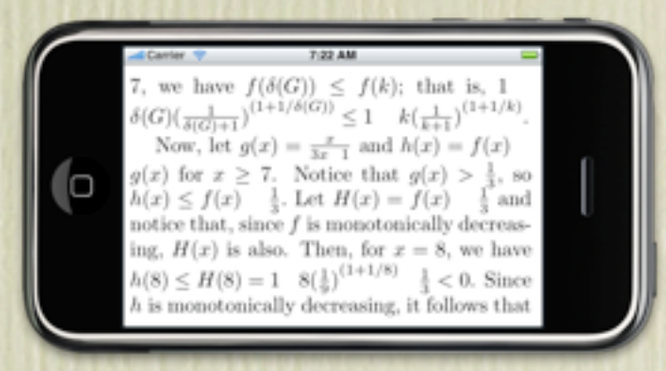
TeX



RIVER VALLEY
TECHNOLOGIES

Similar to current workflow

Slave
TeX



RIVER VALLEY
TECHNOLOGIES

Jonathan Kew