

WibTeX Reference Management System

CS486C – Design Review

Team WibTeX: Hayden Aupperle, Jarid Bredemeier, Charles Duso
Sponsor/Mentor: Dr. James Palmer

Team WibTeX

- Charles Duso – Team Leader
- Hayden Aupperle
- Jarid Bredemeier

Sponsor/Mentor Spot

- Dr. James Palmer
 - Associate Professor
 - School of Informatics, Computing, and Cyber Systems

```

\documentclass[12pt]{article}
%      options include 12pt or 11pt or 10pt
%      classes include article, report, book, letter, thesis

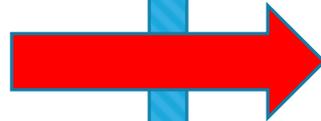
\title{This is the title}
\author{Author One \\\ Author Two}
\date{29 February 2004}

\begin{document}
\maketitle

This is the content of this document.

This is the 2nd paragraph.
Here is an inline formula:
$ V = \frac{4 \pi r^3}{3} $.
And appearing immediately below
is a displayed formula:
$$ V = \frac{4 \pi r^3}{3} $$
\end{document}

```



This is the title

Author One
Author Two

29 February 2004

This is the content of this document.

This is the 2nd paragraph. Here is an inline formula: $V = \frac{4\pi r^3}{3}$. And appearing immediately below is a displayed formula:

$$V = \frac{4\pi r^3}{3}$$

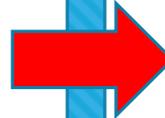
BibTeX

```
@ARTICLE{Meyer2000,  
AUTHOR="Bernd Meyer",  
TITLE="A constraint-based framework for diagrammatic reasoning",  
JOURNAL="Applied Artificial Intelligence",  
VOLUME= "14",  
ISSUE = "4",  
PAGES= "327--344",  
YEAR=2000  
}
```

```

\documentclass{article}
\begin{document}
\bibliographystyle{plain}%Choose a bibliographic style
%
Note. This is the Postscript version with plain bibliographic style.
Most of the academic staff in the School of Computer Science and Software Engineering have publications in their field of expertise or research. The majority of the publications appear in journals or proceedings of conferences. Articles appearing in journals may be written by a single author~\cite{Meyer2000}. Where there are multiple authors, the citation in the text usually names only the first author, for example Kim Marriott's article on logic programming~\cite{Codishetal2000}. The same fate befalls Henry Wu~\cite{Huetal2000}. Some authors contribute a chapter to edited books~\cite{WallaceandKorb1999}. Others, for example Christine Mingins, jointly publish a book~\cite{Jezequeletal2000}. Damian Conway is a world expert on Perl. As well as having written a book on this topic~\cite{Conway2000}, he has also been the subject of articles~\cite{Johnston2000}.
%
\bibliography{Master}
\end{document}

```



Most of the academic staff in the School of Computer Science and Software Engineering have publications in their field of expertise or research. The majority of the publications appear in journals or proceedings of conferences. Articles appearing in journals may be written by a single author [6]. Where there are multiple authors, the citation in the text usually names only the first author, for example Kim Marriott's article on logic programming [1]. The same fate befalls Henry Wu [3]. Some authors contribute a chapter to edited books [7]. Others, for example Christine Mingins, jointly published a book [4]. Damian Conway is a world expert on Perl. As well as having written a book on this topic [2], he has also been the subject of articles [5].

References

- [1] CODISH, M., MARRIOTT, K., AND TABOCH, C. Improving program analyses by structure untupling. *Journal of Logic Programming* 43 (2000), 251–263.
- [2] CONWAY, D. *Object Oriented Perl: A comprehensive guide to concepts and programming techniques*. Manning Publications Co., Connecticut, USA, 2000.

BibTeX (Cont.)

Our Client

- Researcher in the field of computer science, computer engineering, or electrical engineering
 - Other fields applicable
- Publishes for organizations that require or encourage the use of LaTeX and BibTeX
 - Has built an extensive BibTeX database
- May wish to publish across their disciplines

Our Client's Problem

- Not all organizations outside the fields of computing permit the use of LaTeX and BibTeX
 - Some organizations within the computing fields do not either
- These organizations often require Microsoft Word
- No solution exists that allows for a simple transition of BibTeX data to Word
- Our client's extensive BibTeX database becomes wasted space

Our Solution – WibTeX Reference Management

- Allow the client to use their BibTeX database within a Microsoft Word document as they would within a LaTeX document

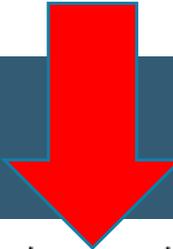


The Process

Lorem ipsum dolor sit amet, cu justo facilisi eam, impetus signiferumque est ne `\cite{duso_2012}`. Mei euismod oporteat efficiendi cu, discere corrumpit eu vix. Mei ea quot pericula vituperatoribus. Ferri luptatum est et, sed an phaedrum dissentias `\cite{jarid_2017}`. Et ullum eruditi maluisset usu, sit ei saperet minimum invidunt.

Ex his detraxit patrioque, error dolores eos an. Elit errem verear qui id, rebum idque his et. Mea ex tota nemore delicata. Sed ne tation nemore. Ea usu cetero scripta aliquando. Minim aperiam ex eam, inimicus laboramus sea no, suas audire accumsan vix ea. Suas aperiam ius no `\cite{cage1987}`.

`\bibliography{bib}`



Lorem ipsum dolor sit amet, cu justo facilisi eam, impetus signiferumque est ne [1]. Mei euismod oporteat efficiendi cu, discere corrumpit eu vix. Mei ea quot pericula vituperatoribus. Ferri luptatum est et, sed an phaedrum dissentias [2]. Et ullum eruditi maluisset usu, sit ei saperet minimum invidunt.

Ex his detraxit patrioque, error dolores eos an. Elit errem verear qui id, rebum idque his et. Mea ex tota nemore delicata. Sed ne tation nemore. Ea usu cetero scripta aliquando. Minim aperiam ex eam, inimicus laboramus sea no, suas audire accumsan vix ea. Suas aperiam ius no [3].

References

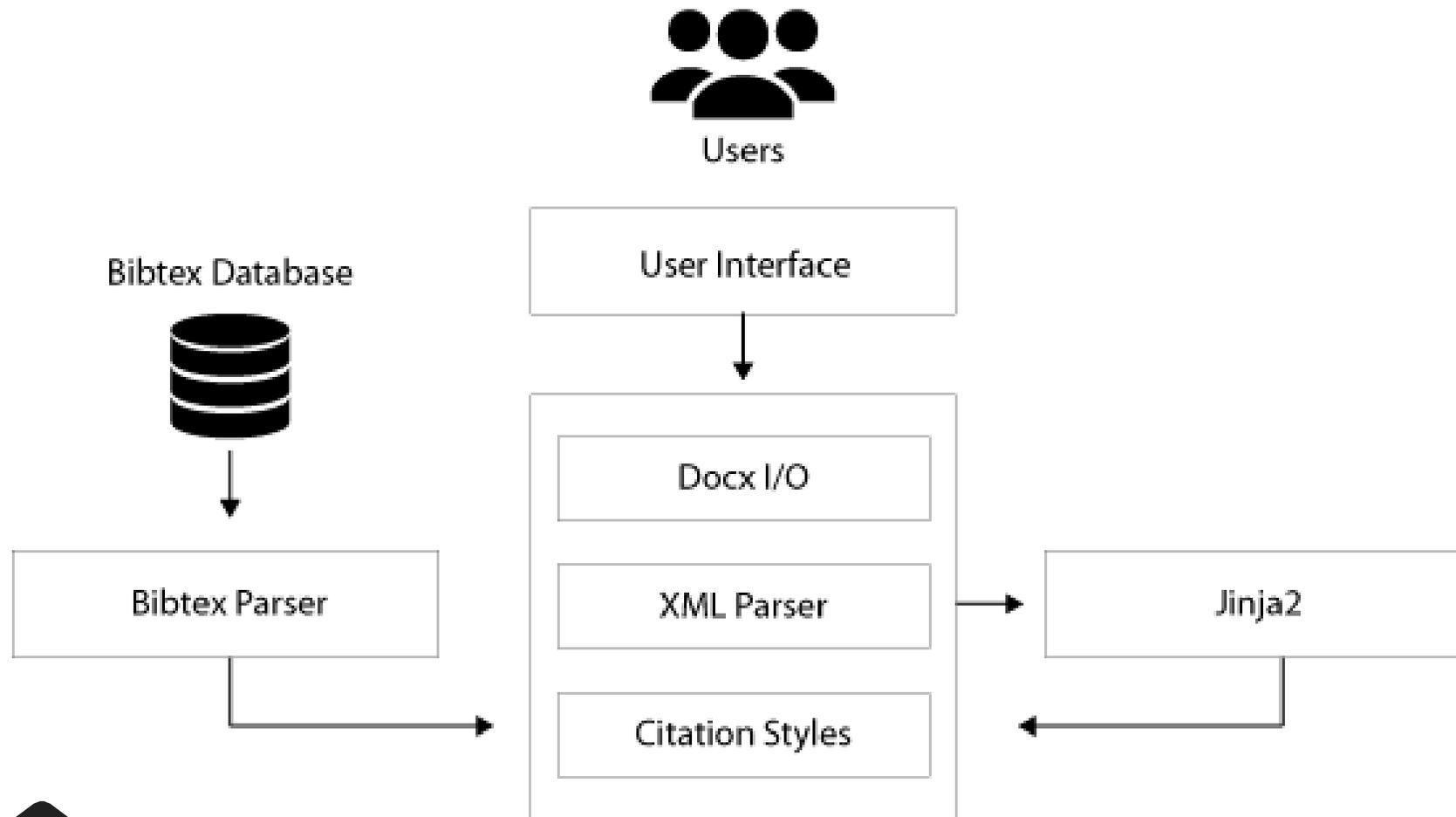
- [1] LaTeX – A document preparation system. (2017). Retrieved March 5, 2017 from <https://www.latex-project.org/>
- [2] Alexander Feder. 2006. BibTeX. (2006). Retrieved March 5, 2017 from <http://www.bibtex.org/>
- [3] Word. (2017). Retrieved March 6, 2017 from <https://products.office.com/en-us/word>

Our Solution – Benefits

- Client is able to retain their working environment
- Client does not waste time converting data

WibTeX RMS – Requirements

- System supports valid BibTeX markup
- System allows the choice of any valid BibTeX database
- System allows the choice of input and output documents
- System allows the choice of reference style
- System supports multiple styles: ACM, CCSC, IEEE, APA
- System can extend support for other styles



WibTeX RMS – Architecture

Jinja2



- Templating engine
- Dynamic substitution

Jinja2 (Cont.)



```
{{ greeting }}  
greeting = "Hello, World!"
```



```
Hello, World!
```

Jinja2 (Cont.)



```
{{index}} {{name}} {{title}} {{publisher}} {{volume}} {{issue}} {{pages}} {{year}}.
```



```
[1] Fischer, K. Design Standards. IEEE intelligent systems, 14(2). 8-19. 2016.
```

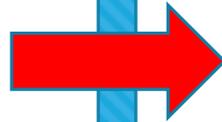
Citation Styles

- Style files contain the metadata needed to generate references
- Citation Styles module uses metadata and reference information to create references

BibtexParser

- Parse BibTeX database
- Store reference data in memory
- Data stored as Python dictionary with keys as entry names

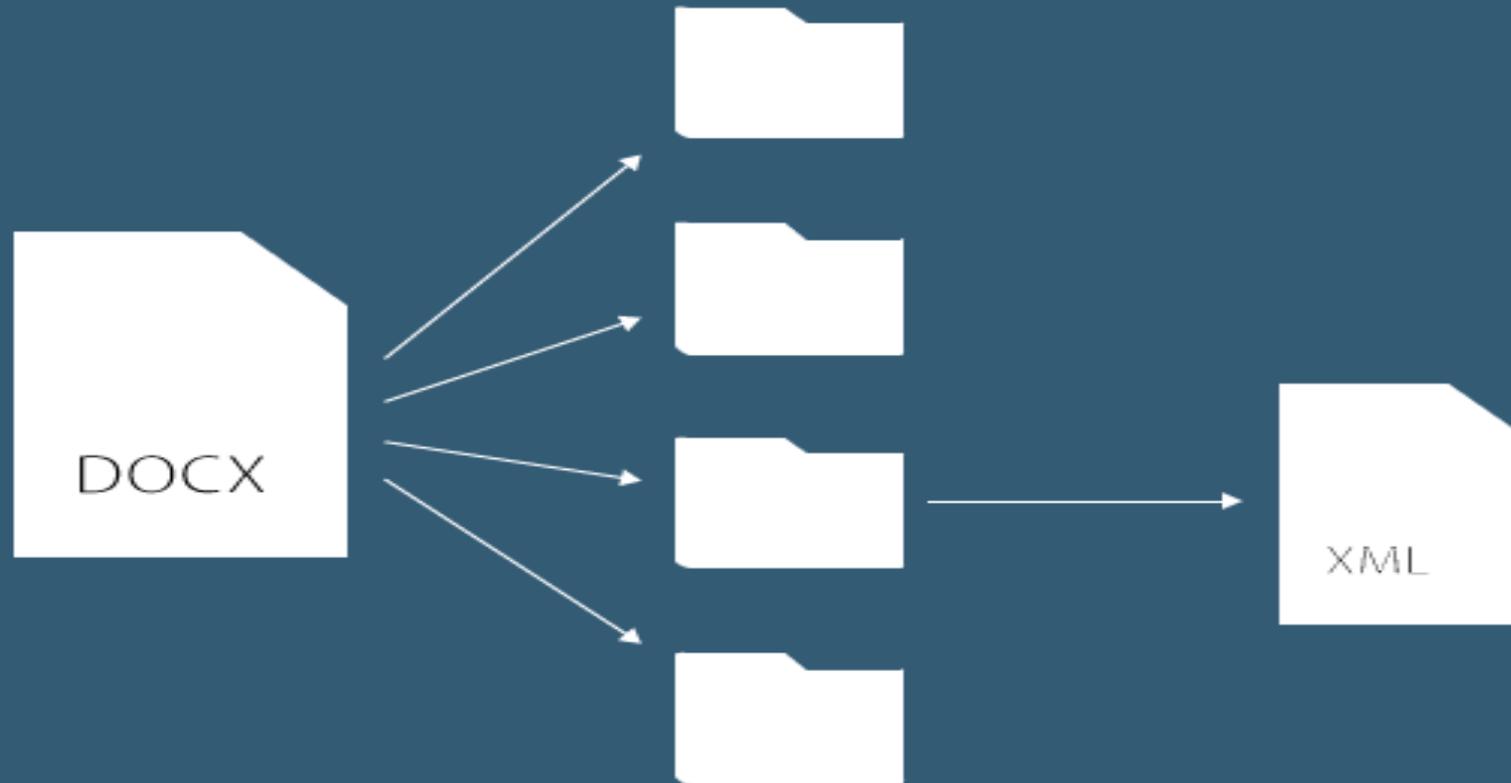
```
@article{small,  
author = {Orti, E. and Bredas, J.L. and Clarisse, C.},  
title = {A small paper},  
journal = {The journal of small papers},  
year = 1997,  
volume = {-1},  
note = {to appear},  
}
```



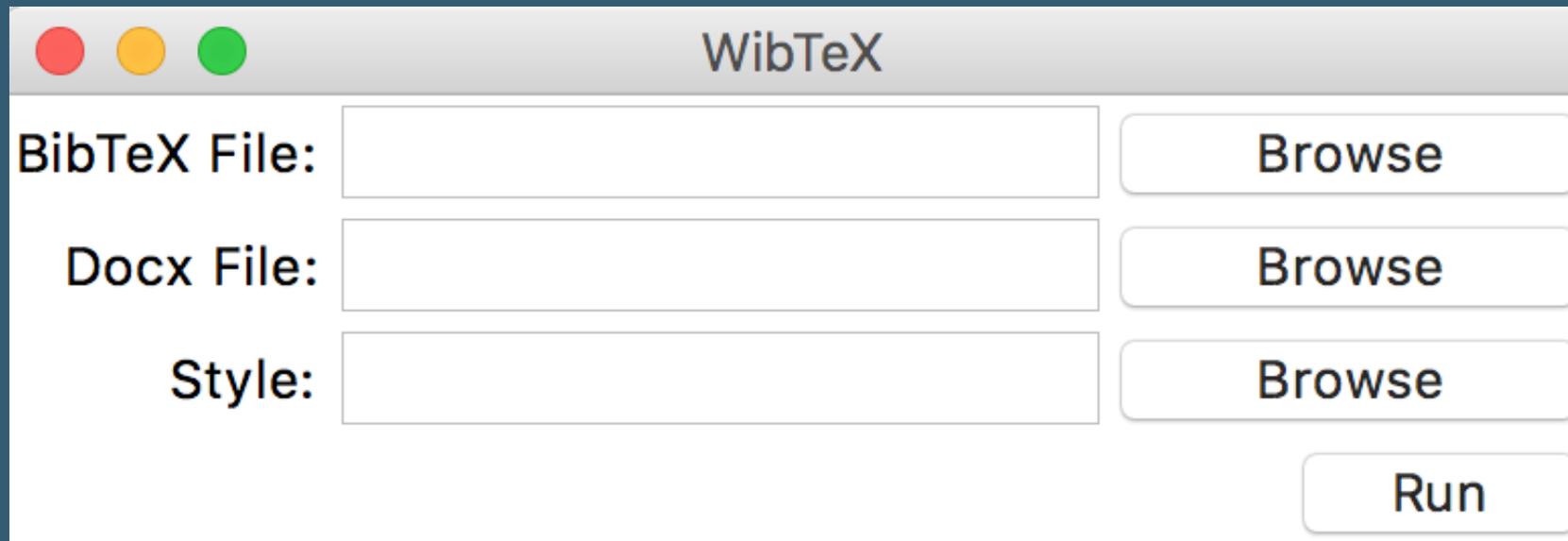
```
{'small': {'ENTRYTYPE': 'article',  
          'ID': 'small',  
          'author': ['Orti, E.', 'Bredas, J.L.', 'Clarisse, C.'],  
          'journal': {'ID': 'Thejournalofsmallpapers',  
                     'name': 'The journal of small papers'},  
          'note': 'to appear',  
          'title': 'A small paper',  
          'volume': '-1',  
          'year': '1997'}}
```

BibtexParser (Cont.)

Word Document Manipulation



Graphical User Interface

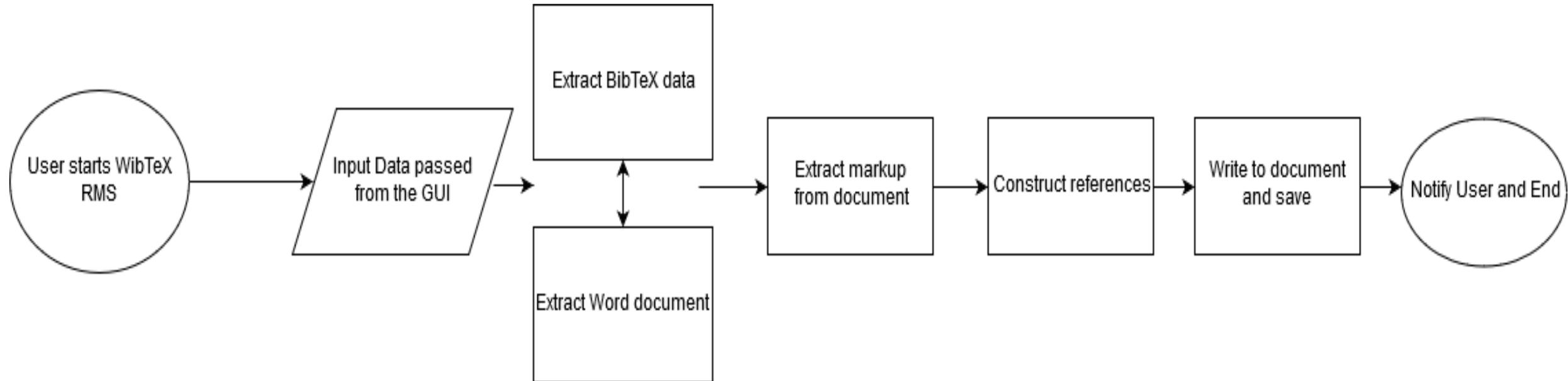


The image shows a graphical user interface window titled "WibTeX". The window has a standard macOS-style title bar with three colored buttons (red, yellow, green) on the left. The main content area contains three rows of input fields, each with a "Browse" button to its right. The first row is labeled "BibTeX File:", the second "Docx File:", and the third "Style:". A "Run" button is located at the bottom right of the window.

BibTeX File:	<input type="text"/>	Browse
Docx File:	<input type="text"/>	Browse
Style:	<input type="text"/>	Browse

Run

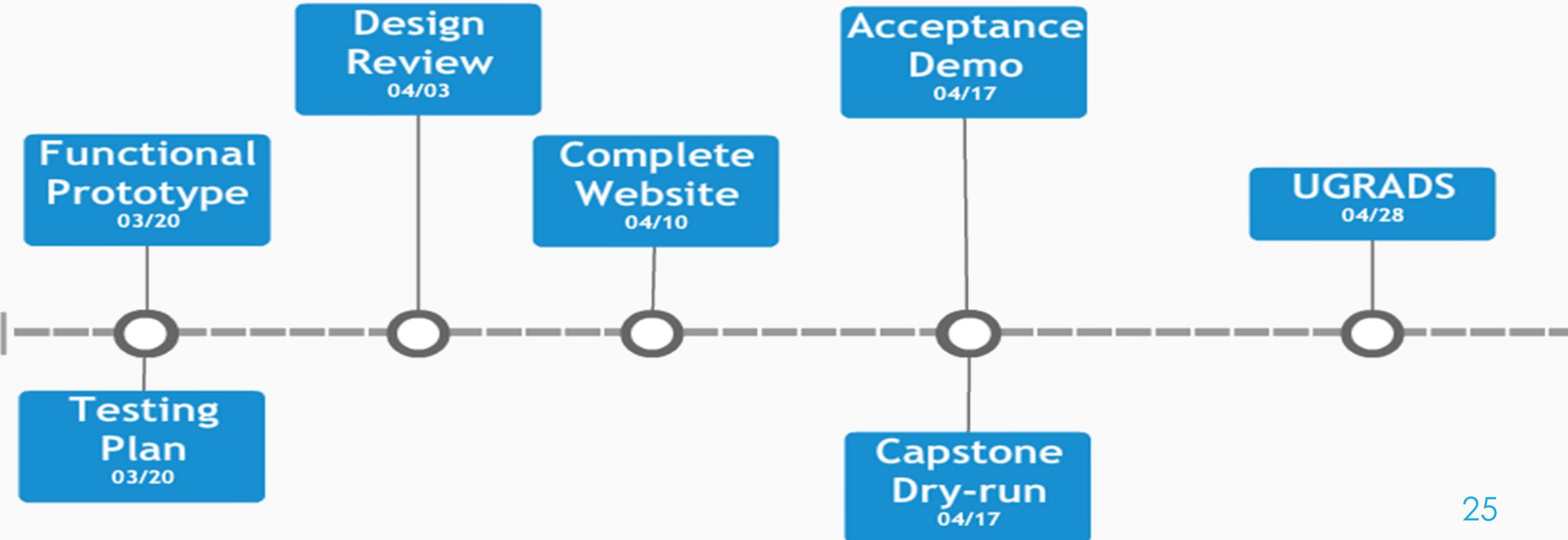
System Flow



Implementation - Challenges

- Parsing and manipulating Microsoft Word documents
- Validating BibTeX database entries
- Ensuring conformity of standards set for a style

Schedule



Conclusion

- Satisfied with our current progress
- Eager to finalize documentation portion of project in favor of implementation

References

- [1] LaTeX – A document preparation system. (2017). Retrieved March 5, 2017 from <https://www.latex-project.org/>
- [2] Alexander Feder. 2006. BibTeX. (2006). Retrieved March 5, 2017 from <http://www.bibtex.org/>
- [3] <http://www.csse.monash.edu.au/documents/bibtex/>
- [4] <http://spot.colorado.edu/~sitelic/samplecode/latex/sample.html>.