

Sophisticated Lexical Databases – Simplified Usage: Mobile applications and Browser Plugins for Wordnets



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Roadmap

- ◇ Introduction
- ◇ Motivation
- ◇ Applications for Wordnet
- ◇ Mobile Wordnet Applications
- ◇ Browser Plugins
- ◇ Conclusions and Future Work

Introduction

- ◇ Massive Language Diversity in India
 - ◇ Over 22 official languages
 - ◇ Hundreds of other languages / dialects which have not been give the official status.
- ◇ Need to bridge the language barrier
 - ◇ IndoWordnet project, consisting of a consortium of IIT Bombay, and 12 other institutes.
 - ◇ Wordnets for 18 languages under one roof, and a common interface to browse them.
 - ◇ Educational applications using Wordnets are in great demand – Digital India.

Motivation

- ◇ Sizeable portion of the Indian population connected to the internet through mobile phones (117 million people)* – but the larger portion is still left behind.
- ◇ Most of the internet users are either already using Mobile Smartphones, or are shifting to them very fast.
 - ◇ More, and more users everyday!
 - ◇ A strong case for the need for mobile applications and,
 - ◇ Easy accessibility of Wordnets, in general.

*“Internet trends 2014 report” by Mary Meeker, Kleiner Perkins Caufield & Byers (KPCB)

Use Cases

- ◇ Educational Classroom Scenario
 - ◇ Aakash Tablets
 - ◇ Multiple Language Awareness
- ◇ Tourism
 - ◇ Basic communication can be made possible.
- ◇ Second Language Learners
 - ◇ Browser plugins to obtain meanings of unknown words.
- ◇ Lexicographers / Linguists
 - ◇ Quick dissemination of lexical knowledge for analysis and annotation.

Mobile Wordnet Apps

- ◇ Plenty of convenient features using an online interface for searching words.
 - ◇ Supports Morphological analysis during word search.
 - ◇ Concept Translations to multiple languages available.
 - ◇ On-Screen Devanagari Keyboard
 - ◇ Interface design in consultation with Industrial Design Center (IDC), IIT Bombay.
 - ◇ Simple, Layered, and Card-Based results as output.
 - ◇ Available currently on Google Play Store, and Windows Phone Store.
 - ◇ iOS – the apps have been developed, just the need to deploy.

Browser Extensions

- ◇ Convenience for user of Mozilla Firefox / Google Chrome.
 - ◇ Simple right-click -> Search <word> mechanism for Hindi, Marathi, Sanskrit, and English.
 - ◇ The results obtained through a simple get query, in a new tab.
 - ◇ Waiting for Microsoft to bring these extensions to Microsoft Edge, and the coverage of web browsers improve.

Demonstration

◇ Online Demo of Browser Extensions.

Conclusion

- ◇ Mobile applications created and deployed for two of the major mobile phone operating systems.
 - ◇ Three apps for each.
- ◇ Browser Plugins for two of the majorly used browsers
 - ◇ Mozilla Firefox / Google Chrome
 - ◇ 4 Addons for Firefox
 - ◇ Hindi, Marathi, Sanskrit, and English Wordnet Add ons.
 - ◇ 3 Extensions for Google Chrome
 - ◇ Hindi, Marathi, and Sanskrit Wordnet Extensions.

On the way...

- ◇ Bundle all Mobile Wordnet apps into a suite later.
- ◇ Deploy apps which can be used offline (requires permissions)
- ◇ Upgrade to browser plugins (expect these very soon)
 - ◇ Intuitive display of results (Bubble popup)
 - ◇ Enable automatic translations
 - ◇ Follow standard apps like PeraPera!
 - ◇ OpenSource all of this! 😊



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Thank you!

- ◇ Thank you for all your attention!
- ◇ Questions ?
- ◇ Suggestions ?