

Hindi-Urdu Blended Teaching Resources

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A. Abstract:

This project will support the production of a multifaceted website for the blended teaching of Hindi-Urdu. Blended (or hybrid) teaching refers to a mode of teaching in which there is a significant online component. This website will provide online elements for both students and teachers that address significant gaps in current Hindi-Urdu materials. These include: an online script teaching unit, proficiency-oriented videos, and syllabus and classroom activities suggestions.

Pedagogical Approach:

These teaching units are designed both as a supplement and a replacement for face-to-face instruction. They are particularly oriented towards the teaching of heritage students, many of whom can speak but not read or write Hindi-Urdu, and are designed to bring them quickly to literacy and grammar awareness. The videos produced for this video will provide models of language proficiencies ranging from the basic—how do you say yes or no with words and body language—to the complex—how do you start and end a phone call. The focus of these videos will be on both interpersonal and presentational communication, and they will provide models and introduce grammatical and lexical structures for proficiency-oriented instruction. More advanced videos, focused on natural speech, will highlight the communicative patterns found in particular situations. These videos will feature native speakers among students at Michigan State University, and they will focus exclusively on real world, as opposed to “textbook,” Hindi, capturing the language as it is actually spoken by people from diverse linguistic backgrounds.

Technological Approach:

This website will utilize the Drupal content management system to organize both its data and the presentation of its data. Drupal is open-source, community-supported, and extraordinarily scalable. It is uniquely flexible and can be used by multiple administrators. Therefore, portions of this website will be open to modification by validated users. The advantage of a webpage developed using Drupal is that it will not be static, but can be fully operational even when a work in progress. For this grant cycle, the investigators will focus on developing the most urgently needed teaching and learning tools, but the idea is to do so in such a way that the data and technology used are adaptable and expandable.

These units will be transportable to other webpages and can be combined with other web resources. Because of the strict separation between 'model' (data) and 'view' (webpage) provided by the Drupal framework, the actual data contributed to this project can effortlessly be extracted or transmitted from this repository in any number of forms. In other words, the presentation of the data collected and produced will be adaptable to future changes in the World Wide Web as it moves away from static pages and becomes a more fully Semantic Web. This will be a significant improvement over earlier projects where the data is less available to future uses.

B. Materials

Part I. Developing New Tools

Online Script Teaching

One of the biggest challenges for Hindi-Urdu teachers are the mixed abilities of students. A recent survey found 81% of Hindi students to be heritage learners with various linguistic backgrounds (Gambhir 2007). Frequently, heritage students have some speaking and listening proficiency but no skills in reading or writing. This project aims to develop a fully online literacy course that will allow heritage students in particular to advance more quickly into higher-level classes. While there are a number of script teaching materials on the Web, none of them are comprehensive. The main component of this unit will be the production of animated samples of handwriting to be viewed by students. Students will need to be directed how to use the unit and be assessed by an instructor at this time, although there is a possibility of further developing the unit for distance learning, i.e. online submission of handwriting homework.

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For this project, these nodes will be accessible as embedded images with buttons to draw them “on the fly” with controllers to adjust the speed. These nodes will also contain audio clips of the written text. They will be incorporated into a script tutorial that guides students in both the pronunciation and writing of Hindi and Urdu.

This unit will use a custom Drupal module to record and replay handwriting samples. When the sample is complete, this recording will be submitted as an array of coordinates to a Drupal form. The Drupal module will then validate the submission, store it in a database, and produce a static image file. Recordings will then become Drupal nodes that can be accessed in multiple formats.

The abstraction of data from view in these samples will allow their future use in other formats. For example, the data could be read by a Flash or Quicktime application or a version could be developed for cellphones. Moreover, this technology will be adaptable for other languages.

Proficiency-Oriented Videos

This website will also maintain a library of video clips that provide models for various language proficiencies. These videos will focus on interpersonal and presentational communication, from simple to complex. Transcriptions of the videos will be generated that will contain popup vocabulary and hyperlinks for grammatical features and usage notes. A core set of 20+ proficiency videos will be generated by the Hindi and Urdu Fulbright Teaching Assistants at Michigan State University in the 2009-2010 academic year. These will include proficiencies such as how to order tea, how to start and end a phone call, and how to introduce oneself.

In addition to these proficiency-based videos, which will be targeted at beginner and intermediate levels, a more advanced set of unscripted natural language videos will also be produced. These will include narrative descriptions of events and locations as well as dialogues between native speakers. The aim of these latter videos is to form a corpus of natural speech that can be used to elucidate patterns of spoken Hindi-Urdu that are not often taught in traditional textbooks.

Little technological innovation is necessary for this portion of the project. Instead, it will require meticulous captioning of videos. Videos, notes, and transcripts will then be tagged and uploaded to the Drupal websites as a custom node.

Vocabulary Repository

This website will contain a repository of common vocabulary words with audio and/or video. Words will be tagged by grammatical category and semantic categories, allowing for the creation of domain-based vocabulary lists. A core set of already recorded vocabulary lists exist at Michigan State University. This project will add to that archive and place it on the website for public use. Vocabulary lists for existing teaching materials, such as *Door into Hindi*, will be also be absorbed into this repository and appropriately tagged.

Part II. Creating a Teaching and Learning Community

One crucial role this website will play is as a clearing house for Hindi-Urdu teaching materials. Emphasis will be placed on formalizing already existing ties between language instructors and generating a new on-line community for sharing materials and discussing teaching and learning challenges. The project's efforts to facilitate this community will also serve to disseminate and beta-test the new technologies described above. The collection of materials will be managed through a wiki format.

Syllabus Repository

A feature for teachers will be the sample syllabi used at Michigan State University and other institutions. Every effort will be made to encourage teachers to post their syllabi to the website. Syllabi will be tagged using a descriptive taxonomy.

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Classroom Activities

A list of classroom activities will be maintained by the website community. These will be tagged using a rich taxonomy that will allow teachers to search for activities according to particular criteria, such as level as well as grammatical or situational category.

Discussion Forum

An online discussion forum will also be created on the website for use by students and teachers.

C. Timeline

The principal investigator, Sean Pue, will be the lead designer of the script tutorial and overall framework. The co-PI, Vishwajeet Singh, will be responsible for the videos and the vocabulary lists. The work will be done in the summer 2010. Vishwajeet Singh will work as a graduate research assistant from May 16 to August 15, and Sean Pue will work for two months, from June 1 to August 1. In addition, we will hire a web designer, programmer, and research aide for transcription and acting. The work of community building will continue through the school year, with recruiting drives at events like the Wisconsin South Asia Conference and AAS, as well as through the South Asia Language Teachers Association and the SALRC. Beta-testing for the materials will also occur throughout the next academic year, principally at MSU, but also at NC Chapel Hill, Columbia University, and the University of Chicago. Any significant research findings will be submitted to the peer-reviewed journal *South Asia Language Pedagogy and Technology*.

Appendix A. Adherence to Technical Specifications

This website will utilize the Drupal content management system, which is standards-compliant and follows industry-standard best practices. It will therefore conform to the SALRC technical specifications.

Programming Languages/Databases

All webpages will be generated in XHTML 1.0 Strict by default. The server-side code for this project will be written for PHP 5.2.6+. The client-side script will be in Javascript 1.8 and extend the ubiquitous jQuery Javascript library. The database will be MySQL 5.0.67.

Required Standards & Practices

The back-end for this project will be Drupal, which insists upon model-view separation. As a result, content and structure will be separate. All XHTML and CSS will validate by default and conform to Web Accessibility Initiative guidelines. Frames and HTML entries will not be used. Flash will be reserved for videos, and tables for tabular data. All pages will be tested in the target browsers (Firefox 3.x+, Safari 4.x+, and IE7+) and downgrade successfully: pages that require Javascript—a necessary component for interactive webpages—will inform non-Javascript readers of its necessity. The default structure of Drupal pages is inherently logical, and there are active community efforts that continue to improve its accessibility, both semantically and for the physically and visually impaired. Tags, class names, and image attributes will therefore all be meaningful.

Drupal maintains strict model-view separation, so "business code" will not contain formatting information. Formatting will be handled by the "display code" (theme). All database access will be handled by the functions provided by Drupal.

Code developed for this project will conform to the rigorous Drupal coding conventions for both PHP and Javascript. Comments will therefore follow the Doxygen formatting conventions for automatic documentation generation. Function names for Drupal modules are standardized (to override the system defaults), and their function will therefore be transparent in their name. Complex Javascript used in the project will take the form of encapsulated and reusable jQuery extensions. Variable names will start with be lowerCamelCased in Javascript and \$under_scored in PHP.