

# **“Hindi-Urdu Blended Teaching Resources”**

## **SALRC Project Final Report, 2010**

Principal Investigators: A. Sean Pue & Vishwajeet Singh

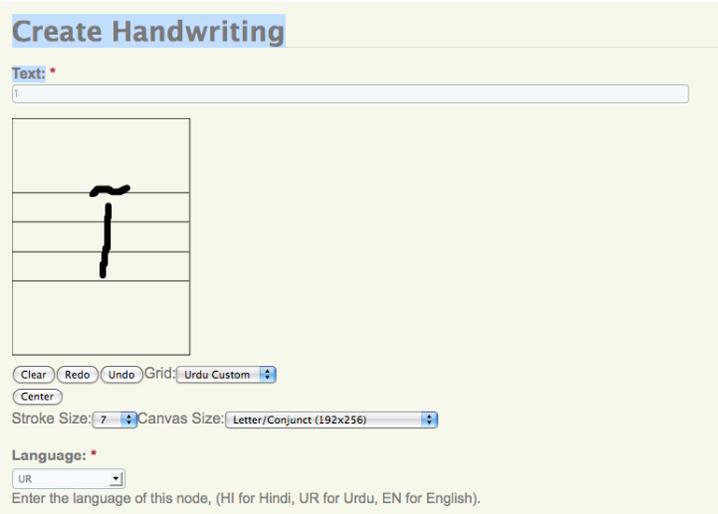
This project officially began on May 15 and ended on October 1. The aim the project was to create a multifaceted website for the blended (partly online) teaching of Hindi-Urdu. The goal of the initial proposal was to develop new tools—online script teaching, proficiency-oriented videos, vocabulary repository—and to create a teaching and learning community—a syllabus repository, classroom activities, and discussion forum. What we were able to produce in the grant period varied somewhat from our original expectations, but we did accomplish many of our initial goals.

### ***Part I. Final Report on Developing New Tools***

#### **Online script teaching.**

Pue focused on developing an online handwriting module. Most of the efforts during the grant period were on the technical side, as there was a lot of innovation required. We developed a module for the Drupal (content management system) that handles recording and playback of handwriting. It works on older web browsers and also looks forward to the more webpage-centric future of HTML5. The module is primarily written in Javascript using the jQuery extension. It hooks the mousemove and mousedown events over a canvas and records the strokes. If an iPad/iPhone is detected, it also captures the ontouch events, when one finger/stylus is placed on the canvas. These relative points are then saved as an array that can then be either displayed as a static image, played back gradually—as if being written—and also traced by the end user.

During recording, a number of options are available to the user. These include general size settings, thickness of the line, and also a grid. We devised two grids, one for Hindi and one for Urdu, that worked well:



We used a jQuery library called Raphaël (<http://dmitrybaranovskiy.github.io/raphael/>) to handle the drawing. It detects and uses Scalable Vector Graphics (SVG), which is recommended by the W3C (World Wide Web Consortium), to handle vector graphics. However, it also supports Microsoft's VML (Vector Markup Language) if necessary. Therefore, it is able to work across browsers (Firefox 3+, Safari 3+, Opera 9.5+, and Internet Explorer 6+). [SVG has won the technology competition, and will be included natively in Internet Explorer 9.] Since the display of graphics is not bound to Flash or any other proprietary system and SVG is not going anywhere, anything developed using this system will continue to be accessible for the foreseeable future.

Despite the general utility of the Raphaël library, we faced a number of issues with maintaining Internet Explorer compatibility. The smoothest drawing strategy seems to be to create a "curveto" SVG command, which will pass through specific points as a line is being drawn. However, this command created strange effects in VML as rendered by Raphaël, as it sometimes shot lines from a 0,0 point to the various points on a line. Therefore, these were replaced with a less smooth "lineto" command. A second problem was playback speed, as VML tends to be much slower than SVG. There was also a strange issue on iPads, whereby the drawing replay would be slow the first time but then a normal speed if repeated. Therefore, to account for this playback speed, a timer was added to the playback of each draw command, and the delay before the next adapts based on the duration of the previous.

These container nodes are added into lesson nodes using a Drupal module called Node Embed, developed by programmers at the Whitehouse, which been using Drupal under the Obama administration. Node Embed adds a tag to the parent node that is then replaced with the handwriting node when the parent node is displayed. The 'lesson' nodes are basically blank documents that can be organized into chapters or lesson, and the handwriting samples are then displayed as images that have a number of buttons below them.

The handwriting samples have a number of commands. A user can choose 'Redraw' to see the phrase written, 'Trace' to trace using the mouse (or finger/stylus on an iPad) over a dotted line, and 'Freedraw' to allow the user to draw on the canvas without any guides:

We have added basic lessons for Hindi script and also used the materials in Fall 2010 in Hindi classes at MSU. The lessons are fairly comprehensive, but they need additional proofreading and comments:

- [Introduction](#)
- [Hindi vowels](#)
- [Nasalization](#)
- [Vowel signs \(matras\)](#)
- [क \(ka\) series](#)
- [च \(cha\) series](#)
- [ट \(t\) series](#)
- [त \(ta\) series](#)
- [प \(p\) series](#)
- [य, र, ल व \(y, r, l, v\)](#)
- [ष श स \(sh, sh, sa\) series and ह \(ha\)](#)
- [Conjuncts](#)
- [Numbers](#)

## **Proficiency-oriented Videos**

In our original proposal, we believed that we would have a set of videos created by the Fulbright Language Teaching Assistants working at MSU in 2009-10. The filming for these videos did not transpire during the academic year, and so we devoted a lot of time over this summer to producing them. We employed or received complementary acting from over fifteen very dedicated and talented people in the Lansing and Michigan State University community. We have completed 25 videos pitched at a variety of proficiency levels (see Appendix I). Vishwajeet Singh proved to be a very capable and energetic director. We hope these videos will fill a substantial hole in current Hindi-Urdu teaching materials in that they address important proficiencies while also reflecting Hindi-Urdu as they are naturally spoken. The current videos, however, are closer to the “Hindi” side of the Hindi-Urdu spectrum. A set of these elementary videos is geared towards elementary students. Others, oriented more towards intermediate level students, are loosely scripted, allowing for more natural language from the actors. Filming is complete, and we have added title sequences, credits, as well as Hindi captions to the videos. Urdu is available for some of them, but these need to be entered based on the Hindi timings. A list of videos is included as Appendix 1 below.

These video elements have also involved a considerable amount of technical innovation in order to make them accessible to mobile devices. Web technology is in a very transitional state right now, as we are looking forward to HTML5, which is still being finalized. For the videos, we have decided to use this emerging technology standard while also allowing for a fallback for compatibility with older browsers. HTML5 contains a very powerful new “<video>” element that is present in contemporary versions of Firefox, Opera, and Safari. However, Firefox and Opera supports only the open-source Ogg Theora video codec, while Safari only supports H.264 MP4. A technique has been developed called “Video for Everybody” ([http://camendesign.com/code/video\\_for\\_everybody](http://camendesign.com/code/video_for_everybody)) that embeds an HTML5 element with

two sources (MP4 and Ogg) but also allows for a Flash fallback for older browsers that will play the MP4. We decided at this stage to just use an MP4 format, but coded for a fallback to Flash if HTML5 support for that format is not detected through Javascript. The fallback flashplayer is JWPlayer. Support for Ogg Theora or other formats could be easily be added later.

Pue developed a JQuery widget that controls both the loading of external caption files, currently in the .SRT format, and adds playback controls to the videos. Interestingly, it was impossible to create and display <video> element on the fly for the iPad, the logic perhaps being that it would be detrimental to people paying for data connections. Therefore, the webpage creates a <video> element by default, and if support for HTML5 and MP4 is not detected, it replaces it with a flash video.

The widget then uses Javascript to hook into the timer events of the video using the methods for JWPlayer or of HTML5, and it changes the subtitles accordingly. These subtitles, displayed beneath the video, are plain HTML, so it is possible to imagine adding Javascript mouse/touch events to them for vocabulary assistance, etc. There is also an option to change the caption language or to remove captions all together:

## At the Bookshop



00:46 02:00

Jump: -30 -20 -10 +10 +20 +30 Hindi

चेक कर लेते हैं, पहले।  
Download Script: [Hindi\(RTF\)](#) [Hindi\(PDF\)](#)

It is also possible to download the script as an RTF or PDF.

A custom “teaching video” node type houses the SRT, PDF, RTF, and MP4 files for each video, as well as taxonomy terms that rank it in terms of the ACTL and ILR proficiency standards, as well as the more proverbial “elementary, intermediate, advanced” rankings.

## Vocabulary Repository

We originally intended to also add a vocabulary repository to the site, but we were unable to complete that feature in the allotted time.

### ***Part II. Final Report on Creating a Teaching and Learning Community***

Because the script teaching tools and the videos were extremely time consuming, we were not able to make any progress on the teaching and learning community building aspects of the original project proposal. We have run some experiments using Drupal's Organic Groups module, which may prove to be a useful method in the future. Due to security concerns, we have disabled the user creation and social networking aspects of the Drupal website for the time being.

### ***Part III. Final Report on Web Deployment***

Pue purchased the domain name "hindiurdu.net," which is now pointing to a virtual server hosted under the auspices of the Language Resource Center at the College of Arts and Letters at Michigan State University. Russ Werner is acting as webmaster for that virtual host, and Dennie Hoopingarner was instrumental in identifying and authorizing this hosting mechanism. The virtual server is running Ubuntu Linux, and it is a powerful enough server to handle the anticipated load of these videos and materials.

### ***Part IV. Future Plans***

The project needs more care and attention in order to offer an effective learning environment. Pue's undergraduate research assistant, Jeanette Bay, is currently working on updating and expanding the site through the academic year 2010-11. We would all very much like to add an Urdu script tutorial, as well as to refine the Hindi writing instructions before Fall 2011. Vishwajeet Singh is working on integrating the teaching videos into his own Hindi curriculum at the University of Oregon. We would like to add audio and video samples to the writing tutorial, and we are all also very interested in the possibility of adding even simple assessments to the videos.

The website holds open the possibility of being built collaboratively while also retaining authorship, so we will encourage collaboration and feedback from other South Asian language teachers.

### ***Appendix I. List of Videos Clips***

<b>Name &amp; Location</b>	<b>Length without title and credits</b>	<b>Level (ILR, ACTFL)</b>	<b>Proficiencies</b>	<b>Short Description</b>
1. Greetings & Whereabouts	36 Seconds	0 Novice Low	How to greet, and ask about whereabouts.	Sameer and Priya greet each other and asks about each other's whereabouts.
2. How Many Fruits?	30 Seconds	0 Novice Low	How to talk about one or	Anita and Priya talk about the number of

			more objects.	different fruits on the table.
3. These Boys & Girls	9 Seconds	0 Novice Low	How to talk about multiple people.	Demonstrates how to talk about multiple boys or girls.
4. In the Canteen	20 seconds	0 Novice Low	How to negate	Interaction in the canteen.
5. Who owns the pair of glasses?	42 Seconds	0+ Novice High	How to talk about possession.	Anita is looking for who owns a pair of glasses and few bucks left on the canteen table.
6. Favorite Games	30 Seconds	0+ Novice High	Habits, Routines & Gender	Friends talk about what they like to do on the weekends for fun.
7. Your Introduction	2:07 Minutes	1 Intermediate - Low	Gender, & Routine Activities	The conversation takes place on a moving bus. Vimal is already sitting in the bus. Anand rides the bus later and sits next to Vimal. They introduce themselves. The conversation ends with an exchange of contact details.
8. My Introduction	1:42 Minutes	1 Intermediate - Low	How to talk about what one does & how one feels	Girls meet in an Indian store and talk to each other.
9. My Daily Chores	1:44 Minutes	1+ Intermediate - High	How to talk about habits and routines. How to use Icebreakers. How to state one's appreciation.	The conversation takes place in a small office place. Suhail and Mira share the place. It is time for a break in the office. Suhail and Mira end with a promise to have later talk.
10. In the Post Office	1:24 Minutes	1+ Intermediate – High	Buying stamps, envelopes, sending a parcel	The conversation takes place at the counter of a post-office. Rohan comes to the counter. He asks for stamps, envelopes, etc. He also needs to send a parcel box.

11. At the Railway Enquiry	1:24 Minutes	2+ Intermediate – High	Buying tickets, checking on availability, and costs	Shabana wants to get ticket booked to Delhi. She comes to the ticket counter at railway station, and talks to the person at the window. The conversation ends with her getting a waitlisted ticket.
12. My Neighbor	3:04 Minutes	2+ Advanced – Plus	Complaining about neighbors, their behavior, and other features	This conversation takes place in a balcony or verandah. Mahendra and Ravi are friends, and Ravi is visiting Mahendra at his new house. Mahendra is talking about his neighbors, and explaining what he has experienced at his new place. The conversation ends with Ravi and Mahendra planning to meet the neighbors..
13. My Country, My Village	4:22 Minutes	2+ Advanced – Plus	Describing one's village, giving directions, locations.	The conversation takes place first in the classroom, and then moves to a cafeteria. Radhika and Rajeev are classmates, Rajeev talks about his country and village using a map and a few pictures and then some other sketches. The conversation ends when someone calls one of them for their lunch trays. They are dressed as students.
14. My Best Friend	3:04 Minutes	2+ Advanced – Plus	Describing friends, their features, and expressing excitement	Kishore and his father are sitting at the dining table. That's when Shobha comes with dinner plates and

				they all start talking. Kishore shows them his school pictures, and points out who his best friend is, and talks about how he is. The father is dressed formally, the son is sportily dressed, the mother comes in her sarii.
15. Meeting the Instructor	8:04 Minutes	3 Superior	Describing a problem, instructing, explaining solution	This conversation takes place in teacher's office. Jeanette knocks the office door and upon approval gets in. She carries a backpack, her notes, and a pen. She talks about her problem. The teacher explains the problem, and hands her some exercises
16. At the Book Shop	1:46 Minutes	2+ Advanced Plus	Buying & Selling Books	The conversation takes place at a bookshop. Anita approaches the counter of the bookshop and requests a copy to be changed. She orders one more book.
17. Last Night's Dream	3:10 Minutes	2+ Advanced Plus	Talking about dreams, continuous actions, possibilities	Shabana and Raman talk over phone. Raman is explaining what he saw in his dream last night. The conversation ends with a note that they should talk later.
18. With a Travel Agent	2:38 Minutes	2 Advanced	Bargaining for better price, Turn taking, degrees of respect, request	This conversation is talking place at the travel agency. Bhanu is the client. She wants to buy a ticket to India. They have conducted business together before.

19. Meeting Parents	3:04 Minutes	2 Advanced	Making suggestions, pleading, negating	Gaurav is home meeting his parents in the living room. They share tea, and are discussing why it is important for Gaurav to marry. The conversation ends when Gaurav leaves the room after they all decide to discuss it sometime on Sunday.
20. My Evening Plans	1:41 Minutes	2 Advanced	Talking about future, and plans, commands	Madhu and Sonia talk over the phone. Madhu greets Sonia on her birthday. They plan for an evening party.
21. In the Summer Vacation	1:23 Minutes	2 Advanced	Talk about past events.	Ishita and Rita meet in the cafeteria and they talk about how Rita enjoyed her trip to India. She explains where she stayed in Delhi and what places she visited.
22. Introduction to MSU	4:27 Minutes	1+ Intermediate - High	Describing place, and their importance	Sameer and Ashmita meet at the OISS. Sameer shows Ashmita around campus. They start walking from international center towards the library. They end up at the MSU Dairy Store in the Union.
23. Life of American Students and Teachers	2 Minutes	2 Advanced	Talking about strengths and weaknesses of two systems or kinds of people	The conversation takes place in a living room. A few Indian students and their wives talk about how hard-working students are in the states. How easy it is for teachers to be doing what they like doing. Students enjoy their sides too.

24. Knowing an Indian Student		1+ Intermediate-High	Talking about experiences of person from a different culture	Shekhar and Jason meet. Jason visits Shekhar's apartment and asks Shekhar how it feels to be in America.
25. Meeting a Friend	8:07 Minutes	2 Advanced	Talking about how one misses a friend, how things have been recently	Friends meet in the MSU Union and talk about their studies and other things.