

The Virtual Tibetan Classroom

by William Magee, DDBC

*Thanks to a Generous Grant from the Taiwan National Science Council
and the “Hopkins Multimedia Tibetan Research Archive Project”*

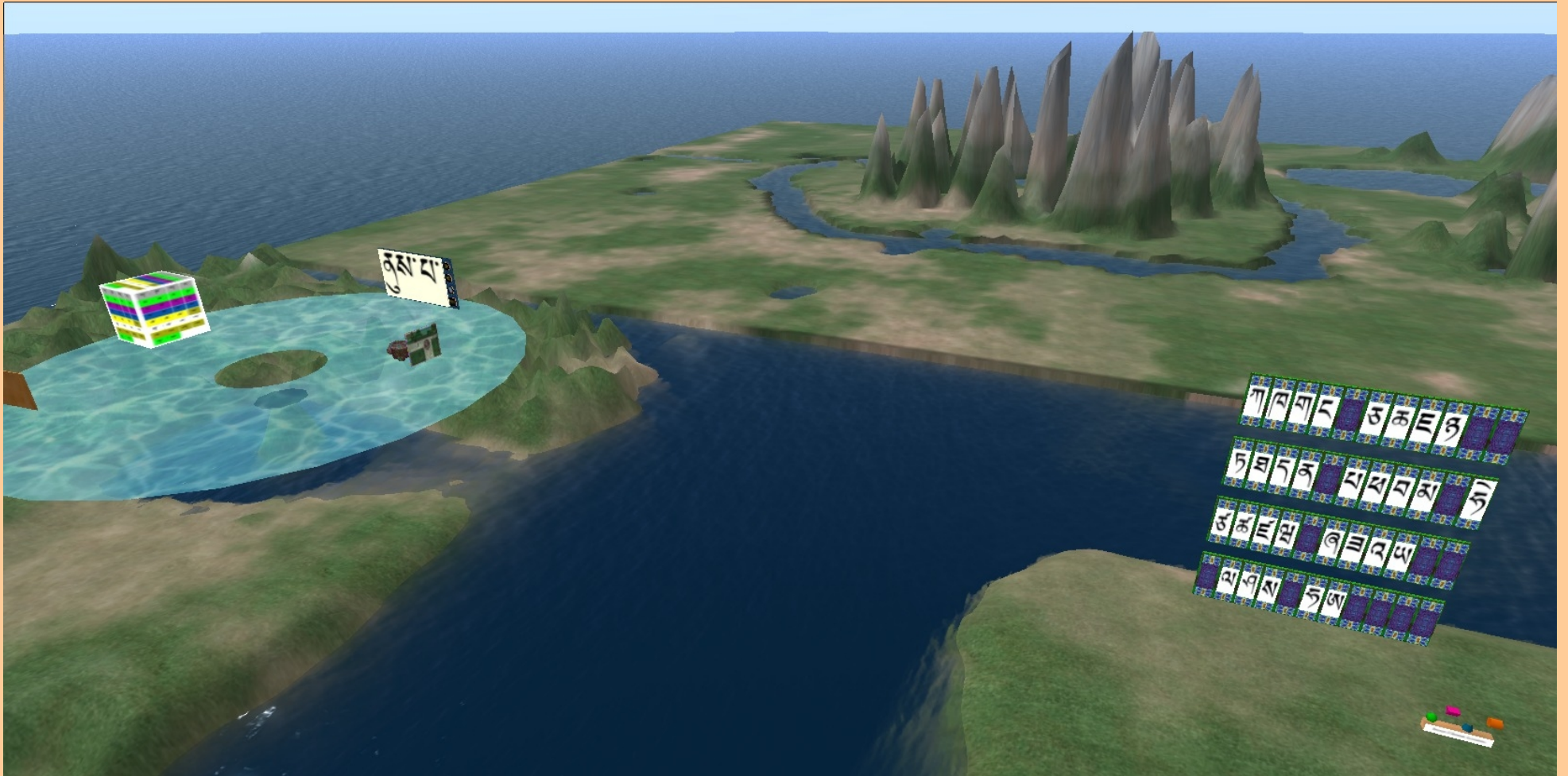
<http://haa.ddbc.edu.tw>

Hosted by Dharma Drum Buddhist College

Introduction

- This paper describes 3D tools our project has developed for the display of Tibetan in a Virtual Tibetan Classroom installation.
- Although we used Tibetan as the project language, these tools are adaptable to other difficult scripts (such as Devanagari, Mongolian, and Chinese).
- Display tools follow two technical paradigms:
 - Fixed-content Language Display
 - Real-time Input Language Display

A Virtual Tibetan Classroom on *OSGrid*



Fixed-content Language Display

Every glyph and sound that the tool will use in the execution of its program is stored as a graphic file or audio file within the device. Language lessons must be loaded and programmed in advance.

The Cube of Tibetan Consonants

The Cube of Tibetan Consonants is an example of a Fixed-content Language Display tool with Audio. The Cube contains thirty graphics and thirty audio files of the Tibetan consonants and their sounds.

The controlling program allows the user to step through the consonants sequentially or to play a specific consonant over and over.

A quiz module is included so that students can track their progress learning the Tibetan consonants.

1.ka;2.kha;3.ga;4.nga;
 5.ca;6.cha;7.ja;8.nya;
 9.ta;10.tha;11.da;12.na;
 13.pa;14.pha;15.ba;16.ma;
 17.tsa;18.tsha;19.dza;20.wa
 21.zha;22.za;23.'a;24.ya;
 25.ra;26.la;27.sha;28.sa;
 29.ha;30.a;
 Click Cube or Type '/22 help'



The Wall of Wylie Writers

A Fixed-content Language Display Array for Tibetan ligatures was designed to represent all possible Tibetan glyphs.

The 44 panels can be written to individually at the time of classroom instruction or can be pre-programmed to display customized Tibetan lessons on command.

The array can be extended beyond 44 panels as required.

Sound can be included in lessons with pre-programmed calls to an external server.

ཀ ཁ ག ན ལ ཌྷ ཏ ཐ ད དྷ ན

པ བ བྷ མ ཙ འ ཡ ར ལ

ཕ བ ཎ ཏ ཉ ཊ ཋ ཌ

ཌྷ ཏ ཐ ད དྷ ན ལ ཌྷ ཏ ཐ ད དྷ ན



Preset Tibetan Lessons

/42

/43

/44



WylieWriter Lesson 2
Prefixes and Suffixes
For Commands Type '/88 help'

WylieWriter Lesson 4
Numbers
For Commands Type '/111 help'

WylieWriter Lesson 1
Consonants and Vowels
For Commands Type '/77 help'

WylieWriter Lesson 3
Stacked Consonants
For Commands Type '/99 help'





Welcome to Yang-jen-ga-way-lo-dro's Tibetan Grammar Verse
For Verses Click Panels
To Rearrange the Panels to Solve the Puzzle
Swap Panel with Empty Area
Type '/999 swap0-<1-15>'
Reset Panels with '/999 reset'

9	གང་དེ་ནི་བམ་མེད།	སྤྱ་རྒྱ་དང་སྤྱ་ལྷན།	0
90	2	90	
2	2	92	92
2	99	6	94

Real-time Input Language Display

Lesson content is input by teachers and students during class and is displayed with the support of an external server.

The Tibetan Whiteboard

The Tibetan Whiteboard logs the user's Wylie transliteration string and sends it across the internet to an external server.

When the Wylie string arrives at the server it is passed through a LaTeX formatting process that converts the Wylie string to Tibetan script.

The Tibetan Whiteboard can also display roman text and diacritical marks.

The Sanskrit for this:

ॐ तत्सत् गणेशाय नमः

is this:

tathāgatagarbha



Menu

UTF-8 Character Encoding

Since Second Life and OpenSim viewers allow UTF-8 encoded text input to be displayed, it is possible to input strings in virtually all major scripts using UTF-8 Character Encoding for languages supported by Unicode.

Since Tibetan is supported by Unicode, Tibetan script can be displayed in the virtual classroom if the user has the ability to input UTF-8 strings (Linux users can use Scim). Chinese and Devanagari can also be input in this way



DDBC opensim utf-8 tester: ཁ་དོག་དང་དམར་པོ་གཉིས་ཟུ་ག་རེད་
bill magee: ཟུ་ག་སུམ་རེད་

Concluding Points

- Fully interactive Tibetan language classes are now feasible in the virtual environments of Second Life and OpenSim.
- Working from the templates created for the Virtual Tibetan Classroom, scholars of Sanskrit, Chinese, and so forth can readily design their own language tools.
- As the convenience of 3D virtual platforms increases, institutions offering Tibetan and other Buddhist canonical languages may decide to relocate language instruction to the virtual classroom. There is an emerging body of research which suggests that this can be done without sacrificing language acquisition.

Where To Find A Virtual Tibetan Classroom

Second Life: Catocala Region

Hypergrid: Wamlabs Region, OSGrid

Visit <http://haa.ddbc.edu.tw/opensim.php>
for an OAR file including the entire Virtual Tibetan
Classroom for loading into any OpenSim installation