Report on the Digital Tripitaka Koreana 2001

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1. Introduction

Since releasing TK 2000, many users reported the difficulty in its installation. In addition, there have been so many users to complain the unfriendly designed search functions. In order to meet these complaints, the staffs of RITK should make a plan for improving TK 2000 immediately after it was released.

These problems are caused first by spending more time to improve the accuracy of text data than what we expected. Secondly, it prevents us from taking as much time as we like in articulating the installation and search programs. Thirdly, the crucial mistake we made in programming TK 2000 comes from sticking to the DHTML method of programming. We see only the advantage of the program to easily manage the Unicode characters. However, it brought about the inefficiency to manage some data or link data, and finally resulted the defect of TK 2000, the difficulty of installation, poorly working search functions.

In order to solve these problems, we changed the strategy to display the data. The most urgent matter in programming the digital Tripitaka Koreana 2001(TK 2001) as an upgrade version of the TK 2000 was to replace the improperly working parts based on DHTML with a more simply designed program. We utilized Visual Basic program to create new data and used web browser to display Unicode characters. And then we linked these with rest of data programmed by DHTML. This process of work was successfully done. As a result, TK 2001 is now able to provide the functions that were planned to put in TK 2000 but not actualized, such as automatic linkage of Unicode data and the image data of Tripitaka Koreana, a digital dictionary of classical Chinese, and the short digital dictionary of Buddhist terms. Although it is a type of test version (working with Windows 2000), TK 2001 will provide an English version for the convenience of English language users.

Some Noticeable Changes of TK 2001

A. Simplified Design of Front Page

We made it simpler than the previous one in order to retrieve the front page fast and quick

access of search page.

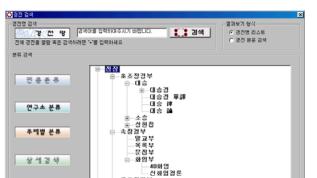


1. Front Page of TK 2001



2.First Page of Search Sutras

B. Three Types of Search Methods based on Tree Form of Classification TK 2001 provides 4 kinds of search function. The first three are based on the classifications by the traditional, the RITK's, and subjects.



$\left(\begin{array}{c} \\ \\ \\ \\ \\ \end{array} \right)$

3. Three kinds of Search Functions

Since those are user friendly designed by using tree form of structure, it might be utilized without the manual.

One of the noticeable changes in TK2001 is to provide the statistics of the search result with the quick retrieving of its data as follows.

하당 2건의 원문을 보려면 "원문"를 선택하십시요		
순서 경 전 이 롬 (한글)	· 경 천 이 룸 (한자)	경란보기
1 금강명최승왕경	金光明最勝王經	원문
2 공강반야바라질경	金剛般若波羅蜜經	원문
3 금강반야바라밀경	金剛般若波羅蜜經	원문
4 금강반야바라밀경	金剛般著波羅蜜經	원문
5 능단금강반야바라밀다경	能斷金剛般若波羅蜜多經	원 문
6 불설능단금강반야바라릴다경	佛說能斷金剛般著波羅蜜多經	쉰 문
7 대승금강계주보살수행분	大乘金剛?珠菩薩修行分	원문
8 불설금강장대위신력삼매법인주품	佛說金剛藏大威神力三昧法印呪品	원문
9 금강상미다라니경	金剛上味陀羅尼經	원문
10 금강장나라니경	金剛場陀羅尼經	원문
11 금강비밀선문다라니주경	金剛秘密畫門陀羅尼呪經	원문

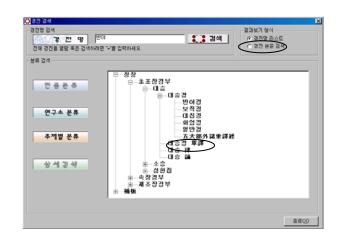
4. Result Screen

C. Two ways of Searching Sutras

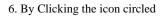
ii. To Find Sutras by Titles

It has a search function to find sutras simply by imputing full or part of title of a sutra or clicking one of icons seen in the tree form of classifications.

Q 경관 검색			×
2건명 34 2 전 명 반08 건체 3건을 열람 혹은 김석히려면		 결과보기 성식 이 경전명 리스트 이 경전 본문 검색	
분류 검색			
원 중 분 유 연구소 분류	● 33 全 補板		
주제법 분류			
상세경착			
	,		
		[종료(炎)



5. By Inputting the Title of a Sutra



iii. To Examine the Contents of A Certain Sutra or Sutras

It provides the tool to search a Buddhist term in the selected sutra or sutras by inputting a Korean word in the query box or using the Chinese word input tool.

223 24 223 24 233 254 25 조산 명 1970 전체 278 285 초은 2340125 - 등 입 분류 214	출과보기 형식 중전명 리스토 야 경진 분문 금석
전 중 준 유 연구소 분류	정장 응-초조장경부 응-대승경 - 대승경 - 반0경 - 대성경 - 대입경 파임경
추계법 분류 상 세 경 색	
8	종- 촉장경부 ●- 제조장경부 播板 音面(3)

1 전 체 선	석인어 감석 다 색인어 확장 감색	(한자 입력기 검색(<u>3</u>)
	김선명(한글)	경 선 명 (한 자)	-
22	대보적경	大寶積經	
23	대방광삼계경	大方廣三戒經	
24	불설무량청정평등각경	佛說無量清淨平等覺經	
25	불설아미타삼야삼불살루불단과도인	£> 佛說阿彌陀三耶三佛薩樓佛檀過度人道約	
26	불설무량수경	佛說無量壽經	
27	아촉불국경	阿?佛國經	
28	불설대승십법경	佛說大乘十法經	
29	불설보문품경	佛說普門品經	
30	불설포태경	佛說胞胎經	
31	문수사리불토엄정경	文殊師利佛土嚴淨經	
32	법경경	法鏡經	
33	육가라월문보살행경	郁迦羅越問菩薩行經	
34	불설환사인현경	佛說幻士仁賢經	
i러 경전	1을 선택하려면, 행선택자를 Ctrl키 + 마	우스 왼쪽키를 Click하시오	달기(X)

7. Click the icon for searching the contents

8. Search by inputting a word

😳 한자 자전		
선택된 한자		입력 완료
부수로 찾기	총획수로 찾기 음으로 찾기	
부수 선텍	한자 선택	
부수 획수 1	▼ 부수를 제외한 나머지 획수	
		A
Ĺ Ź		
1		
		<u>_</u>

9. Search by using the tool for 3 ways of inputting a Chinese Character

	색인머 검색 색인머 확장 검색		한자 입력기
전 체 선 택	1201 48 84 4		검색(<u>S</u>)
ID 경 선	명 (한 글)	경 선 명 (한 자)	
22 대보책	경	大寶積經	l
23 대 방광	·삼계 경	大方廣三戒經	
	1량청정평등각경	佛說無量清淨平等覺經	
25 불설이	ト미타삼야삼불살루불단과도인도	> 佛說阿彌陀三耶三佛薩樓佛檀過度人道緣	
26 불설투	-량수경	佛說無量壽經	
27 아측물	▶국경	阿?佛國經	
28 불설디	승십 법 경	佛說大乘十法經	
29 불설보	1.문품경	佛說普門品經	
30 불설크	트레 경	佛說胞胎經	
31 문수시	h리불토엄청경	文殊師利佛土嚴淨經	
32 법경경		法鏡經	
33 욱가리	+월문보살행경	郁迦羅越問菩薩行經	
34 불설획	·사인현경	佛說幻士仁賢經	
岐若] Search F	inished. 299 Found. 0:00:03 Se	ю.	달기(X)

10. To Search the word 般若 in the selected sutra

) 출현 경전 방(한글) 222 299 대보적경	경전명(한지 大管構編	4)
22 299 테르역 정	大會積輕	

11. The Window shows the statistics of the search results: "299 frequencies of the word 般若 are found." "it

takes 0.02 seconds to search."

ID	권	페이.	단	행	원문
22	6	4	A	8	海者巳度智彼岸者⊙⊙波羅蜜多
22	6		A	9	者⊙⊙波羅蜜多到一切世間波羅
22	6	8		10	
22	6	45	A	7	薩等所入⊙⊙波羅蜜門於此住已
22	6	126			⊙⊙波羅蜜如是?淨若是垢?刀
22	6	127			佛灌頂記彼修大悲④④波羅蜜善
22	6	134	В		蜜乃至⊙⊙波羅蜜起前二行皆悉
22	6	156			尸波羅蜜乃至⊙⊙波羅蜜亦復如
22	6	157	A		⊙⊙波羅蜜相應善根?向不動如
22	6	202	В		此④④體性淨故知菩提體性淨知
22	6	203	В		故方便之心得畢竟者修行⊙⊙故
22	6	205	С		切而得自在若勤精進求⊙⊙慧學
22	6	208	В	13	菩提之道成就方便具足⊙⊙
22	6	208	В	15	離諸魔縛成畢竟行善知方便行⊙⊙波羅蜜時佛
22	6	208	В	17	善知方便行⊙⊙波羅蜜文殊
↓ [[-		-		
7		1		원문열람	(B) 달기(X)

12. Window of Index for the word to be searched



13. Result Screen

D. Detailed Search by Categorical Conditions

This search method is designed according to the data created by Professor Seung-sok Chong, the author of the explanatory bibliography of Tripitaka Koreana. Its feature is as follows:

경전 검색 경전명 검색		결과보기 형석
전체 경진을 열당 혹은 검색하려	색이를 입력하여주시기 바랍니다. [1] 경색 면 'Y'을 입력하세요	 경전명 리스트 경전 분문 검색
분류 검색		
전 등 분 유 연구소 분류		
주제법 분유	22 (1580) (158	1 (北京) (北南) (北南) (北南) (北南) (北南) (北南) (北南) (北南
상세갑착		
		중료(X)

14. The Window for Detailed Search by random selection of the given conditions

E. Dictionaries of Classical Chinese and Buddhist Terms

· 경전 분을 검색 결과 보기	
空界者智所行境清淨 - 22 08647 000 27	
故元所依者 大寶積經	4
離翳者了知	3
	페이지 C단
▲ 教光明 型和41 032 00048017 AP	
送有 双 兀 明	
網遍法界故究竟寂靜 #18 BED #18 B	
者最寂靜心 an un un easin easin ear	ee
故一切陀羅尼種性智	
境界者於三 80 488 117 109	
序也力通儿我有味住 「那個那個	
法界盡其際 「182 000/0 年7 「182 000/0 年7 「182 000/0 年7 182 1800 102	
者於一切法住无所得	
者遊無邊智 四日 四日 日日	
State of the state	
若波羅蜜多	
- 경전 페이지 이동	
	1 달기

15. Automatic Search of Chinese Words

😳 사전 검색 결과	
空云	비다.;구멍.;궁하다. 3획 (총 8획)
界"	경계 한정하다;이간하다; 둘間 4획 (총 9획)
者老	놈, 것, ;이, ;어조사 5최 (총 11획)
智品	슬기;사리에 밝다. 8최 (총 12획)
Fig. 2.	~ 것. ;~ 곳(장소) ;까닭 🔍

16. Result Screen by Dragging the mouse on a word or setences

F. Edit, Save and Print Data to be Searched

😳 경전 본운 경색 결과 보기	
	[김진·미동하기] 이미지 보기
空界者智所行境清淨	현재 경진 정보
故无所依者	L da strum
隨世意樂現色身故能	大寶積經
離賢者了知	대보적경 -
	김건범위 06월 0001월이지 A단 ~ 06월 0954월이지 C단
无有衆生界故虛空智 _	
慧者放光明	현재위치 06원 0004페이지 A단
網遍法界故究竟寂靜	해제 문접기 현재 경전으로 작업
者最寂静心	해제 보기 편집하기 편집/프린트
故一切陀羅尼種性智	· · · · · · · · · · · · · · · · · · ·
境界者於三	읍신 설정
摩地勇猛无畏者眼住	F 사건 검색하기
法界盡其際	F 경관 이미지 보기
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
者於一切法住无所得	
者遊無邊智	감색 결과 이동
海者已度智彼岸者般	처음 이견 다음 끝
若波羅蜜多	
272 1101月 01 長 ダ	
	벽갈피보기 닫기
바로가기 📃 🚺 🖌 📐	

17. To Click the icon circled

😳 편집 & 프린트			X
원 문		~ 저장	
페이지 설정	인쇄	인쇄 미리보기 저장 하	71
- 경 판 - 저장		- 편집	
탁본형태	현재화면	편집기 실행 클립보드에 복.	~
-프린트 -용지방향		출력할 경판 형태	
	○ 세로	⊙ 현재 경판	
A	ⓒ 가로	C 탁본 (흑백) 인	!쇄
		je na se	닫기

18. The Tool for Editing, Printing, and Saving the Data to be searched

3. The Future of Digital Tripitaka Koreana

The institute already made a plan for TK 2002 just after completing the TK 2001. As it has been mentioned previously, the Digital Tripitaka Koreana will move on according to the concept of 'Open Dynamic Text' that the digital texts have usually adopted for its progress. In fact, since TK 2001 was made hastily in order to make up for some defects in its installation and search, we regard it as an intermediate one to bridge TK 2000 to TK 2002.

TK 2002 will afford the more accurate text that is an almost error free Unicode text. In order to make this quality of digital tripitaka, we are carrying out two important tasks; the first one is to proofread the Unicode text by utilizing the variant character version of Tripitaka Koreana more refined from the 4-byte code version and the image version of the photocopy edition. The second work is to compare TK 2002 with CBETA's Taisho. This comparison will be also helpful to CBETA's work and would be the first step to create a modern unified digital tripitaka.

One of the remarkable plans in making TK 2002 would be to afford MS word version of Tripitaka Koreana. We will develop this version based on the past experience to publish the Dictionary of Chinese Variant Characters in Tripitaka Koreana. We could edit this dictionary by utilizing MS word program and found a possibility to implement Tripitaka Koreana in it.

Besides these works, the institute will launch the project to create a digital Korean language version of Tripitaka Koreana. As its pilot project, we already made a XML version of Korean lotus sutra in the middle of this year and are carrying out some Tantric Buddhist texts by the request of Korean Jingak Buddhist Order. Based on these working experiences, we expect that the cooperation with Dongguk Yeokgyoung for linking TK 2002 into Hangeul Taejanggyong will be successfully done.

We are still making an effort to create a standard model of the unified tripitaka by performing the project of Buddhist text DTD in macro and micro. The institute will be able to introduce the more concrete product of this work in the coming EBTI conference in Japan. The institute expects that this model will be examined and refined through the conference by EBTI members' efforts.