ITWS III Projects, 2005

Project Title	Faculty	Mentor	No. of Students	Description
Stand-alone testing Tool	Dr. Sangal and Mr. Rohit Gupta	Bharat Joshi	4	Build a tool with GUI to facilitate the stand-alone testing/validation of various modules in shakti system or otherwise similar modules. Validation: Testing the module/system against previous version(s) of the same. Skills: Python or C/C++ and Qt or Java for GUI
Developing and implementing an algorithm for placing a given directed acyclic graph on a display screen	Dr. Sangal and Mr. Rohit Gupta	Bharat Joshi	2	An input specification file contains a directed graph (in the dashboard format). Sort the graph topologically. Place the graph on the computer display screen, by producing coordinates of the graph on the screen using the aforesaid algorithm. Thus, the output of the graph is a visual spec file (which is again in a predefined format).
Visually render the pipeline/graph of the shakti system on the computer screen, and show the running system dynamically	Dr. Sangal and Mr. Rohit Gupta	Bharat Joshi	4	In other words, when the running system executes a component/node of the graph, the corresponding display of the graph changes to show the execution. Specifics: Part one - Providing many features to the system e.g. dynamic pop-ups, system status. (GUI-related) Part two - Connecting to signal sender of the actual running system and show the status using GUI. (Backend coding.) Skills: Python or C++ and Qt or JAVA (for Part one)
SSF Visualation / System Analysis Tool	Dr. Sangal and Mr. Rohit Gupta	Bharat Joshi	4	Build an analysis tool with GUI to analyse/research the working of the shakti system. This system takes in input the logs produced by previous runs of shakti and represents them in a formated manner suitable to the needs of a researcher. e.g. showing the trees for roles and dependencies. Skills: Python or C/C++ and Qt or Java for GUI

Bibliography management system	Dr. Kishore Kothapalli		2	Create a tool to index technical reports/research papers etc. for quick reference. The tool would be searchable usnig multiple criteria such as title/author/journal/conference etc. In addition, it should allow the user to create his/her own keywords for each paper e.g., "FOCS93-load balancing", "uses dispersion technique", and the like. These fields are also searcheable. The tool would allow the user to create a project (like a paper being written) and add bibliography items to the project. The bibliography items should also be exported to a .bib format or other supported formats. Also, store the soft copies based on the project and support view/edit option for each item stored. More details will be provided as required. The front-end should run on most OS'es (Linux/Unix/Windows) and should be quick.
Automation of document preperation requested by the students	N.N.Appaji	Mr. Somayajulu	2	1. Database creation from the text file (consists of list of Roll Nos and Names with programme name) 2. Inputs to be taken from user to print various documents. Roll No, Type of Document, other information 3. Verification and printing permissions for Academic Office 4. Database for Processing Fee details. 5. Provision for preparing a new document
eSagu: Content Management System	Dr. P. Krishna Reddy	R. Uday kiran	2	Agricultural information repository is being built at eSagu, IIIT, Hyderabad. For the purpose of the scalability, adoptability, this information needs to be Standardized into eLearning Formats like SCORM-Scalable Content Object Reference Model. Hence for building the SCORM based Agricultural Information Repository, students with knowledge on MySql, PHP/JSP or CGI etc. are preferred.

Selection of TA's through portal	Dr. Venkaiah	Mr. Somayajulu, Mr. Appaji	2	1. Adding of courses which are offered in a semester 2. Receiving applications for TAship. 3. Viewing of applicants in various ways. 4. Making selection of TAs. 5. Selected candidates information in the form of reports 6. Facility to send relevant emails to different groups
eSagu reusability of advices delivered by the scientist	Dr. P. Krishna Reddy	M. Kumara Swamy	4	eSagu is a project designed to deliver the farm advices to the farmer. The advices are delivered by the agricultural scientist on observing the digital photographs. These advices are to be reused when the farms are facing similar problems. The pre-requirements are MySQL, PHP/JSP (preferable) or CGI etc.
IJCAI-07	Gen R K Bagga	Vijay	2	Managment of International Event IJCAI-07 for Steering Committee
IJCAI-07	Gen R K Bagga	Vijay	2	Finacial Control by on line monitoring: Budget and Expenditure of IJCAI-07 Students can use spreadsheets & Simscript for simulation for past,current and future status of events/funds.
IJCAI-07	Gen R K Bagga	Vijay	2	IJCAI-07 web site ON-LINE monitoring
Creating Web Demo of Named Entity Extraction	Dr.Vasudeva Varma	Prasad Pingali	2	The current application developed in Java has to be made accessible through the web
Creating Web Demo of Stemmer for Indian Languages	Dr.Vasudeva Varma	Prasad Pingali	2	(same task as above)
Creating Web Demo of Information Extraction for disater management	Dr.Vasudeva Varma	Prasad Pingali	2	The current application developed has to be made accessible through the web

GUI for Modal Analysis of Structures	Dr.Ramancharla Pradeep Kumar		2	1. A lumped spring mass system will be given. 2. User extracts mass matrix and stiffness matrix from the system which becomes input for the program. 3. Program evaluates frequency and mode shapes (I shall give the algorithm). 4. Plot the mode shape and animate them. Note: Student must be good in writing program in Matlab
GUI for Analysing Ground Motion	Dr.Ramancharla Pradeep Kumar		2	1. A time history of earthquake is given as input by the user. 2. For a range of frequencies program has to calculate response spectrum. (Algorithm available) 3. Fourier transform of the time history is to be evaluated 4. Duration of strong ground motion is to be evaluated. 5. Plot 2 and 3. Note: Student must be good in Mathematics and in Matlab programming.
Building an Interface for populating Bangla dictionary with the stemmer output	Dr.Soma Paul	Vasudhara Sarkar	2	To compile dictionaries manually for natural languages is a difficult and time consuming task. And there lies a high risk of human errors creeping into the process. To avoid human intervention, the existing stemmer - given a set of words from running texts - returns the stems (the base part of a word) which can be stored in the dictionary. For example, if the input given is 'toys', the stemmer returns 'toy' as the stem. The goal of this project is to develop a GUI to view the output of the stemmer. The interface should enable the user to select the correct output and specify its part of speech. If the output is wrong, the user should have the permission to correct the output. All the information provided by the user should be stored in the database. Skills required: Knowledge of Python, CGI

Building an interface for populating the database of Englsih Phrasal verb	Dr.Soma Paul	Samar Hussain	2	There are online dictionaries available for English phrasal verbs. Many of the entries of those dictionaries do not meet our criteria of phrasal verb and therefore a selection is required. The project involves the task of reading the database of online dictionaries and create an interface in which the phrasal verbs will appear one at time. If the user accepts it as a legitimate phrasal verb, the construction will be stored in the phrasal verb dictionary. The interface will also have a facility for reading electronic texts. The existing phrasal verb identifier model will identify the phrasal verb, if there is one in the given sentence. The output will be retruned to the user for verification. After the checking is done, the phrasal verb will be added to the database. Skills requried: Python, CGI
GUI for RNA structure database	Dr.Abhijit Mitra	K. K. Kiran	2	Description: RNA forms a class of biological macromolecules which is rapidly emerging as the centre of attention for researchers world over. BiRC has developed several in house tools for extracting diverse structural features from X-Ray crystal structure data on RNA molecules and has generated a large amount of preprocessed data. While BiRC researchers are in the process of designing a suitable database for storing this data, development of a GUI (front end) for handling complex web based queries needs to be carried out in parallel. Skills required: Web programming and scripting using PHP or CGI. Deliverables: GUI for web based (intra and internet) database query.

Local Technical Paper Repository	Dr.Anoop Namboodiri	Sachin Gupta	2	The requirement is to create a repository of technical papers within IIIT, so that anyone who has an electronic copy of the paper can upload it to the repository with relevant details. The repository can then be searched for papers, bibtex entries etc. Skills: Web page design, SQL.
Stroke Annotation Tool for Online Handwriting	Dr.Anoop Namboodiri	Naveen Tewari	2	The aim is to develop a tool for semi-automatic annotation of Handwritten data. There are several existing algorithms that look at handwritten data and assigns partially correct labels to it. The tool should provide an intiutive interface for a user to correct the errors made by the automated tool. In addition, the tool should also provide the corrections in an appropriate format to a learning module, that will improve the performance of the automatic labeling routine. The labeling and learning algorithms are already available. Your aim is to develop a GUI-based tool that integrates the individual components. Skills: Qt, C/C++ or Python.
WebKhoj health monitor	Dr. Vasudeva Varma	Prasad Pingali	2	Crawler and Indexer/Retrieval engines of WebKhoj search engine are incrementally updating databases. These systems may fail due to various reasons both internal / external to the system (example a network outage, or a bug in the software). The health monitor system will send periodic (once a day or week etc.) and event based reports through e-mails automatically to the respective administrators.
Web based demos for summarization	Dr.Vasudeva Varma	Prasad Pingali	4	Four versions of summarization systems exist, based on various functional parameters such as query independent, query based, single document, multi-document etc. A web demo of all these systems need to be built.

To Develop Web-Frontend for a Genome Analysis Tool	Dr.Nita Parekh	Hemanth Sanna Reddy	2	A web-frontend for a set of programs developed in C. Skill Required: Web Programming, Integrating web-frontend with C
To Develop GUI for SNP Database	Dr.Nita Parekh	Ajeet Pandey	2	Skills required:- Web-programming & MySql Description:- A database will be provided for which GUI has to be developed. This GUI must have the functionality to search the database by different primary search option and then again refinement of result according to the given secondary search option. Output of the search must be displayed on the browser and also store the results in a text and XML file formats. No domain knowledge of SNP or biology required. The domain specific queries and interconnection of tables will be provided the mentor.
Developing GUI for Protein Tandem Repeats Database	Dr.Nita Parekh	Kasturi Krishna Kiran	2	A database of Tandem Repeats of proteins is developed and a GUI is required. It should be web enabled and should handle queries to retrieve data from the Database (MySQL). No domain knowledge required.
Portal for IIIT Seminars	Dr. Madhu Mutyam		2	Create a portal which takes 1. lecture title, 2. speaker name, 3. affiliation, 4. date of lecture, 5. type of lecture series (IIITH seminar, IIITH Distinguished Lecture, IIITH student festival,etc.), 6. abstract, 7. speaker description. and 8. the audio recording, and prepares a seminar's web page. The portal should allow for search (based on different criteria).
Effective front end for eSagu website	Dr. P.Krishna Reddy	Venugopal Reddy Mummadi	2	The students are supposed to implement effective front end for esagu existing website. They need to take into consideration the existing architecture for building the same. The help desk feature for assisting the agricultural scienists may also be incorporated and should be integrated with the reference advices feature.

Alumni Fund Management	Dr.Jayanthi Sivaswamy		2	Alumni have set up a fund to which they contribute annually. Funds are contributed using different modes, say A (cheques), B (drafts), C (bank transfers), etc. These payments are mostly done online by alumni using a portal they maintain. This portal automatically generates an email with subject indicating mode of payment. We need a tool that will collect information from all these emails and put it into a database. Using a web-frontend I'd like to be able to view reports such as: (a) The status of payments (if received by a/c section or not) and automatically send mails thanking the alumnus or asking for a check on the transaction. (b) Find the total amount received and amount pending.
Security Information System	Dr.Kamal Karlapalem		2	
Maintenance Information System	Dr.Kamal Karlapalem		2	
Hostel / Guesthouse Information System	Dr.Kamal Karlapalem		2	
B.Tech Projects (BTP) Portal	Dr.Kamal Karlapalem		2	

Yogasana Animation	Dr.Vikram Pudi	Yogacharya Vinayakji	4	Still-photographs of asanas have been taken. These photos need to be stored in a database. A sequence of these photos will represent an asana. A database table needs to be created to store the information of which sequence of photos are present for which asana. A program needs to be written that can take these photographs and put them together to form a video sequence. The complication here is that the same photos may be used for multiple asanas. So they may be represented only once. This will save a lot of disk-space. The final video should be viewable through the web.
Yoga Software with GUI	Dr.Vikram Pudi	Yogacharya Vinayakji	4	This will involve viewing various Yogasanas, correlating them with health problems. The project will also involve commentary and music.
A web-based portal for Systems helpdesk at IIIT	Kishore Kothapalli	Bhaskar Prasad (Manager, Systems)	2	Create a web-based portal for the systems group at IIIT. The portal should allow users to seek help with their various system-based needs. The portal should distinguish between administrative user(s) and regular users. The administrative users should be able to assign help requests amongst the systems group along with a priority for the request. The user can then be notified of this assignment which lets the user and the help-provider to resolve the problem. Like most tracking portals, this portal would also have an event notification system and an event tracking system apart from an administration module and the like. More details/requirements would be worked out in consultation with the systems group.

Seismicity near Historical Constructions	Ramancharla Pradeep	Ranjeet Joshi (RA,EERC)	2	We have a large data of indian earthquakes. We would like to know the vulnerability of Indian Historical constructions This can be done by understanding the faults in the proximity of about 250 km from each historical construction We need to retrive from the data that how many faults active. Note: Domain specific information is available. Algorithm will be explained clearly. Outcome: When we give the name of any historical construction e.g., Taj Mahal, programme should give me number of faults near Taj Mahal and past earthquake history of nearby area.
PGSSP Admission Portal	Dr.Vikram Pudi	Somayajulu	2	IIIT offers admission to working people in Hyderabad to do courses in the institute. This programme is called PGSSP. We need a portal where people can apply for the programme and the coordinator should be able to see each application and respond to it (through email), accept it, reject it or seek some clarification. All the applications of each year should be stored in a database for future reference.
MS/PhD Admission Portal	Dr.Vikram Pudi	Somayajulu	2	IIIT accepts applications round-the-clock for its MS/PhD programmes. We need a portal where people can apply for these programmes and the coordinator should be able to see each application and respond to it (through email), accept it, reject it or seek some clarification. An application may be sent to some faculty members for their opinion. An interview may be conducted. The status of the application should be maintained (e.g. sent for opinion, called for interview, etc.) All the applications of each year should be stored in a database for future reference.

Interactive Seismotectonic Atlas of India	Ramancharla Pradeep Kumar	Ranjeet Joshi (RA,EERC)	1	-We have collection of images in JPG format -Task is to combine these images into one map with Zoom in/out facility with fixed aspect ratio -Further functionalities, contact me Note: Domain specific information will be supplied.
Employer Evaluation System	Dr.Vikram Pudi	Jayadev (Placements Section: jayadev@iiit.ac.in)	2	Students, faculty, and alumni login to rate the past and new recruiters in two phases.
Resume Submission System	Dr.Vikram Pudi	Jayadev (Placements Section: jayadev@iiit.ac.in)	2	IIIT students login to submit/modify their resumes for placements.
Recruiter Portal	Dr.Vikram Pudi	Jayadev (Placements Section: jayadev@iiit.ac.in)	2	Recruiters login to register for placemet, post openings for internships and permanent jobs, upon athorization access resume database for the authorized period, etc. **This and the previous two projects need to be up by Nov 1st week for actual placements at IIIT.**
Can be decided later.	Dr.Jawahar		3	Exact title and description can be decided in consultation with Dr.Jawahar.
Algorithm Animation	Dr.Kamal Karlapalem		2	The project is to build a tool for algorithm animation which can be used to teach algorithms. For example, it should show how a quick sort algorithm works by showing pictorially an array of numbers and showing how the numbers move about and how the variables change during each step of the algorithm. Interested **dual degree** students can apply and talk to Dr.Kamal regarding this project.

Data Visualization Tool	Dr.Jayanthi Sivaswamy	Jeetinder Singh (jeetinder@research.iiit.ac.in)	2	Given parameters that change with time, the task is to plot various graphs that show the change in parameters. The tool should integrate into the "virtual physics laboratory" project that is already being built.
Scripting Tool	Dr.Jayanthi Sivaswamy	Jeetinder Singh (jeetinder@research.iiit.ac.in)	2	The user may want to string together a sequence of pieces of audio/video/text presentation etc. The resulting sequence is a demo that can be shown to students in a physics class. The project should enable the user to select the components that should be put together and the resulting composition should be integrated with the "virtual physics lab" project that is currently being developed.
Chat Service	Dr.Jayanthi Sivaswamy	Jeetinder Singh (jeetinder@research.iiit.ac.in)	2	Students in a physics class would want to have a chat session where they all can chat among themselves and with the lecturer -- ask doubts, receive clarifications, etc. A system for this needs to be set up.
Creating Movie Files from VPL Expts	Dr.Jayanthi Sivaswamy	Jeetinder Singh (jeetinder@research.iiit.ac.in)	2	An experiment done in the Virtual Physics Lab project can be stored as a file. In this project, you are required to convert from this file to any standard movie format (avi, mpg, etc.).
Payment Gateway for IJCAI-07	Gen R K Bagga	Vijay	2	We have entered in to an agreeement with Hyd UTI bankers for developing a software tool for integrating IJCAI-07 payment gateway at IIITH. UTI is going to give us a software tool that need to be configured at IIITH servers and needs to be pointed to IJCAI Secretariat as well as to the Event Managers (KW Conferences). And the team needs to be consistently monitor the all the online payments till 03 Nov 2006 (as the date is deadline for early bird registrations). PAYMENT OPTIONS: (1) Wire Transfers (2) Credit Card payments (ONLINE and OFFLINE)

Hotel accommodati-on booking online status for IJCAI-07	Gen R K Bagga	Vijay	2	We have booke around 800 rooms for IJCAI-07 delegates in Hotels/Guest houses at different academic and research institutions along with some service apartments. Once the delegate surfing for the accommodation details, the status should be known for him visually. Example: 60 rooms booked in Hotel Taj Krishna, for every minute the tool should show the online status (single/double occupancies) with some graphic presentations.