

Improving analysis for Web Engineering based on MVC pattern

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ABSTRACT

Recently, there are tremendous changes in net engineering with adoption of net two.0 technologies like front-end applications; fast application development supported light-weight framework and repair platform models by open Apis. However, faculty course works for net engineering don't cowl these changes, whereas most of them tend to be targeted on markup language and type process with information or learning specific languages (e.g. PHP, Java). These result in that several students lose their interests and that they don't acknowledge a unique methodology for net development, though there exist outstanding importance of net engineering. to resolve these limitations, we tend to develop net engineering work 1) applying MVC (model, read and controller) framework to each server-side and front-side net technologies, 2) mistreatment light-weight framework for fast application development (e.g. CakePHP, Ruby on Rails), and 3) mistreatment database-less programming approach with open Apis. A planned work was experimented for junior students, majored in laptop engineering at each MIMIT, Malout in 2020. As a result, most of scholars might perceive typical they may approach to additional method net programming as compared of typical ones and understood the importance of rising front-end technologies and area unit initial actuated finding out net engineering moreover. we tend to detected this approach increase motivation and satisfaction of scholars considerably. In future, we are going to extend this approach to develop associate degree freelance course-ware of net engineering for college kids, creating of modelling, implementation and qualifying net applications additionally as this type of entrance work motivating them.

Categories and Subject Descriptors:

[Computer Science Education]: University Curriculum for Computer Science – Web engineering, MVC pattern, Web APIs.

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I. INTRODUCTION

Recently World-wide net has been given an excellent deal of weight on the net business particularly net technology was chop-chop big up and distended effects for all IT business. It reflects paradigm shift from computer code platform to net as a platform cause d by high computing power and broadband penetration for general users.

Web 2.0 innovators like Google, Amazon and Ebay have offered net Apis supported cloud computing and net developers was smart at speedy development supported light-weight platform like Ruby on Rails and made user-interface technology as like mythical being. kinds of net technology are distended, whereas faculty program remains classical and didn't be updated. Most of them teach basic definitions of hypertext markup language, CGI and communications protocol and programming talent to method communications protocol transactions. It suggests that to not be matured for educators to show them to students consistently in terms of computer code engineering. It suggests that the technology trend has been chop-chop modified since adoption of net.

[1] additionally indicated this downside seriously "Similarly, if you verify metallic element curricula in most universities worldwide you may realize "Web design" is schooled as a service course, along with, perhaps, a course on net scripting languages."

This analysis improves a info that provides a scientific viewpoint supported a MVC pattern in each server and consumer, database-less programming to develop mash-up applications with open Apis for straight forward understanding net services. we tend to applied this approach to

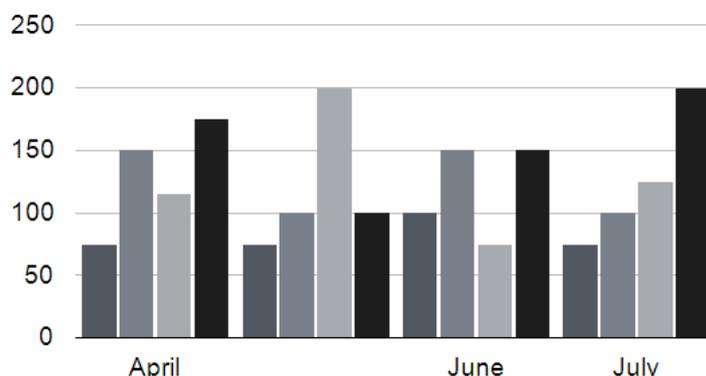


Fig. Figure One

[2] categories and located out this approach increase motivation and satisfaction of scholars considerably.

II. PROBLEM AND IDEA

Most of internet programming categories of universities have numerous syllabuses. But, most of them centred solely on markup language markup, CGI programming and handling info. after all some school adopted parsing XML and usages of internet genus Apis offered by Google, Yahoo and Microsoft.[2]

As a results of measure forty three internet programming courses people universities, most of all centred on ability up for markup language and type process with CGI interface, specific languages and info affiliation. One or 2 courses were simply given in most CS/CE departments though there square measure several internet based mostly business and enterprises.

We surveyed the scholars that majored in pc engineering (CE) by polling ways of one hundred thirty five metallic element students of IKGPTU.

As a result (Figure one.), most of them don't have interests in terms of internet engineering lectures. they are doing not have general skills to develop internet sites and don't perceive why they need to find out hypertext mark-up language and CSS in cerium. It has to scale back burden for college students to form interested porto-type with tiny skills.

So students lose interests by providing several non-systematic skills to form internet sites. They thought front-end skills don't seem to be a part of engineering space. HTML, CSS is boring and regarded internet isn't tutorial however service half by mix of plan and techniques.

Nowadays shopper primarily based technologies has been sturdy in proportion to the computing power that markup and script language are utilised in rendering user-interface and dominant behaviour. (i.e. Microsoft® Sliveright's XAML, Adobe® Flex's MXML and ActionScript etc.)

Also it's been subtle authoring ability that separates system, vogue and behaviour with X/HTML, CSS and DOM scripting supported W3C's standards since 2000 with internet standards evangelists [3] as a central figure. It is terribly similar with a multi-tier design pattern therefore referred to as MVC (model, read and controller). the online standards primarily based ability became vital paradigm shift with division and collaboration of designing, style and programming also server facet. It means that all areas of internet engineering have associate degree elaborate method and fine arts pattern by itself.

Especially varied MVC pattern frameworks occurred that supports the speedy and light-weight development with PHP, Python and Ruby like CakePHP, Django and Ruby on Rails[4]. therefore it's doable for internet developers to form apace own internet applications with advanced computer code engineering skills.

Now internet genus Apis typically spoken as Open genus Apis is wide supported by internet primarily based platform vendors like Google, Amazon, E-bay and most of internet a pair of.0 application firms. It describes sets off technologies that alter web site to act with one another applications by victimisation XML via REST, SOAP and the other internet technology. It offers mix outer knowledge model to have applications therefore referred to as "Mash-up". therefore students will divide knowledge model in existing MVC pattern primarily based project.

So we have a tendency to redesigns internet category information centred on as following things:

- MVC pattern in front-end technologies : Applying internet standards techniques like hypertext mark-up language as a structure, CSS as presentation and JavaScript as behaviour.Enable to a server-less example victimisation mythical being techniques mapping Model (HTML) – read (CSS) – Controller (JavaScript) pattern.
- MVC enabled light-weight framework for speedy development: Recommendation of a development framework to create (construct) a speedy example like PHP (CakePHP), Ruby (Ruby on Rails) and Python (Django)
- Database-less programming to create mash-up application : Students will notice their plan by mashing up numerous Open Apis victimisation XML/REST protocol.

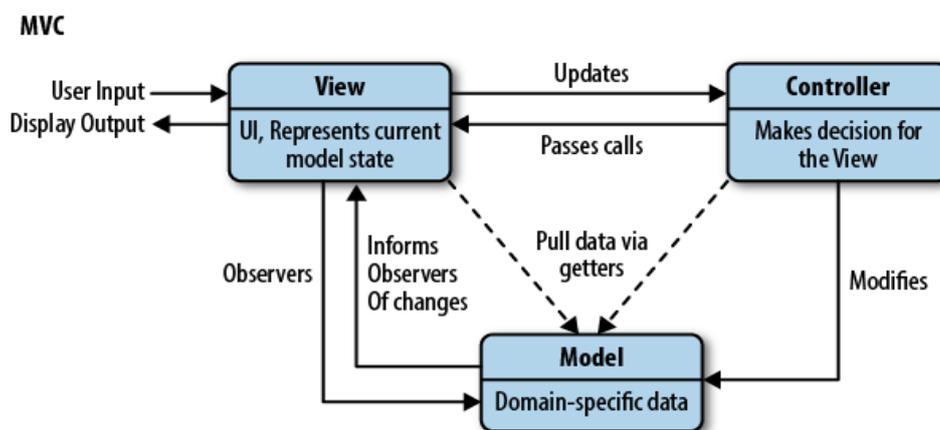


Figure 2: MVC(Model View Controller)

III. CLASS DESIGN

Our category is deigned for college students to adopt MVC patterns each consumer and server facet, intermixture outer information supply via internet genus Apis and complete an imaginative project briefly time with excellent development setting.

3.1 Brief of Coursework:

Our plan of latest redesigned work was experimented in every 2 completely different faculties in countries. One is that the metallic element net Engineering: thirty five Junior students majored in CE of summer semester in IKGPTU University of Science and Technology, Malout, Punjab in 2007 (Table one. is five weeks intensive work with two hours in everyday.)

The other is that the metallic element312 Advanced internet Programming: forty three Junior student majored in CE of spring semester in App Wars students, AI labs, PCR students (primarily based curriculum base on summer work.)

Weeks	Topics	Contents
1 week	Introduction	MVC patterns of server and client side and web 2.0 platform and Web API's
2 week	Web Documents	HTML, XHTML and XML styling with CSS, Client-side programming with DOM and JavaScript
3 week	Web Programming	The basic of PHP and MySQL, MVC framework
4 week	Web API's	Web API's and mash-up, Examples of Web API's
5 week	Projects	Making creative Web application with overall concepts.

Table 1. Web Engineering Syllabus for 5 weeks

Weeks	Topics and Contents
1 week	A History and Introduction of Web, Front-end technology Structure, Presentation and Behaviour
2 week	Server-side technology WEB Application Frameworks, Web 2.0 and Web APIs
3 week	Front-end HTML, XHTML XML
4 week	Front-end: CSS : Styling, Layout, Selector
5 week	Front-end: Document Object Model and JavaScript?
6 week	Client-Programming: Web APIs with JavaScript? (Google Ajax API...)
7 week	Server-Programming: MVC Model and Lightweight Framework
8 week	Server-Programming: Ruby
9 week	Server-Programming: Ruby on Rails
10 week	Project: Web APIs – REST, XML, JSON, RSS Parsing
11 week	Future of Web: Microsoft Silverlight
12 week	Future of Web: Adobe Flex
13 week	Future of Web: Firefox Extensions

Table 2. Web Engineering Syllabus for 16 weeks

3.2 Teaching Methods:

Each lecturer gave a team teaching with oral and exercise in a day, in order that the category was divided by eight project team. Students practiced a code exercise in each time except CSS styling, just in case of CSS, they used style templates of free CSS sites once understanding structure markup with XHTML. they'll create straightforward net applications via mythical being and net arthropod genus while not server- aspect code.

In teaching server-based MVC pattern, it's terribly helpful numerous screen-cast like CakePHP and Ruby on Rails for creating straightforward web log in ten minutes. every project groups create their own concepts and provides a concrete from code excises of net arthropod genus.

3.3 Term Projects:

In this basic background, term comes may create their own plan to net applications to use the most recent net technologies as well as structural markup, CSS styling and mythical being skills mixed with Google Maps and Korean search genus Apis

IV. RESULTS

We surveyed polls for college students when course and located vital increasing of satisfaction. severally, eighty fifth and half a mile students had happy this work and wished to check net programming any. severally, three and nine students understood importance of front-end technologies within the fashionable net services. severally, 3} and eight students wished to divide this course into three or additional intensive courses.

Also we tend to may create induction of interests that students may create easy net applications via Ajax and Open Apis while not server-side programming. They were inquisitive about screen-own concepts by mistreatment concrete code excises providing by Google Ajax Search and Yahoo! Maps API.

V. CONCLUSION

Most of scholars may perceive standard MVC patterns may be applied in whole processes of internet applications each server and shopper aspect. they might approach to additional method internet programming compared of standard ones. They understood the importance

of rising front-end technologies and area unit initial motivated finding out internet engineering moreover. we tend to pointed out this approach increase motivation and satisfaction of scholars considerably. we've to form the freelance courseware of internet engineering for college students of pc engineering as well as modelling, implementation and qualifying internet applications also as redesigning entrance work motivating them. Most of scholars may perceive ancient MVC patterns and excises whole processes of internet applications each server and shopper aspect briefly time. they might approach to internet programming with bailiwick methodology compared with the past.

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