Course Feedback System

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April 8, 2017

ABSTRACT

NC State University, with its 18 major Undergrad programs, 160 Graduate programs and 60 doctoral programs, offers a wide range of choices in terms of course curriculum. Graduate program of Computer science department alone offers a pool of 77 different courses from which students can select the courses best suited for their requirements. NC State uses a common student portal called MyPack for the course registration and provides course catalogue from which student can search for any particular course and description. In this paper we aim to focus on the issues faced by students while selecting a particular course using the already existing system and justifies the need of better course feedback/review system. Our project targeted the short-comings of the existing system and how they can be eliminated using the proposed system. We then conducted experiments comparing among our newly added features and documented the best feature based on our empirical observations and user feedback. Finally it provides some glimpse into how new system design looks like and how we can extend this application for more departments, programs or even universities.

General Terms: Reviews, Feedback, Filter search
Keywords: Course Evaluation, Forum

1. INTRODUCTION

Courses are the most important part of any studies and best-selling point of any university. The kind of courses selected by students impact their future field of studies, Majors, Certifications and their inclinations. NC State uses the online catalogue system to give students an idea about the course content and offerings. However, at the time of course selection, the course taken by a student is only influenced by the short course description provided for the course and some reviews that he/she might have collected from other friends and seniors. This traditional way of course selection based on the short course description is somewhat unsatisfactory in the long term as the course content and subject description are not the only things factoring into the importance of course. And even if it is, the traditional system only gives a peek into what the actual course holds. There are so many other factors that contribute to the successful course completion and therefore need to be considered before a particular course is selected.

To eliminate this issue, we conducted a user survey to determine what all factors are generally considered important for students to select a course. The idea was to create a near perfect solution to deal with this problem of course selection and give students a common platform where they can not only get the information needed for the course but also can post the feedback or reviews about the course they have already taken and can be of assistance to someone whose going through the same dilemma. This paper discusses our thought process behind the user study and the conclusion that we reached to, based on the outcome. We also have tried to give an overview of the design and some of the ideas that led to successful implementation.

After we had completed our user survey, and received the basic idea of the aspects students consider before selecting a course to enroll, we then returned to our February 1 report [5] to finalize the design of our three features. Focusing on the average students' consideration points we narrowed down our approaches in a way that they could provide maximum information about a course like

number of projects, tools or languages used in the course which they could not get through the existing system. More specifically, this means involving students who had already taken the course in previous semesters and can share their experiences.

Our first proposed solution for the project Course Feedback system is Forum. The analysis of the questionnaire and survey with the users revealed that they lack sources to find information and reviews of the course, and desired a public platform where they can directly communicate with the students who had already studied the course in previous semesters. The forum members are the senior students and the new students. The senior students can share their feedback in the forum by posting reviews. Our proposed solution forum also allows student to post their queries in the channel, senior students who are the members of the channel can solve those queries on basis of their experience with the course. This proposed solution focuses on providing feedback and reviews for a particular course under specific Professor purely on the reviews of the users. The users who are the students willing to take the course can see these reviews in the order of likes. The forum solved the communication gap between the senior students and the new students who wishes to study the course.

The second approach we designed is the CourseEval as the name suggests it provides complete evaluation of a course and aims to answer frequently asked questions a student can have before selecting a course. This is critically different from the existing ClassEvaluation version which only provides description of the course in one line. By showing graphs of the answers collected from the senior students through forms in the application, it allows the new students to get an idea of the offerings of a particular course. The approach has two aspects, give feedback and get feedback. The senior students who had already taken the course and willing to provide useful feedback can fill the give feedback form. The give feedback form has some basic questions regarding the course. Our goal is to use this information from form and generate an average result of the answers from the form provided by all the senior students. So when the new student chooses the get feedback aspect, he will get a result of answers to possible common questions while choosing a course. From this answers the students can get enough information to make a judgement regarding the course to enroll or not.

The third and final feature we designed is called Suggestion. The above two approaches can be used when a student has a specific course in mind in which he wants to enroll in. There may be a case when a student has certain expectations from course but unaware which course can fulfill those expectations. This approach was specifically designed keeping in mind the situation when a student is completely clueless about which course he should enroll in. The user survey revealed that students has to satisfy certain requirements if he wants certifications in a particular track of any Masters program. Our third approach suggestion is useful in this cases as it will provide a set of courses on basis of requirements provided by the student. These requirements can be provided by the student through a set of filter search. The system will show those courses as result of the selections made by the students through the filters.

2.SYNOPSIS

In this section we talk about the work done previously in studying habits of students and aspects of course they consider before selecting a course, the common problems students face, and our three features that greatly improve their decisions.

2.1 Previous work

NC State already has a system called 'ClassEval' which is the end-of-semester survey for students to evaluate instruction of all university classes. The current survey is administered online and includes 12 closed-ended questions and 3 open-ended questions. Deans, department heads, and instructors may add a limited number of their own questions to these 15 common-core questions. Students receive an email message directing them to a website where they can log in using their Unity ID (NC State credential unique for each student) and complete evaluations. A high response rate and candid, thoughtful answers are essential for giving each instructor and every department useful feedback for improving the class in the future. After the ClassEval website is closed, a report is created for all the instructors that includes the average rating from the class. A separate report includes students' responses to the open-ended questions.

Even though the system is well thought and implemented, its main agenda is constant improvement of the teaching standard at NC State and therefore the reports generated by the ClassEval are only accessible to the instructors and Department itself. All responses are confidential, and instructors cannot see which students evaluated them. Same way, students are not provided with the access of these feedback and therefore there is no way for student to know how the teaching instructor is graded on the report. That being said, only way for students to garner information about the teaching faculty is to look for someone who has taken the same

course under the same section last time when it was offered. And with that many filter criteria applied, search for these students often results empty. So even though the system is already in place, it does not help with the hassle free course selection.

2.1.1 Third party websites

During our research for such similar projects, we found a third party website that to some extent satisfied our requirements(https://www.ratemyprofessors.com/). This website asks users to grade their professors by giving answers to predefined set of general questions. Moreover, the important feature is that students can leave an honest review/ comment about the professor which, in a way, can be used to provide the feedback of courses. However, the number of comments we came across are very limited and in some cases, we couldn't even find a single review about the professor. One of the possible reasons for we came across is that many students refer to this website while they are choosing any particular course but forget contribute to it when they successfully finish the course. And since it's not related to any particular university, any kind of reminder system is not integrated in the website. Another issue with this website is that it is extensively used to rate the professor and not to evaluate the class. Therefore, there are only two questions in the questionnaire that roughly relate to the class evaluation and are not sufficient enough for students to gauge the course.

Therefore, we feel the need to design a better feedback system only for NC State University students with ease of access attractive features for students. Furthermore, we could ask for support from the school and various departments to advertise the application. Since everyone could give feedback on the courses they take, eventually we would get a huge database of reviews of all the courses which helps students make a wise decision on choosing courses.

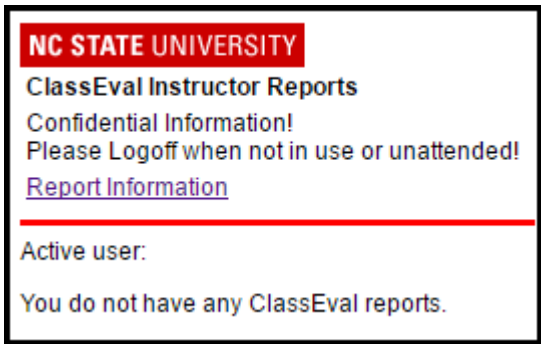

fig.1 Drawbacks of ClassEval

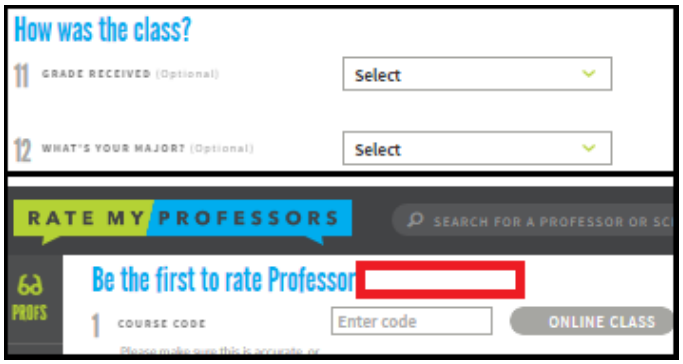

fig.2 Drawbacks of ratemyprofessor.com

2.1.2 Enroll and Drop

In NC State, students are given the provision that they can enroll for any course (without instructors' permission) within one week of the beginning of semester. They can, however, enroll in maximum of five courses at the same time and hence have to decide beforehand about those five courses. Another issue with this system is that one week is not sufficient for students to judge whether they can relate to the course in general. Initial weeks are quite introductory and students don't get the in-depth knowledge about the subject. Some of them take the course without confidence and gradually loose interest which makes it difficult to succeed. Even if students cope up with the early course enrollment, the drop dates are generally set after 2 months of the enrollment. So during that period, students who were wait listed are quite uncertain whether they will get the course or not. Same way, students who decide to drop the course at the end of 2 months cause some seats being available and yet un-filled.

As explained above, all current course feedback systems have their own drawbacks and are not suitable for reliable course reviews. We really require a well-formed feedback system to avoid these kinds of issues with the course selection at NC State University.

2.2 Features

For our purposes of development of a course feedback system, and not reinventing the wheel, the main aim was to provide all the information of a course to student which the existing system fails to provide and yet with much ease. Our course feedback system allows a student to get the course information which can be accessed through aspects like discussions, surveys, etc. We developed three unique features, detailed in section 1, that added value to this package and sought to achieve the goals laid out in our initial research [5].

2.2.1 FORUM

Most students prefer communicating with senior students and to know about their experience before selecting a course, and FORUM focuses entirely on this. Forum works by adding two types of users, senior students and new students to a particular channel that belongs to a single specific course.

Every user can login to our Feedback application through their credentials, choose the Forum path, and select the course from the available options and the Professor under whom the course is offered. This selection makes the user enter a unique channel of Course under a definite professor. The users who had already studied the course will post their reviews regarding the course which may include things like description about the projects offered under the course, Course material, etc. Students can use this reviews to cycle through the list of queries they have in mind and when they are still confused they can post a more specific question for a detailed discussion. This would allow another students as well to have understanding of other aspects of the course they might be unaware of, and instead of having to ask the same questions to another students, they just need to go through the forum discussion and get useful information from it. Each review has a like and dislike button to support that particular review, and the review with maximum likes will be highlighted above and so on with decreasing order with decreasing number of likes.

2.2.2 CourseEval

One of the drawbacks of Forum is that when the discussion grows very large, students often lose track of core topic. CourseEval aims to remedy this problem by having the list of answers to some very basic questions a student might have before enrolling into a course. If a user chooses this approach he gets navigated to a page where he can either take a feedback or provide a feedback through a form. The give feedback form have basic questions which as senior student can answer based on his experience. CourseEval then allows the new student to get the feedback, also allows them to contextually see the answers in terms of charts and graphs based on the feedback provided. This gives students more flexibility in terms of how they want to make a decision on basis of popular choices. This is especially useful when a student wants to get an overall information about all aspects of course at one place.

2.2.3 SUGGESTION

When choosing courses for the incoming semester, many students have their specific requirements. Some students want to learn more about JAVA in the incoming semester, while some students want to do more projects in the incoming semester. In this situation, we think that a course suggestion system is very helpful for students who have their own requirements on the courses which they will take in the incoming semester.

In our course suggestion system, we provide multiple filters and each filter have multiple options for users to choose. For example, the filter "programming language/tools/framework" have these options: Java, C, C++, Python, Ruby on rails, Git, language independent. If a student wants to know which course have Java programming part, then he/she can choose the option "Java" and our system will provide him/her the results. And if the user chooses options in different filters, our system will provide him/her intersecting results. For example, if a user chooses "C++" for the "programming language/tools/framework" filter and chooses "2" for the "Number of exams" filter, then our system will provide him/her the courses which have 2 exams and have C++ programming part.

All of the data which is needed to support the functions in this solution comes from our 2nd solution – "course evaluation". We have totally 8 filters, which include "interesting rate" filter, "Job/career opportunities" filter, "workload" filter, "Average grade" filter, "programming language/tools/framework" filter, "Course category" filter, "Number of projects" filter and "Number of exams" filter.

In the home page, clicking the "course suggestion" button will redirect the browser to our course suggestion page. The choosing action for each filter of the user will be record in specific variables, and once the user clicks "search" button, we will use the records of the user's choices to select corresponding courses from the database. And then we show the results to the user. In addition to this, the suggestion approach is present here to make it easier for the user to find what they're looking for.

3. EXPERIMENT

3.1 Task Methodology

In order to test the three features of Course Feedback (Forum, CourseEval, and Suggestion), and see how ef-

fective they are in practice, we designed an experiment that tested the participants on features they consider before enrolling into course. The experiment had participants post reviews of courses they have taken, fill the feedback forms of CourseEval approach. We could get an idea about the length of review a student can post, queries likely to be asked. Detailed instructions were provided in the form of tasks [3], so that the participants had enough information to successfully complete all the assigned tasks which can cover most of the aspects a student could think of before enrolling to a course.

The tasks were designed in a way to focus on the different areas of each Feedback feature, with different tasks meant to favor different features. The areas we focused on with the tasks were:

i. Decisions to be taken for selecting multiple coursesii. Using more than one feature to select a course iii. use a result of approach as a choice while selecting a course through other approach. iv. Using all the approaches keeping a single course in mind.v. making the same choices in each feature to check relevance of all the answers received from all three approaches.

In order to get quantitative results from the experiment, we allowed the user to select the approaches in any order. This allowed us to not only capture the most favorite feature of each participant through the way he complete all the tasks, but also analyze the results in greater detail, as shown in section 4 and discussed in section.

3.2 Participants

The participants were our classmates, who ofcourse had the familiarity with the experience before enrolling to a course. They were asked to fill out a pre-survey, which incuded factors they would consider before selecting a course. The participants were all Computer Science graduate students at North Carolina State University, in the process of completing their Master's degree, and had the experience of other existing systems of Course Evaluation.

All the participants had chose courses in previous semesters with the help of existing systems and taking verbal advice from their friends or seniors, and 66.1% of them took advice from seniors or friends. 8.5% of the participants also took advice from advisors or professors and 25.4% made their decisions from the course description.

4. RESULTS

For the evaluation part, we invited participants to use our application and fill out our google form. We promised the participants that they have the right not to participate, the right to privacy, and the right to be forgotten. We also state that first, the data collected by our survey will be kept confidential and the participants' true identities will not be made public under any circumstances, second, sole purpose of this data collection is purely academic and this data will not be used anywhere else. In our google form, we request the participants to state their opinions on the advantages and disadvantages all our 3 approaches – Forum, Course Eval and Suggestion. We also request them to answer how useful can our approaches be and will they intend to use them before selecting a course. Furthermore, we have suggestion part in our google form to collect suggestions from the participants.

Totally there are 23 participants. They are all students enrolled in CSC 510 (Software Engineering) course this semester. All of them have used our Forum part, Course eval part and Suggestion part. And all of them have filled out our google form.

For the Forum part, 73.9% of the participants select "Very useful" when answering "How useful can be the Forum approach", while 26.1% of the participants select "Useful" for this question(shown in fig.3). On the other hand, 47.8% of the participants want to use this approach before selecting a course, and equal number of participants maybe use this approach, maybe not. There is 1 participant who does not want to use this approach before selecting a course at all.

For the CourseEval part, 82.6% of the participants think it is very useful, while 17.4% of the participants think it is just normally useful, not very useful, and no participant thinks this part is not so useful(shown in fig.4). And totally 87% of the participants intend to use this approach before selecting a course, while 13% of the participants choose "maybe" selection when answering "Do you intend to use this approach before selecting a course". And no one does not intend to use this approach before selecting a course.

Finally, for the Suggestion part, 14 participants think it is very useful, while 9 participants choose "Useful" instead of "Very Useful" when answering "How useful can be the Suggestion approach". No one thinks it is not so useful(shown in fig.5). When answering "Do you intend to use this approach before selecting a course", 18 participants select "Yes", while 5 participants select

"Maybe". No one selects "No".

From the statistics, we can see that the CourseEval part is the most popular part, Suggestion is the 2nd, and the Forum part is the least popular part. Actually in our google form we asked the participants "Which approach according to you is most beneficial?", and the result is shown in fig.6.

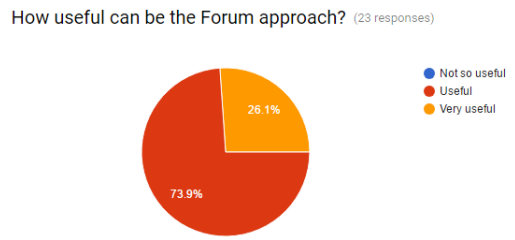

fig.3 Usefulness of Forum Approach

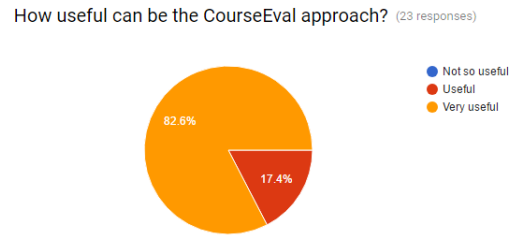

fig.4 Usefulness of Course Eval

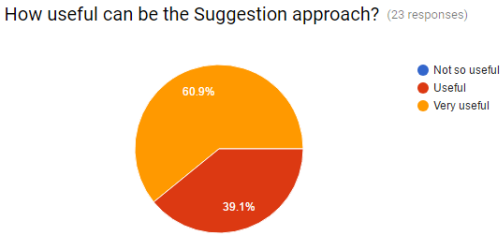

fig.5 Usefulness of Suggestion Approach

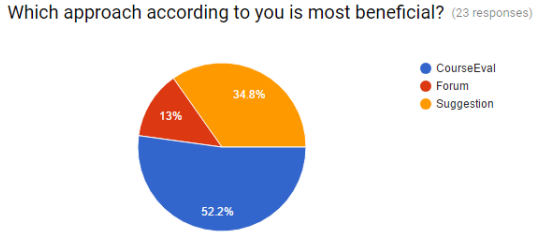

fig.6 the Most Beneficial Approach

5. Discussion

After successful user evaluation sessions, some of the things became clearer in terms of application of out approaches. We started this project with a predefined assumptions and expectations from each approach and had encountered some of the possible shortcomings of each in advanced, but the results we found helped us widen our horizon and think about some of the ways we can further improve our application and overcome those shortcomings. Overall, we can say that, for the most part, results were quite helpful and criticisms were quite constructive. We also got some very good advantages and scenarios people thought of while using our application that even we didn't think about initially. In this section, we will discuss the result of our user evaluation session in details, followed by advantages and disadvantages of each approach that our participants felt and some valuable suggestions that can be cultivated via future work on the software. Although we have received evaluation from different students, they mostly align on 3-4 important points and that's where we will be focusing on. Also, It answers the debate of "Best Feature" that was going on for almost 4 months since the conception of each approach.

5.1 Observations

When we started the design work on our application, we all were set upon some biases against one or another approach and we had some ideas about the drawbacks and limitations each approach possess. And the idea behind the user evaluation was to affirm and validate those beliefs and assertions. But after discussions held during user evaluation sessions, we found so many new advantages and issues with our thinking. We will be taking one approach at a time and discuss the general trend that we found during the evaluation in terms of advantages, disadvantages and suggestions.

5.1.1 Forum

Forum approach was based upon the idea that rather than getting references from your friends, you can take into consideration the feedback from wide variety of students who have already taken up the course. We wanted to provide students with enough reviews to make an informed decision and not blindly take up the course because his/her friend said so. We implemented separate channels for each course and provided user with the feature of liking or disliking the posts to show their agreement or disagreement. Overall implementation was very effective according to us and we wanted to affirm that

assertion.
We asked our user group to share what they feel the advantage/disadvantage of using the forum to get the feedback and the results were quite divided between the two set of students. One set of people were those who were in favor of subjective information and perspective experience and felt that the forum provides exactly the same. They felt that the forum provides a way to get the detailed comments about the course and user can access the personal testimonials. It also covers some of the factors that the course-eval approach didn't account for. People usually tend to give comments on things that most interested them and we can capture that data.
On the other hand, we got another set of people who were more in favor of objectivity and felt that the approach is highly subjective and perspective dependent which aroused the question of reliability. One of the disadvantages that users pointed out was that the reviews can be biased or fake and people may not be totally honest in what they post. It also lacks the statistical base and users will have to go through the list of posts and discussions to get the details they want which is very time consuming.
We also got mixed reviews regarding the anonymity of the reviews. A set of people stated that they prefer to be identified and they would like to contact other students while other set of students preferred anonymity and argued that the students want feel open and comfortable relieving the identity if they have some negative reviews.

5.1.2 Course Eval

Course Eval approach was based upon the idea that decision making is easier when you have sufficient data at your disposal. In our initial survey of 60 different participants, we determined the important factors that affect the course selection decision of a student. In this approach, we are giving student the ability to rate the professor and course on these factors and based on those selections, we are storing the data and presenting it in a visually appealing way that can help students gauge the course on all of these factors.
As per our assumption, we got very positive feedback for this approach. Most common advantages stated by student were that the features provides them with the detailed feedback about the course rather than just a course description and grade distribution on Moodle which helps facilitate the decision. Also the graphical representation of the data categorized into various factor makes it easy for user to summarize and comprehend. And since the approach is not very specific to any particular user and we are not revealing the identity of any student, many students who were in favor of anonymity gave quite positive reviews.
We also found some issues with the approach that we were not expecting initially. Users who were willing to provide feedback for the course didn't want to spend much time on the form. They found the input method quite time consuming and wanted something quick and easier to enter data rather than filling out the form. Also, the high dependability of the approach on database raised the question of initial reliable data collection. Students thought that until the database in not prepopulated with enough reviews, the approach doesn't provide the reliable information. Also, we found that potential anomaly in the data can sometimes get confusing for users for very definite data.

5.1.3 Suggestions

This approach is pretty straight forward and probably the most useful approach for newly admitted students. With so many new enrollments coming up each year and they all facing the same issue while selecting the course for the first semester, we felt the need of creating an application to provide them with the suggestions based on their requirements and that is what the idea is behind the suggestion approach.
From the beginning itself, we have assumed that the approach will be used to facilitate the newbies and therefore we only had considered out target audience as new enrollments. But through user evaluation, we found very surprising results. Many students prefer this approach over other two because it gave them the ability to filter out courses based on their requirements. It also provides them with the feature of selecting grades, number of exams, projects, assignments they want and the language that they know and suggest courses based on that selection. It's a great help especially when you have very specific requirements and want to stick to it. Another advantage of this approach is its quick nature and ease of use. It serves the students who are totally clueless about the courses and provides them with the list of courses to select from.
On the other hand, some users suggested various disadvantages which we as developers haven't thought about. First disadvantage was that it doesn't specify the real course content and description which is an equally important part for course selection and for that student will have to consult the NCSU website. It also doesn't provide adequate information about the professor. It fails to show courses even if one of the criteria fails and sometimes student can compromise one thing for other but since we are not taking into consideration the priority of each individual search filter, the approach will fail to consider those scenarios. Also, rather than looking for an exact match, users suggested that we should consider

the range search and should show more results sorted based on the match factor.
With those changes implemented, we think this approach can and will be of assistance to every student and not just the newly enrolled students.

5.2 Best Feature

As discussed in the previous section, based on the results of our experiments CourseEval is the best feature. This conclusion is reached through a couple of different methods. The most obvious one is based on our empirical results from our experiment discussed in section 4 which show that the participants who used CourseEval on average and stated that it gives a very detailed view of the course and everything they would like to know before taking a course. They found the visualization in form of graphs and charts impressive as well as the UI impressive.

Additionally, even though in post surveys participants said that CourseEval had a risk at first, about the person giving feedback has actually taken the course, they later responded that once it is verified it was overall an easy to use package. Participants also stated that they liked the simplicity and ability to control and view entirely through charts, and also stating that "the feature was straightforward to use". Furthermore, when participants were asked if they would be likely to use their feature in their everyday work flow, CourseEval was the only feature to receive the highest response choice. And finally, in the post survey when participants were asked to rate their feature from 1-10, CourseEval tied for the highest average rating with Forum and Suggestion, both receiving 8's.

Based on these qualitative and quantitative observations from our experiment we can say without a doubt that CourseEval was the best feature we developed, and if we were to continue development on only one of these features it would be CourseEval, as it shows the most promise with current usability and user satisfaction.

5.3 Future Work

As previously discussed there still exists a lot of work that can be done on this project. For instance, through our testing process we discovered improvements that could be made to each of our existing features. Most of these improvements are subtle things that make the features easier to use, but some involve major design overhauls.

1) Course Eval
There should be a way to determine if the feedback giver has actually taken the course More intuitive methods should be provided than questionnaire for giving the feedback, so it takes less time. Finally, for CourseEval the future work obviously deals with the formatting issues that plague the package. These issues have been discussed already in this report, but essentially whenever a user chooses get_feedback, the answers dynamically could also include course curriculum. Future work on this feature would deal with fixing this issue, making the feature inherently more usable.

2) Forum
We plan adding anonymous mode if the user doesn't want him/her self to be identified Auto delete feature of disliked comments so that abusive or negative reviews can be removed. Monitoring from admin to keep the discussion positive. Brief summary of posts, One to One chat option can be introduced.

Currently there exists no visual notification system to alert the user as if someone replied to his specific post, and there is no authenticity for reviews posted by the senior students. An obvious addition this feature would be the incorporation of a sentiment analysis done on the comments and an average score was generated, it will save a lot of time. Additionally, with this component whenever a user traversed the reviews they would have immediate visual feedback as to their actions. By adding these changes in the future nearly all of our experiment participant's negative feedback would be addressed.

3) Suggestion
Criteria may not indicate the real course content - so adding that description somewhere can help. Adding Priority as well with each factor and may be a range can show relevant results. We can add a filter as to whether a language used in course is compulsory or flexible and could have used the nearest search technique rather than looking for an exact match. Another feature overhaul we had originally designed for but had to abandon due to scope and time constraints, is the inclusion of a "favorites" functionality to Suggestions. The idea for this addition is that sometimes students just need very few choice decisions but have no easy way of doing so. An idea we had originally designed for solved this problem by allowing users to select limited filters as "favorite" filters, which would then allow them to give more possible courses. This addition would be worth investigating if we were to continue on the project focusing on this feature.

Yet all of our future work does not solely deal with enhancing or fixing our current features. In fact, if we

were to continue with this project the most pressing future work would deal with altering our experimental design and rerunning our experiments with more participants.

As it stands, our experimental design of our tasks doesn't fully allow users to explore each of the feature. Namely, the limited database for our third feature Suggestion did not give contextual ordering options of all the possible courses, and the tasks should be redesigned to account for this. Furthermore, once display issues are fixed with Forum data gathered with this feature will most likely change drastically as the current issues heavily impact user performance. And finally, with all of these changes incorporated, running the experiments with more participants should give us more reliable data that would allow us to better understand which features truly outperform the others, and under what circumstances.

6. Conclusion

When we first set out to develop three feature sets on our base project we assumed that it would be overtly clear which one was the best by the end of our development cycle. Yet, as we quickly found out, each of the features we had designed and developed all excelled in their own unique ways. Forum was designed for users who are keen on knowing other students perspective on their specific queries, our hypothesis checked out that this was by far the fastest feature we designed. On the other hand, Forum did not live up to our hypothesis that it would outperform CourseEval, yet this was most likely due to the trust issue of the users providing reviews. And finally, Suggestion performed better than we expected, but the lack of long term project analysis in our experimental design prevented us from seeing the feature used in the situation where it most likely outperforms the other features.

In the end we hypothesize that with future additions and design changes made to each feature, discussed in section 5.3, and further testing on a broader range of participants and an altered task design will yield significantly better and different results than our current findings. Yet, with all of that being said it is clear from our current data that CourseEval is the fastest feature and it would be our choice if we could only pick one feature to continue development on as it is both quantitatively and qualitatively supported by our data.

Course Feedback is a powerful feedback system, and it provides an ideal platform for discussion and decision-making due to its quick integration and open source nature. The three feature sets we designed and developed all shine in their own way, and each has its own unique flaws. However, after running our experiments and gathering participant feedback in the form of pre and post surveys, CourseEval appears as of now to be the front-runner for viable future development. With the addition of a subtle visual component to CourseEval, thus decreasing the overall cognitive load and effort of use, and further testing, the feature would be ready for deployment.

7. REFERENCES

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