A Tool to Help Academic Advisors with Student Course of Study

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Executive Summary

There are many reasons why a student would choose to start their undergraduate studies at a community college, for example: "finances, bad high school grades and family obligations" (U.S.News).

The University of Washington reserves roughly "thirty percent of its new undergraduate spaces annually to Washington community college transfer students" (Our Goals & Priorities, University of Washington) However, they caveat that the highest admission priority for this type of student "is given to those with academic associate degrees and those with 90 transferable credits taken in preparation for a professional academic major" (Our Goals & Priorities, University of Washington). This underscore how vital it is for potential transfer students to carefully plan out their curriculum during their time at community college.

My goal is to answer the question: "How can we make academic advisors and students more efficient at determining degree paths and educational goals?" I will investigate this through user research activities, such as in-person interviews and contextual observations. My intention is to determine what the core audience, Everett Community College academic advisors, needs to efficiently advise students transferring to Washington State universities.

On site interviews, with faculty advisors at Everett Community College, identified that there is a need for a new tool that will either operate alongside or directly replace existing advising tools. However, students would also greatly benefit by having access to this tool as it would allow them to come to mandatory advising sessions better prepared.

Project Vision

The Problem

Everett Community College (EvCC) currently offers several transfer degree: Associate of Arts and Sciences, Associate of Science, and the Associate in Business-DTA, Associate of Technology, etc. These curriculums were "designed to fulfill all or most of the general education requirements for most of Washington's public and private universities, some Oregon universities, and several other universities around the U.S." (University Transfer FAQs, Everett Community College) However, the college makes it clear that these programs "support the transfer of credit, but do not guarantee admission." (University Transfer FAQs, Everett Community College) Students still need to work with an academic advisor through the Student Resources center to establish their educational goals and verify they are on the path to achieve them.

EvCC does not have an efficient means for academic advisors to easily audit and provide recommendations for direct-transfer students entering Washington State universities. Today, advisors and students must analyze transcripts and manually match course equivalencies using university websites or working memory. They also have the difficult task of comparing their results to different degree options, admission requirements, and graduation requirements across departments and universities.

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My intent is to employ "objective and systematic empirically based approaches in order to develop an understanding of what works, why, and under what conditions." (Budgen et al, 151)

Stakeholders

There are two primary stakeholders involved in the existing system: EvCC academic advisors and students. The administration of the college plays a secondary role as the governing body of the school but do not have direct interaction with the system. They are listed here for completeness, since "it is important to identify all the users and other stakeholders who may be impacted by the system. This will help to ensure that the needs of all those involved are taken into account and, if required, the system is tested by them." (Maguire, 594)

Research Questions

To accomplish this goal, the following areas will need to be investigated:

- Advisor Level
    - What does the core audience need for their daily work?
    - What is the desired interaction?
    - What existing solutions are already in place, and where do they fail?
- Student Level
    - What information does a student need to make the next step in their education?
    - What tools are available to students to evaluate which courses to take?
    - What existing solutions are already in place, and where do they fail?

I will investigate these areas through user research activities, such as in-person interviews and contextual observations.

Limitations

There are limitations to the scope of this project due to Family Educational Rights and Privacy Act (FERPA) regulations with regard to student privacy and system certification.

Project Focus

My intention is to determine what the core audience, EvCC academic advisors, needs to efficiently advise students transferring to Washington State universities. As part of this project, I will create a software tool to help academic advisors facilitate an audit of a student's current course work. This tool will help to determine (but is not limited to):

- How long it will take to complete their education
- What majors are suitable based off of current courses taken
- Which classes are required as admission prerequisites and graduation requirements
- Alternative paths available

Similar efforts have been undertaken in other places, for example, the Articulation System Stimulating Interinstitutional Student Transfer (ASSIST) tool used by the California educational system. This state-funded web portal "displays reports of how course credits earned at one California college or university can be applied when transferred to another" (ASSIST) What started out as a small projects among a handful of institutions has "grown to include information about all of the public postsecondary educational institutions in California" (ASSIST) and is considered the de facto repository of information for transfer students.

Methods

According to Maguire, "the quality of use of a system, including usability and user health and safety, depends on having a very good understanding of the context of use of the system." (Maguire, 594) To that end, my primary research entailed semi-structured interviews and contextual observation with academic advisors at EvCC to better understand their workflow and what pain points they run into. I conducted a total of interviews with four different advisors and one session observing a student advising meeting between May 6th and May 20th, 2016.

Findings

I extracted the following key findings from the interviews and observation session:

People

- EvCC faculty both teach and serve as student advisors. They do not dedicate staff exclusively for student advising.
- It takes about one year's experience at EvCC to be efficient with student advising.
- Entry level advising for new students is provided by College 101 teachers, but they do not have enough specialized knowledge and can only plan one or two quarters ahead after initial enrollment.
- Students, once on a degree path, will get advising from faculty teaching in that discipline.

Activities

- Faculty mostly teach and advise by appointment only.
- Most advising is related to university transfer and classes required for college/degree admission.
- Students mostly want to look ahead by one quarter. Advisors will try to plan for a year.
- Faculty will either assist in building a course road map if a student knows what they want to do, or probe to figure out interests to find a degree path.

Contexts

- Advising is mandatory at the beginning of college, and every 3rd quarter (students are blocked from enrolling in classes until advising takes place).
- Advising time is considered to be separate from office hours' time.
- Advising sessions are typically 30 minutes to 1 hour, but can run longer.
- Faculty typically do three or four advising sessions per week, but can spike as high as nine during mandatory student advising in the 3rd quarter.

Technologies

- Students can develop a preliminary plan through reading course descriptions from the college website and curriculum guide, but if they don't know what they're looking for, it's hard to find relevant information.
- Advisors use an internal Excel-based spreadsheet to map class prerequisites, course equivalencies, and admission requirements. Right now, this is the best solution they have.
- Advising and degree auditing is an entirely manual process. There is a DOS-based system with EvCC courses listed, but it is not updated or maintained. There is an Advisor Data Portal to record student courses by quarter, but it's just a shared text document in calendar view between advisor and student.
- All EvCC course information, at the administration level, exists as a collection of independent word documents which must be manually referenced and updated.

Initial Analysis

The existing tools and workflow used by advisors at EvCC are used all the time because they're available, but information is not always right and experience is required to know which parts are correct vs. incorrect. Advisors spend a lot of time with students, where at least half of it is messing with the system or analyzing transfer requirements. If a degree plan does not work out for a student, making a new one requires starting from scratch. The most common complaint with existing electronic tools is that they are tedious and time consuming as all information needs to be manually entered.

Prior to meeting with an advisor, students should have the ability to explore what educational options exist and easily see what course paths look like for a particular degree and school. Students should be able to get answers to questions like "How long am I going to be here? When can I transfer? Where can I transfer to?" Allow students to select a school and a degree and have the system report what coursework was still required to complete for that degree.

An issue with the existing software tools is that they are poorly maintained and course information is often wrong or missing. Advising faculty should be able to make corrections to some course information when errors are spotted when running an audit. Additionally, this system should not be tailored toward any one transfer university. While many students choose UWB as their first pick, it has the least requirements in terms of prerequisites. When planning out courses to take at community college, it is necessary to also make a plan for backup schools.

Initial Design Requirements

Based on the research done so far, I uncovered three initial design requirements for this project:

- Get the Course Information Forms (CIFs) out of individual Word documents and into a database with an administrative UI that allows for easy updates and maintenance.
- Build a student portal that allows students to develop plans exploring course options, requirements for a specific degree, and educational timelines at their leisure.
- Build an advisor portal that connects to student plans and make corrections to course mappings to ensure information is correct and up-to-date.

Next Steps

Since the "process of decision making about the technical aspects may be impeded both by an unfamiliarity with computing as a discipline and by the lack of unbiased sources of objective evidence about the consequences of employing technologies and practices"(Budgen et al, 149), additional user research is required before moving the project into the ideation phase. I plan to complement the work I've done so far by researching how academic advisors in other colleges/universities complete the same tasks and reviewing any literature I can find which guides students through this process.

This project will receive continuous feedback and usability testing from EvCC advising faculty to ensure that scope and design meet their requirements. My hope is to use the Rapid Iterative Testing and Evaluation (RITE) method, as described by Medlock et al's paper "Using the RITE method to improve products; a definition and a case study", to prototype and evaluate my design. What separates RITE from other usability testing techniques is the quick turnaround time between issue identification, solution implementation, and solution verification. (Medlock) After each usability test, I will incorporate any fixes to the prototype prior to conducting the next test. This approach will help to quickly evolve the prototype. This rapid pace also means I will need to be careful when choosing what to fix. Hasty decisions could result in frequent "re-fixes" or the unintentional introduction of new issues.

Conclusion

On site interviews, with faculty advisors at Everett Community College, identified that there is a need for a new tool that will either operate alongside or directly replace existing advising tools. However, students would also greatly benefit by having access to this tool as it would allow them to come to mandatory advising sessions better prepared.

References

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