Automating Admissions Decisions in Internet Native Banner

by

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Automating Admissions Decisions

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Abstract

Dr. Motter assigned me this project and several others in an effort to improve admissions processing at the University of Alabama in Huntsville (UAH). The projects are in accordance with UAH's strategic plan and the Southern Association of Colleges and Schools Commission on Colleges' (SACSCOC) principles of accreditation. All projects were conducted using Internet Native Banner, Ellucian's student information system. I researched and tested the possibility of automating admissions decisions and improving communications within Banner. The Office of Information Technology (OIT) at UAH maintains two copies of Banner: Test and Production. I extensively tested automated admissions decisions and duplicate materials in Test; afterward, I eventually implemented some automated admissions decisions and duplicate materials in Production. My successes will reduce the Office of Admissions Processing's workload and allow the admissions processors to accomplish other responsibilities and pursue special projects that further improve admissions processing.

Definitions

This section defines several terms, names, and codes that will be mentioned later in this document. This section acts as a quick reference for technical language that will be expressed within this paper. The sections of this paper titled abstract, definitions, and introduction should be consulted to remind oneself of various meanings.

Forms and Processes in Banner

A form is a screen within Banner. While certain forms in Banner feature overlapping functionality, no two forms that are used in Admissions are identical. A process is a routine that the user runs through a form that's specifically designed to perform processes. All forms and processes feature a seven letter code and accompanying description. The codes are used to navigate to each form or process in Banner. The description sometimes describes the basic purpose or idea of the form or process. For instance, there exists a form named SOAHSCH, which stands for High School Information. SOAHSCH is the form where Admissions enters general academic information from high school transcripts such as an applicant's graduation date, class rank, cumulative high school GPA, etc.

SAADCSN (Admissions Decision Rules)

SAADCSN is the form that allows a user to define admissions rules for automated admissions decisions. Currently, decisions rules have only been developed to admit regular freshman applicants, some dual enrolled applicants, and some non-degree applicants. The meanings of admission types relevant to this project are defined later in this section. Details regarding SAADCSN's role in the automated decisions process are elaborated in Chapter 2.

Automating Admissions Decisions

GJAPCTL (Process Submission Controls)

GJAPCTL is a form that allows a user to run various processes. A process contains a set of alterable parameters. All parameters belonging to a process don't necessarily have to be included or altered. When a user alters parameters, he or she restricts the process's domain and modifies the output that the process will produce. Prior to this project, Admissions used GJAPCTL daily to run the processes named SARETMT (Electronic Application Verify/Load) and SORCPLN (Communication Plan Batch Processing). SARETMT is the process that verifies and loads undergraduate admissions applications that were submitted online. Verification refers to the process of analyzing the information that an applicant submitted in his or her application. Applications that pass all verification checks are loaded to the form in Banner that's named SAAADMS (Admissions Application). SAAADMS serves as a central location that an admissions processor can visit to review an applicant's application status, curriculum, admission type, residency status, etc. The Options menu in SAAADMS contains links to other forms that contain the applicant's biographic information, test scores information, high school information, prior college information, etc. SORCPLN is described later in this section. The two new processes that Admissions Processing will run are SARBDSN (Admit Decision Calculator Report) and SARDCSN (Admit Decision Criteria Report). In order to run a process in GJAPCTL, one must specify a Printer in the Printer Control block, specify the desired parameters in the Parameter Values block, select Save Parameter Set as in the Submission block, and hit the Save button or key. If a user saves a parameter set with a name and description, then the user can enter the box labeled Parameter Set to use any parameter sets that he or saved with a name. Images of GJAPCTL's various components are provided in Figures 6–9. GJAPCTL generates two reviewable files whenever a process is run.

GJIREVO (Saved Output Review)

Once a user has run a process in GJAPCTL, the user may review a report of the results in a form called GJIREVO. The report's data can be pasted into a spreadsheet or printed.

SARDCSN (Admit Decision Criteria Report)

SARDCSN is a process that will allow the admissions processors to view, duplicate, and delete admissions decisions rules from SAADCSN. SARDCSN and SAADCSN are only one letter apart since they are closely related screens—SAADCSN reads rules from SAADCSN and modify the rules defined in SAADCSN. Further details are provided in Chapter 2. SARDCSN is pictured in Figure 6.

SARBDSN (Admit Decision Calculator Report)

SARBDSN is the process that performs automated admissions decisions. Details regarding SARBDSN with respect to my project are provided in Chapter 3.

SORCPLN (Communication Plan Batch Processing)

SORCPLN processes records that have accumulated in the form named SOACCOL (Communication Plan Collector) if a record's module is Admissions. Certain processes such as SARBDSN populate SOACCOL. SORCPLN plays a vital role in generating and processing the letters that Admissions Processing mails to applicants. The parameter set that Admissions Processing uses for SORCPLN is pictured in Figure 9. Additional details about SORCPLN's significance and functionality are available in Chapter 3.

STVDPMR (Duplicate Material Code Validation)

STVDPMR is the form where one creates codes that are to be used for duplicate material rules, which are discussed in Chapter 5. STVDPMR is pictured in Figure 10.

SOADPMR (Duplicate Material Rules)

SOADPMR's significance in my project is detailed in Chapter 5. SOADPMR is pictured in Figure 11.

SOAMATL (Material)

Once a duplicate material rule has been established in SOADPMR, the rule can be assigned to materials on Material (SOAMATL). In Figure 12, the duplicate material rule from Figure 11 is assigned to the material that's called Admissions Letter (ADMT). The checkbox to allow duplicate material rules in SUAMAIL is selected to grant SUAMAIL the permission to use the duplicate material rule that has been assigned to ADMT. The duplicate material rule was also assigned to the other materials that Admissions Processing uses, which are DENY (Admissions Denial Letter), MILL (Applicant Missing Information), and SYC (Sorry You Can't Come (Withdrawal). An example of the consequences of duplicate material rules is shown in Figure 13.

SUAMAIL (Student Mail)

This form accumulates the materials that generate from SAAADMS. Whenever an electronic application is loaded into SAAADMS or a paper application is entered into SAAADMS, the admissions communication plan named ADMT is generated. ADMT generates the material MILL (Applicant Missing Information) in SUAMAIL; MILL does not print for 5 business days. The delay allows many applicants sufficient time to submit the materials that admissions requires for an admissions decision such as a high school transcript, ACT scores, SAT scores, college transcript(s), etc. Once an application is complete, the admissions processors evaluate the application's information and make an admissions decision. The admissions decision generates another material under the plan ADMT: ADMT (Admissions Letter) or DENY (Admissions Denial Letter). Admissions decisions letters print the next business day.

Sometimes an applicant communicates that he or she is no longer interested in attending the university, in which case the decision codes named WI (Withdrew Incomplete) or WA (Withdrew after Acceptance) are used. Those codes change the application's status to withdrawn and generate the material called SYC (Sorry You Can't Come (Withdrawal)). All materials enclose a letter, whose code is used to generate the letters that are mailed to applicants. Evidence of the successful implementation of duplicate material rules is shown in Figure 13.

Key Admission Types

This section describes the three admissions types that are most relevant to the project.

Regular Freshman (FF)

The admission type regular freshman (FF) indicates that an applicant either is in the process of completing high school or has graduated high school without attending a college after graduation. Admissions requires regular freshman applicants to submit an official copy of their high school transcript and their ACT or SAT scores. Admissions additionally requires proof that the applicant completed the eleventh grade. Oftentimes, a high school transcript contains the applicant's cumulative GPA, standardized test scores, and evidence that the applicant completed eleventh grade. The criteria for regular freshman applicants to be admitted is provided in Chapter 2. Regular freshman applicants are admitted with the decision code CT (Admitted Transcript Needed), which references the fact that Admissions will need the applicant's final high school transcript as proof of graduation and the applicant's successful maintenance of an admissible GPA. Admissions requires General Education Development (GED) scores from applicants that did not complete the academic credits necessary to receive a high school diploma.

Dual Enrolled/Early Start (DE)

The admission type Dual Enrolled/Early Start (DE) is reserved for high schoolers that are interested in taking classes at UAH before they have graduated high school, so the applicants are enrolled at their high school and UAH simultaneously—hence the term dual enrolled. The criteria for dual enrolled/early start applicants to be admitted is provided in Chapter 2. Most dual enrolled applications are of student type dual enrolled (D) or early start (P). The distinction is described in the next section of definitions. The admission type Dual Enrolled/Early Start is admitted using the code CC (Admitted Unconditionally), which indicates that the Office of Admissions Processing requires no further documentation. Dual enrolled/early start applicants must submit an application for each term that they'd like to be dual enrolled.

Non Degree (ND)

The admission type non degree (ND) indicates that the applicant is not a degree seeking student. The applicant is required to submit a new application for each term that he or she would be interested in attending UAH. Key differences between the admission types DE and ND are age and admissions requirements. Applicants of admission type DE are in high school, so they are typically 19 years old or younger. Contrarily, applicants of admission type ND are no longer in high school. All applications of admission type non degree feature student type X (non degree) or V (transient); the distinctions are described in the next section of definitions. The admission type ND is admitted using the code CC.

Key Student Types

This section describes the student types D, P, V, and X that were mentioned in the subsections for dual enrolled and non-degree applicants. A fifth student type T (transfer) is defined due to its importance in Chapter 4.

Dual Enrolled (D)

According to the UAH website, applicants admitted to the Dual Enrollment Program receive college and high school credit for classes taken at UAH. Such applicants submit an application of student type D. Qualifications and further details regarding the Dual Enrollment Program are available on the UAH website under the Admissions module.

Early Start Program (P)

According to the UAH website, applicants admitted to the Early Start Program are those interested in earning college credits prior to graduating high school. Qualifications and further distinctions regarding the Early Start Program are available on the UAH website under the Admissions module.

Non Degree (X)

Details regarding the admissions type ND are available under the special student status section of the Admissions module on UAH's website. For student type X, an important detail is that the applicant is not currently enrolled at another postsecondary institution. Admissions requires such applicants to submit a college transcript from the college that they most recently attended, a final high school transcript (proof of high school graduation), or GED scores.

Transient (V)

The primary distinction between student types V and X is that transient applicants are currently enrolled at another postsecondary institution. Any credits earned at UAH are then transferred to the university or college where the applicant is earning a degree. Admissions requires a copy of the college transcript from the applicant's current college or university. The college transcript provides verification that the applicant is enrolled at another school, is in good academic standing, and has completed any prerequisites that may be required to take the classes

they are interested in taking at UAH. Applicants of admissions type ND are admissible if the college GPA from the college that we require is at least a 2.0.

Transfer (T)

Transfer students are applicants that seek to transfer credits they have earned from other postsecondary institutions in order to begin earning a degree at UAH. Transfer applicants are required to submit an official college transcript from each postsecondary institution at which they have enrolled. Once all of a transfer applicant's college transcripts have been processed, an admissions processor calculates the applicant's average college GPA, which equals total combined quality points divided by total combined quality hours. If the cumulative college GPA is at least a 2.0, then the applicant is admitted using the code CC.

Denials

The admissions processors assign the code DN (Deny) to applications that do not meet the criteria for admission. Applicants whose information is close to the borderline criteria for admission may submit an appeal to Peggy Masters. If the appeal is granted and the student is degree seeking, then the admissions will assign the application the decision code AC (admitted conditionally) and change the admission type to CN (conditional). The applicant must attain good academic standing at UAH before they are allowed to take a full load of courses.

Introduction

The Office of Admissions Processing is responsible for processing applications and materials that applicants submit for undergraduate applications with exceptions for non-US citizens and applicants seeking readmission to UAH. Applicants of admission and student type readmit are former degree seeking students that left UAH prior to completing their degree. Once an applicant has submitted all required materials, the admissions processors evaluate the applicant's information and manually assign an admissions decision to the application. The required materials and admissions criteria are maintained in accordance with principle 3.4.3 of SACSCOC's *Principles of* Accreditation. Principle 3.4.3 states "The institution publishes admissions policies that are consistent with its mission." Since SACSOC provides UAH's regional accreditation, the university is required to meet SACSOC's guidelines for admissions.

The original intent of the project was to research the feasibility of automating admissions decisions for regular freshman applicants. I discovered that decisions of institutional acceptance could be automated for regular freshman, dual enrolled, and some non-degree applications, so I implemented automated decisions and extensively tested the automated decisions process. Additionally, I learned how to create and assign duplicate material rules in order to improve admissions processing. This Honors Capstone Project was conducted through an Honors Internship section, and Dr. Kristi Motter directed the project and assigned me several other tasks and projects related to automation during the internship. I consulted several UAH staff and faculty during the Spring 2016 semester with regards to my Honors Capstone Project. In no particular order, Table 1 lists the UAH faculty and staff that I consulted along with their respective administrative titles.

Table 1

Name	Administrative Title
Dr. William Wilkerson	Dean, Honors College
Bethany Wilson	Honors College Administrator/Advisor
Dr. Kristi Motter	Vice President for Student Affairs
Peggy Masters	Director of Admissions
Adam Smith	Assistant Director of Enrollment Information Systems
Zeke Aguilera	Assistant Director of Admissions Processing
Janet Waller	Registrar
Amber Adcock	Senior Associate Registrar
Malcolm Rice	Director of Enterprise Applications

Chapter 1: The Benefits

Short-term Benefits

Decreases Admissions Processing's Workload

The Office of Admissions Processing employs two admissions processors. Admissions processors are primarily responsible for processing admissions applications, which is a laborious process. Student workers and sometimes admissions counselors help the office with its daily operations and special projects. The office often falls behind the workload due to increases in student interest related to the strategic plan—particularly the priority that reads "Recruit and retain an outstanding and diverse student body of broad interests and of sufficient size to ensure a rewarding campus life experience" that serves the objective that reads "Grow university enrollment to 10,000 head count and a mix of 75% undergraduates and 25% graduate students by 2020, while increasing the percentage of full-time enrolled students."

The time that the admissions processors spent evaluating admissible freshman, dual enrolled, and non-degree applications in order to make admissions decisions can now be spent on other tasks. Additionally, the admissions processors will rarely have to resolve conflicts between materials in Student Mail (SUAMAIL) whenever an applicant has more than one application.

Long-term Benefits

Improves Consistency

Humans are error-prone. Software is much more consistent since the errors that software typically produces or encounters are the result of human error. The automated decisions process can be trusted to have a perfect success rate when the routine processes a complete application.

Admits Admissible Applicants Quicker

The typical admissions process involves loading or creating an application in

SAAADMS, scanning materials received via mail and electronic services into a batch, entering

GPAs and test scores from the materials when applicable, indexing the scanned materials to their

appropriate IDs, reviewing each complete application versus the admissions criteria, and

assigning an admissions decision to the application. The automated decisions process will be

able to admit most freshman, dual enrolled, and non-degree applicants automatically after the

information the office requires from them has been entered.

Enlightens Admissions

Several Banner forms and processes that were investigated during the project were not

used or familiar. However, the conducted research and the project's documentation should

inspire other projects that would improve the admissions process. For instance, after I had

thoroughly tested the automated decisions process and duplicate materials in Test, I began two

other projects involving communication plans and materials.

Originality

Automated decisions were not used prior to this project, so the process is new.

Admissions processors regularly learn new things and strive to organize and optimize the

admissions process. The project is educational and refreshing.

Chapter 2: Building Automated Decisions Rules

Admissions Decisions Rules (SAADCSN)

Introduction

The first step of the project was to determine the logic for the admissions decisions rules. SAADCSN offers many fields that one can manipulate to increase a decision rule's precision, as shown in Figure 1. I searched Google for information about SAADCSN and discovered the Banner Help Center webpage for the form, and the webpage clarified the functionality of each field and how to build admissions decisions rules. Prior to discovering Banner's documentation for SAADCSN, I had contacted Mr. Kyle J. Brown, a customer relationship management (CRM) Information Specialist employed by the Office of Global Affairs at the University of Central Oklahoma. Mr. Brown had developed a presentation about automating admissions decisions when he was employed in another department, and Dr. Motter shared a copy of the presentation. Mr. Brown responded with a detailed explanation of the logic that his university built into its rules, and he provided screenshots. His willingness to help the project was greatly appreciated.

In Figure 1, the fields labeled Term, Admission Type, Citizenship, Decision, and Level are required for all rules that Admissions builds. All rules will have Y for Citizenship and UG for Level, which signify that the applicant must have US citizenship applying as an undergraduate student. Each field that is assigned a value restricts SARBDSN to calculating decisions for applications that match each field that a rule specifies.

Freshman Application Rules

The implementation of what Admissions considers automatic admissions, i.e. applications whose information meets the minimum test score and GPA combinations to be admitted without appeals are pictured in Figures 1 and 2. The screenshots reveal that a regular

freshman applicant is automatically admissible if he or she has at least a 2.9 GPA and a 20

composite ACT score or 970 total SAT score. Table 2 lists the minimum GPAs and

corresponding test scores required for automatic admission to UAH. Applicants whose GPA or

highest standardized composite test score falls between two rows in the table must meet the

lowest combination that allows them to be admitted if such a combination exists.

Table 2

GPA	ACT	SAT
2.0	25	1140
2.2	25	1130
2.3	24	1100
2.4	23	1060
2.6	22	1030
2.8	21	990
2.9	20	970

The combinations of cumulative GPAs and test scores that are considered automatic

admissions were each given a decision rule.

Dual Enrolled Application Rules

Originally, rules for dual enrolled applications were split via the field labeled Student

Type. The final implementation of decision rules for dual enrolled applicants omits student type.

The differences between Figure 1 and Figure 3 are the omission of the field labeled

Student Type, Admission Type becomes DE, and Decision becomes CC. The only difference

between Figures 2 and 4 is Decision Sequence, which is a value generated by the system rather

than a user. Dual enrolled and freshman rules are similar since automatic admissions for both

application types use the same combinations of high school GPAs and standardized test scores

that are listed in Table 1. Implementing decision rules for dual enrolled applications was simple

once rules for regular freshman applicants were properly implemented.

Non-degree Application Rules

The logic for Non-degree application rules is depicted in Figure 5. Non-degree applicants that earned at least a 2.0 cumulative GPA at their most recently attended university are admissible. My first attempts to implement non-degree rules specified student type since UAH offers two types of non-degree applications. The rules for applications of admission type and student type Non Degree specified 2.0 as the minimum high school GPA required for admission rather than the minimum college GPA. The distinction was because people applying as student type non-degree are not required to have attended another college. I recommended that Admissions Processing only enter the college that's necessary for admission into the Banner form called Prior College Information (SOAPCOL), which ensured that non-degree rules would function properly. Numeric fields in SAADCSN will evaluate each record in the corresponding form in Banner in an attempt to find a record that's at least as high as the value specified for the field in SAADCSN. Multiple colleges in SOAPCOL would lead to some applicants being admitted despite having a GPA lower than 2.0 at the only college that Admissions evaluates for admission. Zeke and Dr. Motter accepted my proposition.

Admit Decision Criteria Report (SARDCSN)

SARDCSN and SAADCSN are only one letter apart because they are closely related screens. SARDCSN is a new process that Admissions Processing might run at least once a semester. The process does not replace an existing process. SARDCSN's parameters are pictured in Figure 6. SARDCSN serves multiple purposes.

The first purpose is to generate a report of the admissions decisions rules for a specified term. The second purpose is to duplicate rules defined for one term into rules defined for another term and generate a report of the new rules. The final purpose of SARDCSN is to retire rules that

are active for terms that have expired, i.e. the last day to be admitted for the term has passed.

SARDCSN allows admissions rules to be quickly checked, duplicated, and removed from

SAADCSN. I manually inserted, reviewed, and deleted rules prior to discovering the purpose of

SARDCSN. The process will allow the admissions processors to manage large sets of decisions

rules simultaneously when the need arises to update or remove the decision rules for a term. In

Production, admission decisions rules were only created for Summer 2016, Fall 2016, and Spring

2017. Admissions leadership may decide to extend the rules to further terms. In which case, the

admissions processors may not need to run SARDCSN to replace decision rules each semester.

SARDCSN has been described and demonstrated to Admissions leadership, and it is their

prerogative to determine how and when Admissions Processing will use the routine.

Chapter 3: The Automated Decisions Routine

Process Submission Controls (GJAPCTL)

The previous admissions processors Adam Smith and Sheila Bean taught me admissions processing during the 2014–2015 school year, and GJAPCTL was a form that they taught me. Thus I understood how to use the form and build parameter sets in order to complete the project.

Admit Decision Calculator Report (SARBDSN)

Introduction

SARBDSN is the second new routine that Admissions Processing will run as part of the automated decisions routine, and the second process that uses GJAPCTL. The Banner Student User Guide contains a section about implementing automated admissions decisions, but the section was unclear. I inquired about SARBDSN when I contacted Mr. Brown and developed an understanding for the process before he responded. SARBDSN is the process where one places preliminary restrictions on the information than an applicant must have specified in order for his or her application to be evaluated via the automated decisions process.

SARBDSN uses rules defined in SAADCSN, which may further restrict which applications can receive automated admissions decisions. Applications that satisfy all specified SARBDSN parameters and a rule in SAADCSN receive an automated admissions decision. If all the decision rules matching the parameters in SARBDSN fail, then the application will not receive an admissions decision; therefore, through this process the application will be repeatedly evaluated until the admissions processors either manually assign a decision to the application or change the application's status. Fortunately, the admissions processors have access to a report called the Complete Non-Admitted Report that will notify them of the situation. SARBDSN is a process that Admissions Processing will run at the end of each business day.

Parameter Set for Freshman and Dual Enrolled Applications

The finalized parameters for automating freshman and dual enrolled decisions are illustrated in Figures 7 and 8. Dr. Motter obtained permission from Malcolm Rice to implement the automated decisions process in Production.

Parameter Set for Non-Degree Applications

The Non-degree parameter set requires slight modifications of Figure 7. The set only requires one instance of the second parameter, and it must be set to ND. A third instance of the second parameter could have been added to the freshman and dual enrolled parameter set with the value ND; however, I decided that non-degree applications warranted a separate parameter set since non-degree applications are rare throughout most of the year and require significantly different supporting materials for admission.

Communication Plan Batch Processing (SORCPLN)

Significance in Banner

SORCPLN is a process in GJAPCTL, and Figure 9 depicts the parameters associated with the process. The Office of Admissions Processing must run SORCPLN at the end of each business day. SORCPLN processes all records that have accumulated in the Communication Plan Collector (SOACCOL). SORCPLN clears all records from SOACCOL that contain the module titled Admissions. These records typically have one of two actions: add new communication plan and generate materials. Certain processes and forms create a record in SOACCOL that SORCPLN will interpret. SARBDSN is one of the processes that populates SOACCOL, so SORCPLN must be executed after SARBDSN in order for the automated decisions process to produce results identical to the manual process for admissions decisions. Communication plans carry materials, and each material is accompanied by a letter.

Communication plans, materials, and letters form Banner's side of the process that generates the letters that Admissions Processing mails to applicants.

Significance in Argos

Argos is a service that Admissions uses to generate various reports. Admissions letters and labels are among the reports that are available in Argos. Sometime during the evening or night after SORCPLN is ran, a process executes that discovers which letters should appear in Argos the next day. Admissions processing prints the letters on the next business day. Currently, Admissions uses four broad categories of letters: letters of admission, letters of denial, letters of withdrawal, and letters of missing requirements. The Director of Admissions signs the first three categories of letters.

Chapter 4: Limitations of Automated Decisions

Despite the project's utility, the project features several limitations.

Not Fully Automated

SARBDSN and SORCPLN must be run manually at the end of each business day. If possible, a script should be written to run the processes automatically. A script would eliminate the need for admissions processing to remember to run either routine. In the event that people knowledgeable about the routines were absent, the script would ensure that the routines were run regardless. Additionally, the project does not address applicants that received General Education Development (GED) rather than a high school diploma; Zeke recommended against creating decisions rules for GED recipients due their rarity and recent changes in scoring. Occasionally an applicant will require an admission type or supporting materials that cannot be selected when submitting an online or paper application. Thus, the Office of Admissions Processing will have to manually change the applicant's admission type and application requirements. SAADCSN and SARBDSN focus on general applications.

The automated decisions process is also not fully automated in the sense that the admissions processors will have to manually determine admissions decisions for transfer students. The reason for this is because Admissions requires the arithmetic mean of a transfer applicant's college GPAs, yet SAADCSN's College GPA field does not calculate the arithmetic mean of GPAs in SOAPCOL. Therefore, unless the College GPA field in SAADCSN can calculate the weighted average of GPAs in SOAPCOL in a future version of Banner, then transfer decisions will remain manual. However, decisions for other combinations of admission and student types might be automated in the future.

Dependent on Data Reliability

The automated decisions process cannot distinguish between accurate and inaccurate information. For instance, if an inaccurate high school GPA is entered for an applicant or the high school GPA field is left blank, then SARBDSN will still evaluate the application. From experience, I discovered that unreliable data could result in SARBDSN denying students that should not have been denied. Therefore, Admissions leadership agreed that denials should be conducted manually, which isn't a significant problem since denials represent fewer than ten percent of all admissions decisions. In other words, rejecting applicants is uncommon. The agreement to not automate denials was a strategic decision that increases reliability. One of Dr. Motter's objectives for Admissions Processing is to help the office make strategic decisions that will increase the office's efficiency and reduce errors. Another uncommon situation is when an applicant submits unofficial documentation for an admissions decision.

In order for an applicant to receive regular, unconditional admission to UAH, he or she must submit official documentation containing his or her GPA(s) or test scores that satisfy the standards for admission. Unofficial supporting materials will either be rejected or result in a hold being placed on the applicant's account. In the case that the unofficial materials are rejected, Admissions Processing will inform the applicant that he or she must submit official documentation. Sometimes, an admissions processor will admit an applicant using the decision code AP (Admitted Pending), which means that the applicant will not be fully admitted until he or she submits official copies of all application requirements. Additionally, an applicant admitted pending will have a hold placed on his or her account that will either prevent him or her from graduating or prevent him or her from registering for more than a semester's worth of classes until the applicant has provided official copies of all application requirements. The decision code

AP is reserved for degree seeking applicants. Dual enrolled and non-degree applicants must submit official all required info officially since they are only enrolling for one term.

Another issue with data reliability is that SAADCSN cannot verify whether test scores or GPAs are from an official source. Furthermore, SAADCSN cannot verify if the high school GPA listed for a regular freshman applicant is from a transcript that proves the applicant completed the eleventh grade. The admissions decisions rules that I developed would not detect human errors such as incorrect student types, residency, curriculum, etc. Ultimately, the automated decisions process can be trusted to produce correct results when the data is reliable.

Chapter 5: Implementing Duplicate Material Rules

Introduction

While conducting research for my Honors Internship, I investigated several forms in Banner regarding communication plans, materials, and letters. One issue that needed to be addressed in the automated decisions process is the scenario where an applicant had previously received an admissions decision for another application. Banner allows an applicant to submit multiple applications from Self-Service Banner that are then processed into SAAADMS. People can also submit paper applications. Admissions restricts applicants to one application per term since an applicant cannot fit into more than one application type simultaneously. Multiple applications for a term could also create problems if the student were admitted since the different applications could have conflicting curriculum information and registration restrictions. Prior to this project's implementation in Production, Banner only allowed an applicant's student ID (A #) to be associated with at most one of each material. Therefore, whenever an applicant submitted a new application or wanted to change terms, Admissions would have to delete old materials for the applicant that were of the same type as the materials that Admissions needed to generate with the new information. In the long run, the process of deleting or resetting communication plans and letters is tedious and takes vital time away from the admissions processors' other responsibilities. Fortunately, Banner allows one to create duplicate material rules that eliminate most of the cases where Admissions would need to delete or reset old communication plans and materials. Duplicate material rules were another example of automation that was investigated in order to quicken admissions processing.

Duplicate Material Rule Code Validation (STVDPMR)

I used the Student module of the Banner Help Center to figure out how to build duplicate

material rules. During one of many consultations, Zeke and I noticed a checkbox on SOAMATL

that reads "Allow duplicate entry on SUAMAIL". The line above that had a field labeled

Duplicate Material Rule. Adam and I researched duplicate material rules together and learned

that I needed to obtain access to STVDPMR before I could build rules in SOADPMR, so Adam

contacted Janet to get me access to STVDPMR. STVDPMR is a form in Banner where one

validates a code to be used for duplicate material rules. In general, codes need to be validated in

the appropriate form before the codes can be used.

Duplicate Material Rules (SOADPMR)

Once a code has been validated for duplicate material rules in STVDPMR—as pictured

in Figure 10—the code can be used to build a duplicate material rule in SOADPMR. Once I

understood SOADPMR's documentation from the Banner Help Center, I developed the rule

displayed in Figure 11. The rule solved the issue of attempting to have duplicate materials in

SUAMAIL. Multiple tests in Banner Test confirmed that the rule was functioning as intended

and ready for implementation in Production. Zeke confirmed that the duplicate material rule

behaved properly in Production and alerted me that a few changes that applicants occasionally

request would still require manual deletion of materials. However, duplicate material rules still

met the main goals of this project, which were to automate portions of admissions processing for

cost savings, efficiency, and effective strategy per Dr. Motter.

Student Mail (SUAMAIL)

SUAMAIL ties several topics that have been discussed thus far together. All materials

that are successfully generated via communication plans appear in SUAMAIL, and the most

important field in SUAMAIL is labeled Print Date. No one in Admissions currently understands

how the field labeled Print Date is filled. The Banner Help Center has insufficient documentation

for SUAMAIL. People that have done admissions processing recognize that a correlation exists

between the print date being filled and the corresponding letter appearing in an Argos report.

However, we have not determined if Argos has any influence on the print date. The print date

presents several problems if the field is not filled. According to the Banner Help Center

documentation for SOADPMR, a material whose print date is blank cannot be duplicated. Also,

missing print dates signify that material's accompanying letter was not generated in Argos.

Hence the communication plan and material containing the letter that did not print must be reset.

Chapter 6: Obstacles Encountered During the Internship

Challenges that I encountered throughout the various projects that Dr. Motter assigned me mainly concerned communication plans, materials, and letters. The interactions and hierarchies between communication plans, materials, and letters quickly become complex when one considers the large quantity of forms in Banner that manipulate communication plans, materials, or letters. Argos increased the difficulty of comprehending how letters worked in Banner since I am not responsible for the processes and programming that dictate what information is shared between Argos and Banner to produce the letters that Admissions mails. When I began my project, Argos was only linked to Banner Production. Thus I contacted Adam and Malcolm several times to attempt to get letters to process from Banner Test to Argos the same way letters processed from Banner Production to Argos. Several implementations of my request were flawed or appeared not to work. Adam and I would theorize how Banner may have been responsible for the failed appearance of letters in Argos. Adam's expertise as a graduate student in information systems and the Assistant Director of Enrollment Information Systems enabled him to investigate Argos to determine if and when it was at fault.

Adam was my primary consultant when I struggled with letters in Banner or Argos; we met to discuss communication plans, letters, and materials numerous times with regards to the projects that Dr. Motter assigned me. Adam was also one of the enrollment services staff that I consulted when I needed to communicate with Malcolm. Letters were the only persistent issue that I encountered during the Honors Internship. Other challenges were solved reasonably fast and most other problems were quickly resolved.

Chapter 7: An Analysis of the Project's Progression

When the project began, the priority was to determine how to automate admissions decisions for freshman applicants. I made a significant breakthrough the second day that I worked in Dr. Motter's office. The breakthrough quickly lead to the complete implementation of automated decision rules for freshman applications. The successful implementation of automated decisions for freshman applicants inspired the implementation of automated decisions for dual enrolled applicants. Afterward, non-degree rules were repeatedly developed, tested, and modified until Admissions leadership and I agreed to a policy that I had developed that would allow nearly all transient applications to receive an automated admissions decision. Some non-degree applications of student type non-degree would also receive an automated evaluation.

The rest of the automated decisions process and the investigation into duplicate material rules also went smoothly. Once Admissions leadership felt comfortable that I had tested the automated admissions decisions process enough, I was expected to create documentation for the project. I was also expected to create a PowerPoint to present to Admissions leadership. Dr. Motter complimented my documentation, and Admissions leadership complimented my PowerPoint. I addressed Dr. Motter's concerns with the documentation and pursued the inquiries that I had received from Admissions leadership when I presented my PowerPoint. I eventually received approval to implement automated decisions and a duplicate material rule in Production. Zeke notified me that automated decisions and duplicate materials were both functioning properly in Production. My work concluded on a project once I had successfully implemented a project in Production or verified in Banner Test that a project was ready for Production. I accomplished the original objectives of my Honors Internship and made progress on additional projects, so the completed projects can be considered successes. My ability to communicate and

collaborate with higher ranking staff within and outside Admissions in order to accomplish my

objectives was thoroughly tested and improved. I consulted staff from Admissions and the

Registrar's Office when I needed to discuss ideas or investigate forms in Banner that didn't have

helpful documentation in the Banner Student User Guide or the Banner Help Center.

Conclusion

My documentation and the projects that I implemented or researched can be expanded to further improve admissions processing. All of the project's work is easily modified and well-documented, which should allow Admissions Processing to update or to extend the project easily whenever necessary. Recommendations for further research and testing include but are not limited to splitting the materials into different communication plans while maintaining each material's proper function in Banner and Argos, setting departmental or college-specific admissions decisions rules to enforce stricter admissions standards that a department or academic college may have, investigating the feasibility of automating some admissions decisions for Graduate Admissions and International Admissions, building automated decisions rules for rare applications such as nontraditional freshman or freshman GED, modifying standards for data entry in Banner in order to allow further automation of the admissions decisions process, etc.

The project was fun and further inspired me to pursue a Master's degree in a higher education field. My current dream is to be a higher education administrator, and the project helped hone my abilities to work in higher education. I would like to thank Kyle J Brown from the University of Central Oklahoma for his email correspondence early during the project. I also extend my thanks to Zeke Aguilera, Adam Smith, Peggy Masters, Amber Adcock, Janet Waller, and Malcolm Rice for their advice and assistance. I express my sincerest gratitude to Dr. William Wilkerson and Dr. Kristi Motter; their support, patience, and clarification of expectations granted me the right to conduct this enjoyable project properly and satisfactorily. Lastly, I thank the many other individuals that provided help or encouragement during the various projects.

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Automating Admissions Decisions

Figures, Illustrations, etc.

Figure 1

Figure 2

Figure 3

Figure 4

Figure 5

Figure 6

Figure 7

Figure 8

Figure 9

Figure 10

Figure 11

Automating Admissions Decisions

Figure 12

Figure 13