

Request 38 – A.I. Graduation Planner

Updated 11/14/2017

Requestor Contact Info

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Executive Summary

OU has recently initiated an innovation partnership with Accenture, a leading consulting and technology firm. The goal of the partnership is to work together to design, develop, and build applications of emerging technology on our campus. In addition to highlighting innovation at OU, the partnership will provide unique learning experiences for our students. The initial project of the partnership is to develop an artificially intelligent graduation planner designed to complement existing advising practices and facilitate continued gains in retention and graduation rates.

Academic Advisors are critical to OU's quest for continued gains in retention and graduation rates. While all students are required to meet in person with an advisor, those meetings can range from transactional in nature to high-value in-depth strategic advising sessions. An AI graduation planner designed to assist with the complexities of degree requirements and course schedule would position advisors to focus less time on routine/transactional activities and more time and energy high-value student interaction. At the same time, an AI could answer students' routine/transactional questions accurately, immediately, anytime, and in a format that students are comfortable with.

In summary, this application of AI has the potential to improve retention and graduation rates by ensuring students always have convenient, immediate, accurate access to information and recommendations to stay on track to graduate, while at the same time positioning advisors to spend more time engaged in meaningful conversations with students most at risk of attrition or falling off course.

User Stories

1. "Check My Schedule" (Prior to Registration): Students puts together preliminary plan for course schedule. Submits to the AI Graduation Planner. AI Graduation Planner reviews the proposed courses, matching against degree requirements, and track record thus far. Provides approval that the plan will keep the student on track, or provides suggestions for adjustment. Student reviews and discusses the plan with their advisor prior to registration.
2. "Recommend My Schedule" (Prior to registration): Student provides inputs and AI recommends a course schedule to satisfy all degree requirements and remain on track for on-time graduation. Student reviews and discusses the recommendations with their advisor prior to registration.
3. "Fix My Schedule" (After registration): Student is unable to get a class (or classes) that he or she needs. Clicks "fix my schedule" and the AI recommends a schedule. The student reviews the recommendations with his or her advisor to confirm it is the right fit.
4. "Change My Schedule" (After classes begin): After the first week of class, a student decides he/she does not like a particular class and is considering swapping out one course for another. The student inputs an updated/adjusted schedule into the AI, and it provides immediate feedback on the proposed change in terms of projected graduation horizon. Armed with this information, the student discusses the course of action with their advisor.

Sample Application

Note that in all cases, the student still meets with their advisor. The difference is that both the student and the advisor are equipped to spend their time together on more meaningful conversation, rather than the mechanics and logistics of course selection. It is important to note that the AI framework would also have the potential to offer important insights related to optimized course scheduling, timing, frequency, etc. However, in this initial inception, the objective is basic functionality, sufficient to establish proof of concept and provide meaningful, practical experience for the MS Data Science students.

1. Student accesses system through OU intranet and logs in using their OUID
2. Based on their login information, the AI recognizes the student and can match their student record against a) their current degree track; b) degree requirements; c) progress thus far, d) available courses; and e) student preferences/constraints, to recommend a proposed course schedule to keep the student on track to graduate as quickly and efficiently as possible. (Note that the underlying data framework and analytic logic will be based on the analysis conducted on the data requested in this document by OU MS in Data Science students.)
3. The student reviews the recommended output and provides feedback by accepting or rejecting the recommendation(s).
4. Once the student is satisfied with the proposed schedule, he or she meets with his or her advisor to confirm plans.

Delivery and Timeline

- **Delivery Method:** We are open to recommendations on whatever is preferred and/or most efficient approach. Ideally, the file would be delivered in CSV.

Please note: Identifying data should be scrambled.

- **Timeline:** November 3
- **Project Execution:** This project will be executed by OU IT's Project Management Office.
- **Project Acceptance:** This project is approved for planning via PGB.

Data Validation Checklist

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Category 1: Academic Records

- Method: Email
- Time stamp: November 1, 2017
- Attendees/participants: Marcus Glenn, Aaron Biggs
- Data Spec presented: 1.0
- Session Notes: None
- Validation Decision: Approved

Category 2: Enrollment and Scheduling

- Method: Email
- Time stamp: November 1, 2017
- Attendees/participants: Marcus Glenn, Aaron Biggs
- Data Spec presented: 1.0
- Session Notes: None
- Validation Decision: Approved

DGCC Approval Notes

Request 26.1 – Addendum Salesforce CRM for Retention Task Force

Updated 11/14/2017

Data Specification

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Category	Attribute Name	Source (SOR)	Timing	Read/Write
Academic Records	PERSON_UID	OUCUSTOM.STUDENT_ACTIVE_TERM_CURRICULUM	Daily	Read
Academic Records	SOONER_ID	OUCUSTOM.PERSON_OU	Daily	Read
Academic Records	COLLEGE_DESC	OUCUSTOM.STUDENT_ACTIVE_TERM_CURRICULUM	Daily	Read
Academic Records	DEPARTMENT_DESC	OUCUSTOM.STUDENT_ACTIVE_TERM_CURRICULUM	Daily	Read
Academic Records	MAJOR_DESC	OUCUSTOM.STUDENT_ACTIVE_TERM_CURRICULUM	Daily	Read
Academic Records	MINOR_DESC	OUCUSTOM.STUDENT_ACTIVE_TERM_CURRICULUM	Daily	Read
Academic Records	HONORS_IND	OUCUSTOM.STUDENT_ACTIVE_TERM_CURRICULUM	Daily	Read
Academic Records	DEGREE_CODE	OUCUSTOM.STUDENT_ACTIVE_TERM_CURRICULUM	Daily	Read
Academic Records	TERM_CODE	OUCUSTOM.STUDENT_ACTIVE_TERM_CURRICULUM	Daily	Read
Academic Records	COURSE_REFERENCE_NUMBER	OUCUSTOM.STUDENT_SECTION	Daily	Read
Academic Records	FINAL_GRADE	OUCUSTOM.STUDENT_SECTION	Daily	Read
Enrollment and Scheduling	TERM_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	TERM_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	SUBJECT_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	SUBJECT_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	COURSE_NUMBER	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	SECTION_NUMBER	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	SECTION_TITLE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	CAMPUS_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	CAMPUS_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	DEPARMTMENT_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	DEPARTMENT_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	COLLEGE_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	COLLEGE_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	COURSE_LEVEL_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	CREDIT_HOURS_MAX	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ACADEMIC_YEAR	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	COURSE_REFERENCE_NUMBER	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ENROLLMENT_MAX	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ENROLLMENT_ACUTAL	OUCUSTOM.COURSE_SECTION	Daily	Read

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Category	Attribute Name	Source (SOR)	Timing	Read/Write
Enrollment and Scheduling	WAITLIST_COUNT	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	WAITLIST_SEATS_AVAILABLE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	INSTRUCTOR_PRIMARY_ID	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	INSTRUCTOR_PRIMARY_FIRST_NAME	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	INSTRUCTOR_PRIMARY_LAST_NAME	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING_TIME_COUNT	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING1_START_DATE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING1_END_DATE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING1_START_TIME	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING1_END_TIME	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING1_BUILDING_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING1_BUILDING_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING1_ROOM	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING1_DAYS	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING2_START_DATE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING2_END_DATE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING2_START_TIME	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING2_END_TIME	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING2_BUILDING_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING2_BUILDING_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING2_ROOM	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING2_DAYS	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING3_START_DATE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING3_END_DATE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING3_START_TIME	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING3_END_TIME	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING3_BUILDING_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING3_BUILDING_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING3_ROOM	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING3_DAYS	OUCUSTOM.COURSE_SECTION	Daily	Read

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Category	Attribute Name	Source (SOR)	Timing	Read/Write
Enrollment and Scheduling	MEETING4_START_DATE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING4_END_DATE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING4_START_TIME	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING4_END_TIME	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING4_BUILDING_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING4_BUILDING_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING4_ROOM	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING4_DAYS	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING5_START_DATE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING5_END_DATE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING5_START_TIME	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING5END_TIME	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING5_BUILDING_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING5_BUILDING_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING5_ROOM	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING5_DAYS	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING6_START_DATE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING6_END_DATE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING6_START_TIME	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING6_END_TIME	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING6_BUILDING_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING6_BUILDING_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING6_ROOM	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING6_DAYS	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING7_START_DATE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING7_END_DATE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING7_START_TIME	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING7_END_TIME	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING7_BUILDING_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING7_BUILDING_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read

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Category	Attribute Name	Source (SOR)	Timing	Read/Write
Enrollment and Scheduling	MEETING7_ROOM	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING7_DAYS	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING8_START_DATE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING8_END_DATE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING8_START_TIME	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING8_END_TIME	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING8_BUILDING_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING8_BUILDING_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING8_ROOM	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING8_DAYS	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING9_START_DATE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING9_END_DATE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING9_START_TIME	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING9_END_TIME	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING9_BUILDING_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING9_BUILDING_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING9_ROOM	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	MEETING9_DAYS	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE1_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE1_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE2_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE2_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE3_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE3_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE4_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE4_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE5_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE5_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE6_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE6_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read

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Category	Attribute Name	Source (SOR)	Timing	Read/Write
Enrollment and Scheduling	ATTRIBUTE7_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE7_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE8_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE8_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE9_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE9_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE10_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE10_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE11_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE11_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE12_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE12_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE13_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE13_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE14_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE14_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE15_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	ATTRIBUTE15_DESC	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	GENED_CODE	OUCUSTOM.COURSE_SECTION	Daily	Read
Enrollment and Scheduling	PRE_REQUISITE INFORMATOIN	BANNER.SCRRTST	Daily	Read
Enrollment and Scheduling	CO-REQUISITE INFORMATION	BANNER.SCRCORQ	Daily	Read