CS Advising Bot

Dan Barzyk, Thomas Fitzhugh, Trey Orr, Pierre Sarabamoun
Outline

- Project Overview
- Timeline
- Deliverables
- Testing
- Future Work
- Acknowledgements & References
Project Overview

Virtual assistant for Virginia Tech Computer Science Advising

Provides answers to FAQs related to

- Advising
- Force add requests
- Funding and more

Relieve a burden from advisors & professors

- Less repetitive questions
- More time for important work
Timeline

- **Early February**
  - Becoming used to IBM Watson Assistant & Setting up plan moving forward

- **Late March**
  - Have a Working Advanced Chatbot (Text & Menu Navigation + Many Intents)

- **Mid April**
  - Conduct User Testing and make necessary changes

- **Early March**
  - Have a Working Basic Chatbot (Text + Limited Intents)

- **Early April**
  - Polish Chatbot UI & Write Up User + Developer Manuals

- **Early May**
  - Data Integration & personalized responses based on user data
Timeline

Early February
Becoming used to IBM Watson Assistant & Setting up plan moving forward

Late March
Have a Working Advanced Chatbot (Text & Menu Navigation + Many Intents)

Mid April
Conduct User Testing and make necessary changes

Early March
Have a Working Basic Chatbot (Text + Limited Intents)

Early April
Polish Chatbot UI & Write Up User + Developer Manuals

Early May
Properly Document All work and write up guide for approaching data integration
Deliverables

CS Advising Chatbot

Website Integration
CS Advising Bot

Hello, how can I help you?
Select an option or type a question

Type something...

Built with IBM Watson®️ 🔍

https://sites.google.com/vt.edu/csadvisingbot/chatbot
Option Navigation

Hello, how can I help you?
Select an option or type a question

Select an option

Hello, how can I help you?
Select an option or type a question

Select an option

CRN stands for "course request number". This is a five-digit number assigned to each class being offered during a given semester. The first number of the CRN designates the term. (1 or 2 = Spring, 5 = Summer, 6 or 9 = Fall, 12 = Winter).

Select a category

Select a category

CRN

Select a category

CRN

Select a category

Type something...
Supported Topics

ADVISING
Academic Suspension
Additional Resources
Advising Appointments
DARS
Extracurricular Activities
FERPA
Forms
Freshman/First-year Advisors
Full-time Status
G.I. Bill Benefits
Hold (Blocked, Purged, and Held Registrations)
Important Dates
Plan of Study Worksheets
Policy 91
Probation, Academic
Progress Toward the Computer Science Degree
Schedule a Visit
Second Major Advisor
Student Success
Upper-level Advisors

CAREER
Careers
Co-op/Internship Program
Handshake

COURSES
Academic Records
Auditing a Course
What is a CRN
Core Curriculum
Course Offerings
Course Request
Course Withdrawal Policy
Credit by Exam
Drop/Add
Force Add Requests
Prerequisites
Transfer Credit

GRADUATE
Applying to the graduate school
Five Year Bachelors/Masters Degree Program (BS/MS)
Interested In a Graduate Degree
MEng
MSThesis

RESEARCH
Independent Study
Undergraduate Research
VTURCS

MAJOR/MINOR
Applying for your Degree
Certification
Change of Major
Graduating with Distinction
Minor in Computer Science
Minors in Other Disciplines
Survey with Chatbot

Review

Did you prefer the option based method or the text based method more? *

- Option based
- Text based
- No preference

How easy was the chatbot to use? *

1 2 3 4 5 6 7 8 9 10

Very hard ◯ ◯ ◯ ◯ ◯ ◯ ◯ ◯ ◯ ◯ Very easy

How helpful was the chatbot in answering your question? *

1 2 3 4 5 6 7 8 9 10

Not helpful at all ◯ ◯ ◯ ◯ ◯ ◯ ◯ ◯ ◯ ◯ Very helpful

https://sites.google.com/vt.edu/csadvisingbot/survey-chatbot?
Testing

- Chatbot accuracy = ability to recognize intents
- 2 methods to test
  - Option Based - can be done locally
  - Text Based - requires extensive external testing
- IBM Watson stores conversations for intent identification analysis
- Chatbot correctly identifies Intent -> add to Examples
Future Work

- Database integration
  - Personalized responses
    - Name of your advisor, GPA info, course recommendations, etc
- Maintenance and upkeep
  - Update with new information
  - Add intents as they arise
- More examples
  - Increase text recognition accuracy
Acknowledgements & References

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How Chatbots Work

IBM Watson Assistant https://cloud.ibm.com/docs/assistant?topic=assistant-index
IBM Watson Assistant Forum
https://community.ibm.com/community/user/watsonapps/communities/community-home?CommunityKey=7a3dc5ba-3018-452d-9a43-a49dc6819633
LUIS https://docs.microsoft.com/en-us/azure/cognitive-services/luis/what-is-luis
VT CS Advising https://cs.vt.edu/Undergraduate/StudentServices.html
VT CS Undergraduate Handbook https://cs.vt.edu/Undergraduate/Undergradhandbook.html