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Building a RAG Custom GPT for Business Analytics

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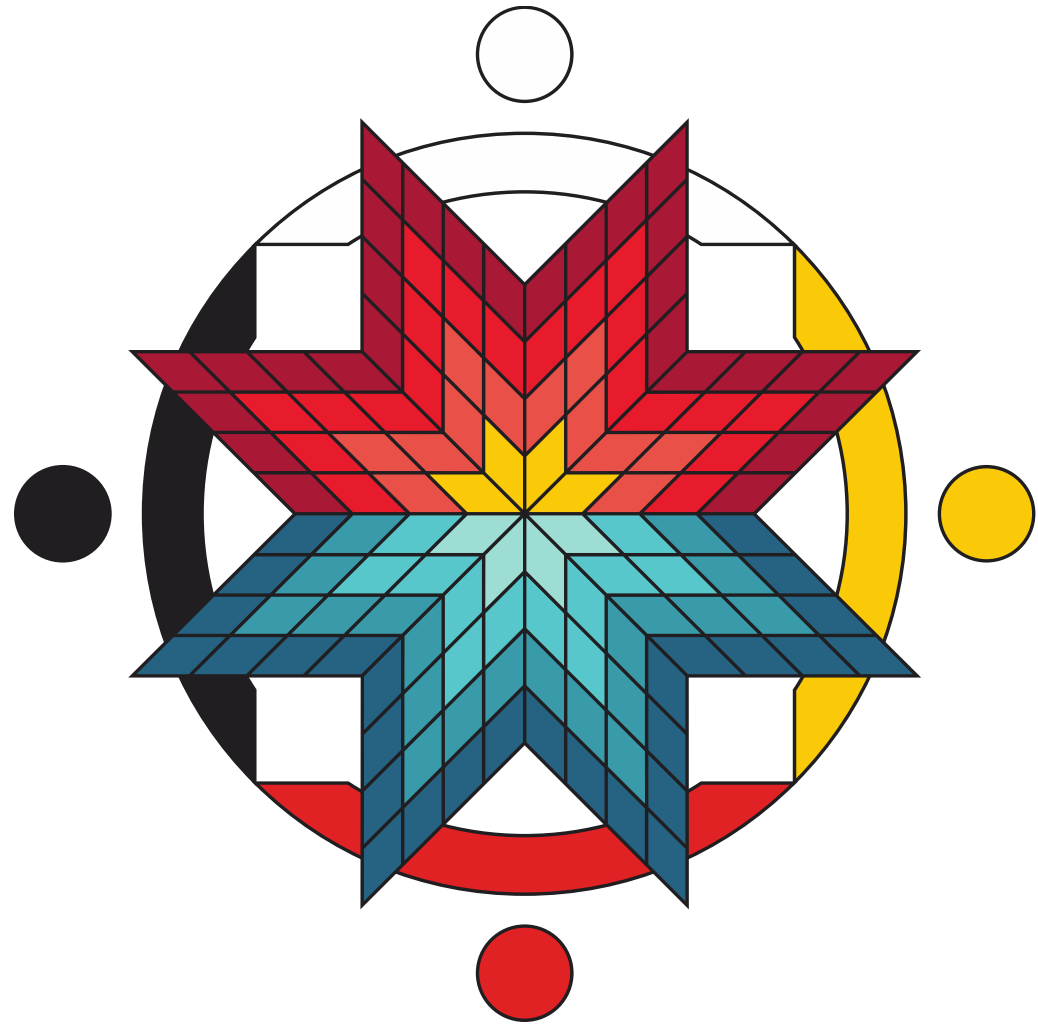
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Land Acknowledgement

George Brown Polytechnic is located on the traditional territory of the Mississaugas of the Credit First Nation and other Indigenous peoples who have lived here over time.

We are grateful to share this land as treaty people who learn, work and live in the community with each other.

[Learn more about our land acknowledgement.](#)



Agenda

BLOOM Methodology

Anderson & Krathwohl's(Revised Bloom's Framework)

Comparisons between BLOOM and Anderson & Krathwohl's(Revised Bloom's Framework)

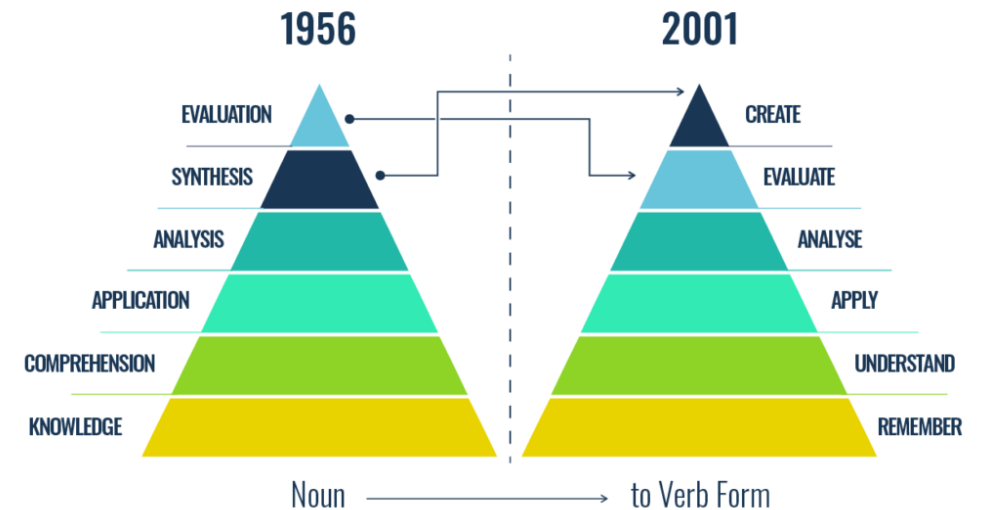
Why use RAG and AI with BLOOM

Current Architecture of the prototype



BLOOM methodology

- Prevalent in current educational system; Hierarchical learning; not everybody learns that way
- Program Learning & Course Learning outcomes have been designed based on this methodology
- Can be used across different programs
- Hierarchical – based on a taxonomy of : cognitive domain(knowledge-based), affective (emotion-based), and action-based
- Sometimes people might want to learn by doing applications and can try to do creative things
- Learning is not linear/hierarchical
- Remembering is the foundation of any methodology; need to remember first before you can go up the pyramid
- Anderson & Krathwohl’s: Action oriented learning
- Using critical verbs(action words) to relate the cognitive process with the learning process



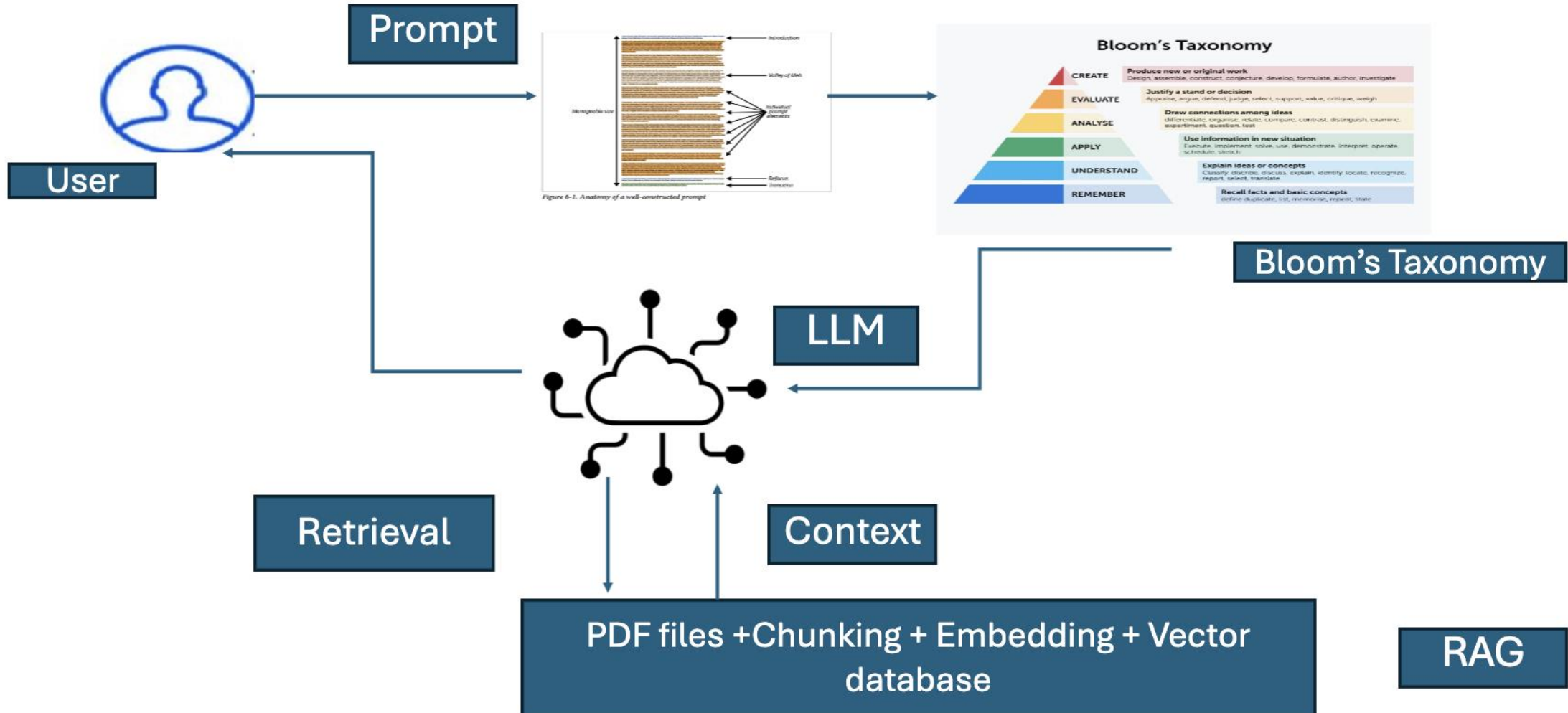
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Purpose of using RAG and GPT with BLOOM

- Prompt based usage enables natural language processing to learn
- LLM(Generative AI) model with variety of functional models to aid in learning and knowledge reasoning in accordance to Course Learning Outcomes(CLO)
- Multi-modal LLMs(ie Text/Images/Audio/Video) can help with Universal Design Learning(UDL) thereby ensuring compliance with AODA Act
- By combining RAG with the BLOOM methodology, students interact with lecture materials(in PDF format) through ChatGPT Edu.
- System dynamically generate questions and tasks aligned to BLOOM's cognitive levels
- RAG ensures answers are grounded in material, thereby reducing hallucinations and reinforcing accurate, contextual knowledge.
- Shifts from passive reading to active, scaffolded reasoning; supports differentiated learning, instant feedback, and higher-order thinking—key in analytics education,
- Helps with digitizing existing resources, redefines mastery of topics.
- Thus, it exemplifies turning complexity into opportunities.



Current Architecture



Conclusions & Recommendations

- RAG ensures answers are grounded in material, thereby reducing hallucinations and reinforcing accurate, contextual knowledge.
- Shifts from passive reading to active, scaffolded reasoning; supports differentiated learning, instant feedback, and higher-order thinking—key in analytics education,
- Helps with digitizing existing resources, redefines mastery of topics.
- Thus, it exemplifies turning complexity into opportunities
- Current Gaps:
 - Introduced Multi-modal LLM for UDL(Universal Design Learning)
 - Restricted to only 1 LLM
 - Use ML to track student's feedback and learning journey

