

Capstone Project Proposal

Client/Company Name:	Conestoga College
Contact Name:	Ted Tanner, ACSIT Faculty
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Website:	
Phone:	
Project Name:	IT Capstone Project Approval (ITCPA)

Project Description:	<p>IMPORTANT: This project proposal is intended for CPA students. Please see Additional Notes section (next page) for more details.</p> <p>A. The current IT Capstone Project Approval (ITCPA) process is done manually. The major use cases are listed in the Business Goals section (see next page). An overview of ITCPA is described in DesignChallenge2016.pdf.</p> <ol style="list-style-type: none">1. This project proposal aims to automate end-to-end: from the client project proposal and student team request, up to the student team project application approval, using the features of a modern cloud-based technical architecture.2. This application will be built using a full development cycle that includes local development environment using VS Code and MySQL, a staging environment and a production environment on Azure cloud platform.3. A quick tour of the technical environment is available to Conestoga College students by following the "Modernize Node.js App and Azure App Service" video link (see Section 1 to 4 of https://www.linkedin.com/learning/modernize-node-js-apps-with-azure-app-service). <p>B. Preliminary Technical Architecture:</p> <ol style="list-style-type: none">1. This project aims to develop, test and deploy a fully functional information system that utilizes the power of Azure Cloud computing that caters to micro-services architecture.2. The back-end app and services will be shared by the Desktop and Mobile front-end apps (separate apps per role) .3. At a minimum, the ITCPA app will be developed using Node.js server and Angular client or a combination of modern frameworks and libraries to be approved by the main stakeholder.4. The backend server must be developed using MySQL that can be implemented using Azure Database for MySQL.5. Optional: This project will consider using MongoDB (NoSQL database) to store the documents and multi-media attachments (music or video files).6. Optional: Other Azure technologies to consider are: Azure Functions, Azure Durable Functions, Azure Blob Storage, Azure Service Bus, Azure Queue Storage, Azure Event Hub, Azure Event Grid, and SignalR Service.
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Business Goal:

- I. Conestoga College ACSIT needs a way to track and quickly match the client IT capstone project proposals to student teams.
- The IT Capstone Project Approval (ITCPA) app will help facilitate the approval of student capstone projects proposed by clients.
- This project must demonstrate the use of Azure Cloud as part of its initial release. It must be configured and deployed to an Azure App Service.
- This project will be used as a teaching case study material for future IT courses such as INFO2320 (Systems Analysis and Design).
- As the authors of the case study material, each team member will be given the proper credits.

II. Major Uses Cases By Role:

A. Client

1. Add a client project proposal
2. Review a student team project application
3. Select a student team
4. Attach document to client project proposal

B. ACSIT Program Coordinator

1. Review and approve a client project proposal
2. Review and approve a student team
3. Approve a matched project proposal

C. ACSIT Student

1. Add a student team
2. Apply to unassigned client project proposal
3. Attach document to client project proposal

III. Expectations of this project:

1. The student team selected will work with the main stakeholder (i.e., Ted Tanner will be the project contact person for this project).
2. Each team member is expected to dedicate between 6 to 8 hours per week for this project.
3. This project will use the Agile / Scrum framework. The main stakeholder will be available for this project four days a week.
4. Ideally, this project will have Sprint 0 (technical architecture), Sprint 1 to 3 (develop, test, demo), Sprint 4 (transition/release).
5. Each team member must attend a Daily Scrum meeting (max. 15-minute per meeting) four times a week.

Additional Notes:

IMPORTANT: This project proposal is intended for Computer Programming and Analysis (CPA) Year 3 students. It requires successful completion of courses such as PROG3050 (Microsoft Enterprise Apps), PROG3170 (Distributed Apps Development) and Azure Cloud Computing Fundamentals (see online free Microsoft Learning Paths in <https://docs.microsoft.com/en-us/learn/certifications/exams/az-900>).

- a. The main stakeholder is Ted Tanner and he will be accepting student team applications at the start of school term.
- b. Additional stakeholders may include: ACSIT Program Coordinator (Lea Armstrong), ACSIT faculty advisors, Conestoga College capstone project clients, and ACSIT students.
- c. When applying to this ITCPA project proposal, submit all relevant documents. At a minimum, include a list of team members and 1-page resume of each team member that demonstrate the completion of the required courses, relevant work experiences, and a short statement of interest (to know why you and your team must be selected to work on this project).

Please fill it in, save, and send it back to miles@conestogac.on.ca (Sam Miles)