Capstone Abstract

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My capstone focused on the implementation of a Key Vault within *Teaching Tools*, an ongoing project that aims to extend and integrate Canvas with Google and Microsoft.

An Azure Key Vault is a cloud service that allows for the secure storage and access of secrets – such as APIs, passwords, encryption keys, and tokens. It allows for secure, designated access, and therefore guarantee users access to the application without the risk of leaking sensitive information.

The completion of the implementation of the key vault resulted in the ability to securely store and control the access to passwords, API keys, and tokens, and therefore, greatly reduce the chances of sensitive information to be leaked. By longer needing to store security information in the application, we eliminate the need to make this information part of the code, which greatly reduces the chances that secrets may be accidentally leaked. It also improved the security of the app by managing permission level according to control access policies. This project allowed me to practice Agile development, as well as hands-on experience on developing code through testing and deployment and pair programming.

In summary, this faculty research project consisted in the design of an architectural framework that allows to the maintenance of confidentiality, integrity, and availability of sensitive data.