Sample Collection

Proposal for Colorado School of Mines MCS Field Session, Summer 2012

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Introduction

Newmont Exploration collects approximately 500 soil, stream-sediment, rock, and other types of samples around the world every day. This information is uploaded into databases, but the process can be cumbersome and often the data isn't loaded until months after it is collected. Utilizing laptop computers our explorers capture the information for the samples that were collected, these samples will be stored on a local SQL Server Express database and when internet connection is available a heartbeat job will synchronize the local copy of the database with a database hosted in the Azure Microsoft cloud merging with analytical results and streamed back to a geoscientist laptop providing actionable data in the field.

Objectives

1. Develop a mobile application to collect sample information that will store the information on a local SQL Server Express database. (The front end could be Excel connected directly to SQL Server Express).
2. Design and develop a job to have bidirectional synchronization between the local database and the Azure database.
3. Data should be collected and cached locally and uploaded on demand when internet connection is available.
4. Sample collection form will be dynamically retrieved from a web server allowing for customization and subsequent deployment to all mobile devices.
5. Develop and implement a job that will synchronize a SQL Server database inside our premises with the Azure database, the tables to synchronize are the same as the ones synchronized with the Explorer's laptop.

Requirements

1. Knowledge of development tools, .Net development and some knowledge of Azure development environment and Synchronization agent.
2. Strong communication skills, familiarity with Agile practices.

Work Environment

The work environment and location are completely flexible, but would anticipate a number of face-to-face meetings along with frequent electronic communication as a minimum.