

PROG7312 - Part 3

APPLICATION PROGRAMMING 3B Technology Recommendations

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Technology Recommendations

Introduction:

Throughout the POE, I realized that a lot of the required data structures and the overall project can benefit by implementing additional technology and removing a few of the current data structures that can't be efficiently shown because it's a small data set.

Recommended Technology:

1. Integration of a Cloud-Based or Local Database:

One of the problems that this municipality app has is that there is no database...so having reports submitted and wiped when app closed isn't the best. Having a database will allow the application to be scalable, adding users will also be easier, so that it can form a community. The database will allow users to access their info from anywhere, it will be secure and offer real time threat detection. The database will also be easy to integrate into .net applications by making use of Azure.

2. Implementation of a web application and not a WPF app:

Another thing that I recommend is that the entire POE should be a web application, so that multiple users can use the app easily and from anywhere to report an issue or post an event. It will be easy to incorporate advance security and features using a web app, and all the data structures that the app wants can still be used. It will allow scalability of the app and enhance the usability.

3. Incorporate a Google Maps API:

When users report an issue, post an event or announcement, they must select the location, having a Google Maps feature where users can pinpoint the exact location will improve the service issue request, events and announcements precision. It will lower the chance of a location being entered that does not exist, enhance usability and user experience.

4. Use of Data Analytics Tools for Admin:

When users can register and be saved in the database, their can be roles assigned to the users, if an admin signs in, I will recommend showing them an insightful dashboard, that can be powered by Power BI or Tableau. Where they can easily view service issues reported, update the statuses of that issue so that the user can tract their issue statuses.

5. Using Continuous Integration and Deployment (CI/CD Pipelines):

I recommend adding CI/CD pipelines to automate the building, testing and hopefully deployment, to ensure that the application developed is high quality and bug free. It will make development faster and efficient.

6. Using Continuous Integration and Deployment (Circle CI and SonarCloud):

When the application has a database, security will be needed so I recommend integrating circle ci and SonarCloud into the application, it will show a detailed overview of the applications security, maintainability and reliability, Circle CI will ensure that pipelines pass and SonarCloud will preform Code smells making sure that our code is up to industry standard.

Summary of Benefits:

By implementing these 6 recommendations listed above, it will directly enhance the project. All of the recommendations is compatible with the project and ensures that scalability, efficiency, security, user-friendly experience and administrative insights requirements are met.