Business Intelligence Design Strategy

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Our FlashEstimate project is ready to move forward in the systems development lifecycle. Our key requirements are that this system identifies a vehicle’s damaged panel by comparing digital photos to other damaged vehicles, as well as non-damaged vehicles. The next requirement is to make a repair versus replace decision for the panel. Third, our information system will order the required parts to the shop of the member’s choice. Now that we have laid out this project’s requirements, we are ready to create the design strategy that this project will rely on not only to stay on track but also to make sure our organization’s current as well as future business needs will be served by our work. The scale and complexity of this project demand an organized, well-planned approach to both the physical as well as the logical components of our information system. Our in-house information department’s close coordination with Google falls outside of the traditional categories of a scratch or outsourced system acquisition strategy and is more of a hybrid model, as we are creating a new type of information system, leveraging some of our corporate partner’s existing platform-as-a-service technologies.

**DevOps & Personnel**

Our team is fortunate to have combined decades of experience in areas such as auto physical damage, property & casualty claims, web application development, and cloud-hosted machine learning, Integrating the talent involved that will be needed to make this project a success will be an unending task performed by our project integration management team. In a Dev-Ops environment, the integration team will act as a liaison between the project’s stakeholders and the development teams. Balancing and coordinating project implementation will be performed according to agile methodologies (Rigby, Sutherland, &amp; Takeuchi, 2017), emphasizing segmentation of the project into a segmented list of shorter sprints, failing fast, and learning from our mistakes.

**Logical Design**

The Big Data nature of this project means that we will need to be organized with our information flows. Entity Relationship diagrams are just the start of the logical modeling that will be required to understand and successfully implement this information system. The machine learning engineers will use supervised classification algorithms to identify that a panel is damaged and whether or not this damage is repairable. These machine learning algorithms are not a black box of mystery, and understanding the mathematics and classification criteria that underpin these tools is possible, and in fact relatively straightforward. It is important to know what the tool is looking for in order to understand the parameters which can be adjusted (Qiu, Xu, &amp; Cai, 2018). Finally, Information security will have to be locked down before we start receiving data from customers. This includes input sanitation, malware detection, event logging, and easy to read disclaimers for the customer to not send any sensitive information via damaged photos. They will anyway, and it is essential to make sure that our data at rest is encrypted and our servers secure from attackers.

**Physical Design**

With our data flow mapped out, it is time to start thinking about how and where we want to host the project’s storage and computational resources that will be required to ensure security and availability. With Google as our corporate partner, it makes sense to extend the partnership to make use of their infrastructure as a service, as the scalability and uptime for the cost are hard to beat with an in-house solution. Scalability is one of the foremost reasons to utilize cloud-based computation, as our project is small now it does not make sense to own massive computational assets for this project. If, however, this project approaches nationwide adoption, the resources needed will need to be scaled to the level that a professional cloud-based data service would be most well-equipped to maintain. As this project grows and insights are gleaned from practice and experience, it is important to remember to be flexible while avoiding scope creep. Having clearly defined goals and objectives will guide the success of this complex project.

References

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