Validation Report

Validating requirements in general - Validation is used to ensure that one is working on the right problem.

- **How** should you validate requirements - There are various techniques to validate requirements including stakeholder reviews, prototyping, modeling and simulation, conceptual modeling, and formal modeling. Additional, different stakeholders, including representatives of the customer and developer, should review the document(s).
- **Why** should you validate requirements - Validation of requirements ensures that stakeholder requirements have been correctly transformed into system requirements. Requirements may be validated to ensure that the software engineer has understood the requirements. Additionally, validating requirements allows teams to build a correct solution that meets the stated business objectives.
- **When** should you validate requirements - Validation of requirements should occur at the initial phase of development/elicitation to ensure that reworks are not needed later in the development process which is expensive. The goal is to pick up any problems before resources are committed to addressing the requirements.

Requirements validation topics -

- **Reviews and inspections**:
    - In general, review, and inspections on requirements allow you to identify ambiguous or unverifiable requirements and other problems such as errors, mistaken assumptions, lack of clarity, and deviation from standard practice. Reviews may be constituted on completion of the system definition document, the system specification document, the software requirements specification document, the baseline specification for a new release, or at any other step in the process. The inspection process may have separate roles such as an Author, Moderator, Reader, and Recorder to verify that each individual that was present during the reviews and inspections is noted in case of issues down the developed process. Feedback helps ensure that the specified system requirements have been adequately captured and expressed. Confirmation is made that they are a necessary and sufficient response to stakeholder requirements and the Validation Process applied for the specific requirements. The overall purpose is to explain and obtain agreement to the proposals to resolve conflicting, impractical, and unrealizable stakeholder requirements. i.e. Get a sign-off.
- **Prototyping to validate requirements**:
    - Prototyping is used when requirements aren't clear, and by making a quick design of the system to validate requirements you can ensure it meets the customer needs or iterate until it does meet the needs. This reduces the cost since you have clear, understandable, and consistent requirements. Prototypes make it easier to interpret the software engineer's assumptions and, where needed,
      give useful feedback on why they are wrong. Additionally, evolutionary prototypes allow the users to see how the requirements would work when they are implemented, to validate that the result is what they expect.
- **Acceptance test design**:
    - Acceptance test design can determine the quality of the requirement because requirements that cannot be validated are really just "wishes". To validate an acceptance test they must first be analyzed and decomposed to the point where they can be expressed quantitatively. Acceptance tests must also address nonfunctional requirements. They should ensure that performance goals are achieved, that the system complies with usability standards, and that security expectations are fulfilled. Note, Don't expect user acceptance testing to replace comprehensive requirements-based system testing, which covers all the normal and exception paths and a wide variety of data combinations, boundary values, and other places where defects might lurk.

How the requirements engineering process supports the validation of behavioral requirements -

The requirements engineering process supports the validation of behavioral/functional requirements by confirming/validating all the effort of elicitation, analysis, and specification are correct or need updates to conform to standards. The process allows for behavioral requirements to be checked for any errors, mistaken assumptions, lack of clarity, or deviate from standard practice. Furthermore, behavioral requirements can be ensured to meet customer needs with a prototype as it provides a design that makes it easier to confirm requirements and assumptions made by the software engineers. Additionally, prototypes allow for additional behavioral requirements to be identified or if some need to be scrapped. The process also allows the validation of models both formal and informal to prove specification properties and create acceptance tests to validate that the finished product satisfies the behavioral requirements. To sum it up, the requirements engineering process supports the validation by allowing requirements to be checked and confirmed by all parties to ensure that we are building the correct product.

Project memo -

The structure I took to conduct the review was not with a group of stakeholders but with my main stakeholder/sponsor Edward McCarthy, we went over all the requirements created via phone call, and I additionally provided a complete document with all of the requirements in case any errors, mistaken assumptions, lack of clarity, or deviate from standard practice were found later. These requirements were confirmed to be good by Edward and we could continue the requirements engineering process. I believe sharing the requirements with additional stakeholders would have been beneficial but throughout the entire its been somewhat difficult to get in contact with other stakeholders. In short, the composition was made up of me and Edward validating all of the requirements. Additionally, I shared the mockup and prototype of the BLRB with Edward that led to the creation of additional requirements and validation of the current design.

How I met specified needs -

I met the specified needs of the BLRB by following Dell's code of conduct and considering ABET's fundamental requirements by, mainly focusing on public safety, the welfare of the public, and social/environment, and economic factors. Considering the public's health, one of dell Boomi's main goals is to improve citizen services, and taking that into consideration it was necessary that the BLRB needs could further this goal by

providing faster legal information to those in need trying to improve the public health. Considering safety the BLRB was strictly designed for Boomi personnel only which in turn could potentially prevent public breaches keeping not only customers happy/satisfied but secure. Dell Boomi works with a multitude of companies that focus on global, cultural, social, environmental, and economic health and provide them with the tools needed to further these needs, which led to the creation of the BLRB which will allow all Boomi personnel to provide correct legal information and push for the improvement of all aspects needed. These improvements are faster customer interaction to improve social and economic factors, correct/ethically thought out deals considering environmental factors of a product, and diverse legal interactions around the globe improving cultural differences. (Note: a multi-language response bot was conceptualized but is not confirmed or fleshed out yet).