Developing applications and software for leading drug research company

Industry:
Healthcare

The Client:
Our client is a leading organization working on biotechnology research domain. They conduct experiments for drug research. They are also actively involved in development of software for drug research.

Business Objective:
Our objective was to provide a product to model and simulate drug research with accurate analytical results. This product was designed so that scientists can use it to create an experiment model, which simulates a chain of reactions inside the living body. Our main aim was to develop the software for drug research.

Solution:
The product had to be modeled with accuracy as users could import data from public databases and experiment with various inputs for case studies. A model is comprised of various species, proteins, genes, reactions inside compartments. Species has detail like initial concentration, charge etc. Model data is saved in industry-wide-accepted SBML file.
User could simulate the experiment model using selective simulation engine. Experiment results were rendered in a plot for each molecule used in the experiment. User could also superimpose them for comparison of results. Iterative execution methodology was followed for the development of this kind of model.

Challenge:
Prior to development of this product there was no approach to automate drug research experiment. We provided a proof of concept to simulate drug research experiment using computer. Since we had a very vague idea about this field, we referred Wikipedia, NCBI, Tata McGraw tutorial etc to gain the required knowledge.
Also there weren't any clear set of requirements; we had to derive requirements by exploring similar products. We explored Cell Designer for requirement reference. Another major problem was that the product required lots of data retrieval from third party and data format wasn't documented anywhere. So we understood third party data format by analyzing many examples data sets.

Benefits:
- Provided a good proof of concept within timeline.

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Case Study

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