

## ***BTech Minor Project***

### ***Software Development Life Cycle***

## ***Agile Software Development Cycle***

### **What is our BTP?**

Our research endeavours in the realm of object detection exemplifies a meticulous and iterative process of knowledge acquisition, innovation, and scientific exploration. Our commitment is to author a comprehensive research paper. The field we are working on is object detection. However, the exact field of detection is yet to be decided as we must do thorough research. Our initial steps involve an exhaustive literature review and an exploration of various datasets to grasp the current landscape and research gaps. This holistic approach is a precursor to our coding phase, where we will craft novel solutions to meet the demands of our chosen research topic. The backbone of our forthcoming paper shall be a rigorous comparative study, where we dissect, analyze, and benchmark multiple detection methods to uncover their merits and shortcomings. This holistic methodology, underpinned by our unyielding commitment to pioneering research, propels us towards the pursuit of excellence in object detection, thus culminating in a paper that offers both scientific rigour and practical significance.

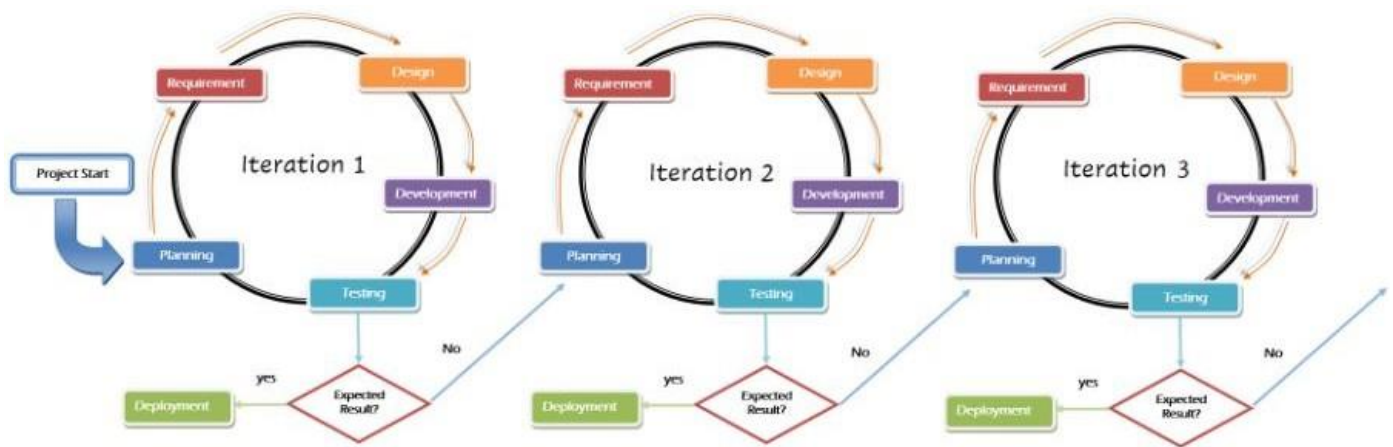


The Agile model is well-suited for a research project on object detection, particularly for the following reasons:

- **Flexibility:** Research projects often involve a high degree of uncertainty and changing requirements as you explore new ideas, datasets, and methodologies. Agile allows you to adapt to these changes quickly, making it an ideal choice when the specifics of your research topic are not yet fully defined.
- **Iterative Development:** Agile encourages an iterative approach, where you can continuously refine your models, datasets, and research questions. This aligns well with the iterative nature of research, where hypotheses are tested, and new insights lead to adjustments in your approach.
- **Continuous Feedback:** Agile methodologies emphasize regular communication and feedback within the research team. This is crucial for discussing experimental results, making data-driven decisions, and ensuring everyone is aligned with the research goals.
- **Incremental Progress:** Research projects can be long and complex. Agile breaks down the project into smaller, manageable tasks or iterations. This allows you

to track progress and achieve tangible results at regular intervals, which can boost motivation and maintain momentum.

- **Risk Mitigation:** Agile includes practices like risk assessment and mitigation. In research, where the outcome is uncertain, identifying and addressing potential risks early is essential. Agile's focus on adaptability and risk management can help you navigate challenges effectively.
- **Collaboration:** Agile promotes collaboration among team members, including researchers, developers, and domain experts. This collaborative approach can enhance the quality of research, as different perspectives can lead to more innovative solutions.



As observable in the above figure,

- ❖ Our team is planning to search papers on object detection published in the past 2 years.
- ❖ Then we go through the requirements of the resources and models required.
- ❖ Then we go through the formatting and designing of the papers and models.
- ❖ Now, we train and test our models, if we achieve higher accuracy then we finish the writing of the paper, we go to Iteration-2 and then plan which dataset to pursue which can lead us towards our goal.

**This is how our team is planning to implement the BTP.**

