**Process Models Case Study**

**RAD Model:**

Link

https://kuscholarworks.ku.edu/bitstream/handle/1808/9664/Shetty%2c%20Kanaka%20EMGT%20Field%20Project.pdf?sequence=1&isAllowed=y

Case Study (Summary)

There is a need for greater productivity and reduced complexity in the area of web application software development and implementation. This is the underlying theme behind “Rapid Application Development.”

The case study tells about the development of web presence of a small business known as “Beverly Flowers”. Despite the fact that this company scales as a small business but as to compete in the market, provide home service and et cetera urges them to develop their online application.

Since, the business is small and does not have handsome investment, and needs to have their website done as soon as possible. The Software developers decided to apply the RAD model, so as to satisfy customers with minimum budget, team, investment and quick output.

Justification

According to the application needs, (RAD) model fits the best as these all needs are the key features of this model, which are:

* No time for free planning
* Quick development
* Low budget development
* Less Resources Usage
* Client Satisfaction
* Smart Investment
* Et cetera

**Unified Process Model:**

Link

<https://www.ibm.com/developerworks/rational/library/4474.html>

Case Study (Summary)

IBM was developing a software for FORD. This development included huge collaboration of teams in IBM. Due to multiple teams collaborating, managing project deliverables across the teams became a task to handle. As each team has its own set of deliverables related to the project.

There were also issues of building a team, and assigning them the right job relative to their skill set. Also, project scalability and its risks were another ignored lemmas.

Justification

As there were issues with customization, therefore using RUP became the best suitable model as it outstanding customization to the project with no specific time limit to be defined.

Moreover, as RUP provides clear definitions of project modules, it became suitable to consider it. The RUP model is based on a unified model that is understood by all the I.T stakeholders. Therefore, it helped IBM to make development collaborative as FORD management’s interference was also the issue to resolve. Eventually, using this model every developer and employee got its job and deliverables well defined.

**Agile Model:**

Link

<https://www.scaledagileframework.com/cisco-case-study/>

Case Study (Summary)

Cisco IT were facing issue that is periodic major releases as well as challenges in subscription billing platform and WebEx app releases for Samsung tables. Low scale agile model was used in the company in one team or another but, mainly model was waterfall. So, to change the development style they adopted agile framework to cope up with the issues. Using agile framework they got benefits explained in justification.

Justification

As agile framework can be scaled to higher organizations as well, so they used the version scaled agile framework, to have fast releases of soft wares. As agile caters continuous delivery, their delivery issue got resolved. Speeding up releases was also the possible dimension that resolved under agile as agile framework is best for speedy development. Eventually, their Increase productivity issue got fixed and also improved the quality as it is agile that has good interaction of testing and development.

**V-Model:**

Link

<https://link.springer.com/chapter/10.1007/978-3-319-58610-6_3>

Case Study (Summary)

In this case study automotive software development is done using V-model as the automotive software development is basically developed on the basis of Vehicle\_Supplier+Client terms.

Justification

The V-model is used and justified as:

* The automotive software need parallel verification and validation to satisfy clients through their feedback and help developers to nullify any mistake

**Spiral Model:**

Link

[https://www.intellectsoft.net/blog/spiral-model-sdlc/](https://www.ijarse.com/images/fullpdf/1458538893_665I.pdf)

Case Study (Summary)

In our case study, Microsoft used spiral model to develop “Windows”. “Gantt Chart” software also used it. Moreover, game development industry is also leaning to utilize spiral model for game development.

Justification

Microsoft utilized spiral model as they need to cater feedback, as well as they managed the risks and wanted to work with a realistic picture of their document. Further, game development industry is utilizing or plans to utilize this model as they have continuous feedback from customer that needs to be incorporated as well as reducing the risks of software development in addition to adding new features and functionalities to games, are made easy with this model.

**Prototyping Model:**

Link

<https://www.ijarse.com/images/fullpdf/1458538893_665I.pdf>

Case Study (Summary)

E-commerce website is taken as a case study under prototyping model. The website’s pages are prototyped, means that each website page is designed and shown to customer continuous feedback on prototyped built is taken and after success on feedback, website’s foundations are built and so on.

Justification

Prototyping model requires a pre designed prototype of a page for client’s preview. Upon feedback the relative designs are changed and requirements are gathered. Eventually after finalization of designs and changes, website is in developing phase.

**Incremental Model:**

Link

<https://t4tutorials.com/incremental-model-in-software-engineering-advantages-disadvantages-examples-case-study-of-incremental-model/>

Case Study (Summary)

In the example under case study headline social media website is being developed. For this they have divided the user’s steps for using social media into increments. In which Sign Up is an increment leading to Sign In increment and so on.

Justification

Since, the steps to develop a software i.e. social media could be divided into the increments or modules and after finishing of each increment, next increment is focused. And the delivery is to be timely, so, incremental model fitted best here.

**Waterfall Model:**

Link

<https://www.quora.com/What-are-names-of-successful-projects-using-the-waterfall-model>

*During my career in software engineering I participated in the successful delivery of a number of systems developed using the “waterfall” model. These were large systems. Energy management systems for electrical utilities and rail traffic control systems for railways. These systems always included delivery of hardware and software for the control center and often include remote telemetry hardware. The rail traffic control systems were often part of a major development with a big infrastructure component. Athens systems always included a lot of database design and development. As these systems were used by power system dispatchers and rail traffic dispatchers there was big user interface component.*

*Some of the systems that I participated in the development and delivery (as I remember) were:*

*A large Energy Management System (EMS) for Southern California Edison (early 1970s)*

*A large EMS system for Florida Power and Light. (1980s)*

*A large EMS for Houston Light and Power ( late 1980s)*

*A SCADA, AGC, and Water Housekeeping system for Statkraft Tokke Control Center (1990s)*

*A large EMS system for Hong Kong Electric Company (1990s)*

*Tren Urbano, a heavy rail transportation system for San Juan Puerto Rico (1990s)*

*A large rail traffic control system for Canadian National Railway (early 2000s)*

*Most of these projects took three to five years to complete. They all had stringent safety requirements.*

Case Study (Summary)

The projects discussed or highlighted above are the projects of a person in his career. The projects were huge and mostly state owned. The latest project he did using waterfall method was in 2000. *Due to this timeline and the non-existent information of projects in waterfall on Google search engine, tells that waterfall model after rapid development in software engineering is not used much now-a-days.*

The projects discussed above are of very clear requirements and have fixed goals like to achieve traffic control of rails, rail transportation system and et cetera.

Justification

The below criteria for waterfall are much fulfilled therefore, this person’s long term projects are able to work successfully in the waterfall and later catered by maintenance:

* The requirements in the project were very well known, clear and fixed
* Product definition was stable.
* Technology was understood.
* There were no ambiguous requirements
* Budget was open as the projects were of state