COMP47480 Seminar 1: IBM

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1 Speaker

Paddy Fagan, Chief Architect at IBM Watson Health. He is working across SAAS and on premise solutions in healthcare and government. He has worked to bring together the customer team's requirements and the Product Development Organization to architect approaches and solutions that are the best fit for customers.

2 More than Software

He said that a successful piece of software doesn't mean a successful project. It was much more than only the software. It involved lot of different parts which had to work together to create successful projects. Some of those parts are as follows:

- Having the right offering: Giving something that the customers you are targeting actually need and will benefit

- Getting to the market

- Selling it: selling it at a price that the end users can afford it

- Operating it

- Supporting it: supporting your customers whenever fault occurs and also helping them to get used to eat

- Evolving it: while providing the services, the service should evolve according to the customer's needs

3 More than Engineering

Many other crucial professions/disciplines are involved in managing the Software

- Engineers: know what cannot be done

- Project Management: knows how to organise the project and how it should be worked towards

- Business: These people know what should be done

- Designers: knows how it should look like

- Test Operations

- Supporting: needed for helping the end customer with their queries

- Sales and Marketing: knows how to sell it

- Legal: department knows the laws and regulation that it should comply with

4   Lifecycle of Project

IBM uses Agile methodology in their lifecycle which involves Vision, Plan, Develop, Deliver and Operate.

4.1   Vision

IBM uses a Design thinking pattern which is process for innnovating and delivering fast. It adds certain practices namely hills, playbacks, sponsor users.

- Hills: it is expressed as an aspirational end state for users that is motivated by market understanding. It defines a mission and scope of a release. No more than 3 major release are recommended with a technical foundation.

- Playbacks: Moving forward requires a lot of feedbacks and that's where playbacks come into play. All design and deelopment work is iterative.

- Sponsor users: these are the people who are selected from real or intended user group. By working with sponsor users. It allows for better design experiences for real target users, rather than imagines needs.

4.2   Plan

Planing involves number of steps like mapping down story boards.

Their planning is similar to Agile planning where we have Epics (themes), Features (user identifiable features), Plan items (development iterations) and Stories (development sprints).

Stories are the leaf items that the Project team work on. Test, documentation and deployment is a part of every story and must be followed by the team members.

Planning is known as Playback 0. They use IBM Rational Team Concert (Jazz) tool to manage all aspects of their work, such as iteration, release planning, change management, defect tracking, source control, and build automation.

4.3   Develop

Development in IBM uses Eclipse as IDE, Ration Software architect (UML), RTC for source control, Tomcat as webserver, DB2 for database, JUnit for testing, Selenium for web browser testing, CheckStyle for static code analysis, Sonar Qube for continuous inspection of code quality like code smells and security vulnerabilities.

They use Jenkins/Build forge for continuous testing. Scripting is done using gradle and artifacts for managing software artifacts and metadata.

All the software is deployed for testing on WebSphere and DB2. Testing is an important part of development and a story or a feature is given clearance for deployment once when following checks are done.

- Functional Verification is equivalent program verification

- System Verification

- Business Verification

- Peer code reviews

This process is Playback N

4.4 Deliver

The projects follows continuous delivery and deployment. Releases are done every 2 X 2 weeks.

4.5 Operate

This involves multiple disciplines such as Deploy, Monitor, Support. Support organisation has multiple heirarchy e.g. (L1/L2/L3)

5 Manage Evolution

Release are done monthly Separate stream for parallel development Merging Streams Check points Legal clearance

6 Q & A

Some question that were asked at the end of seminar were:

1. Software project has 3 main characterstics namely Performance, Features and Stability. When and how one would prioritize them?
   Answer: Priority depends on the stage and type of project. Usually in the start Feature is the most important to showcase in the market what new you are bringing, then it shifts to stability when more and more people start using it and at last when you have competitors as well the priority shifts to performance.

2. How to update/maintain the support team?
   Answer: Youtube videos, documentation or a group demo is done weeks before the release.

3. Pair programming?
   Answer: Pair programming is something that is up to the team. But usually teams donot prefer pair programming.

4. UML diagram in IBM?
   Answer: IBM uses tools to create the UML diagrams from the code like Rational Software architect.

5. Development methodology used in IBM?
   Answer: Very agile methodologies are used and Software like IBM Rational Team Concert.