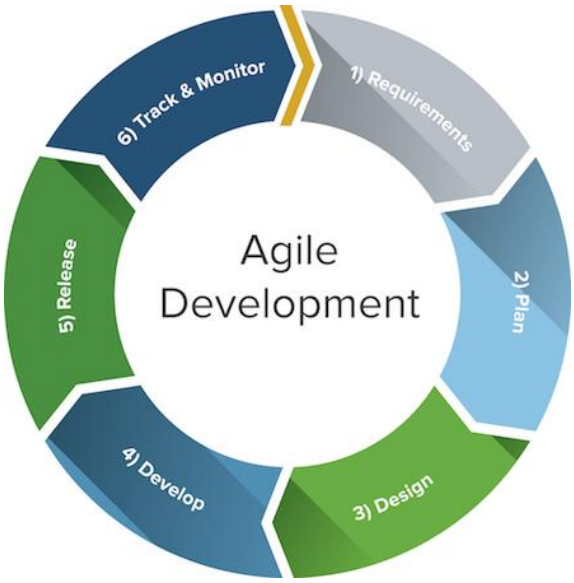


AGILE METHODOLOGY

Assignment 1

Course Name

Information Resource Management

❖ Introduction:

System development methodology is especially important for all companies and companies that wish to develop their systems because they facilitate the development of the system as follows to analyze the entire system as well as planning and design properly and maintaining the system and implementation. Most companies and organizations specializing in modern information technology have moved to agile methodologies instead of old ones such as the waterfall. In this model, the process is pursued from top to bottom in several stages: analysis of requirements, design and testing of development and implementation, but many institutions tend to graceful because graceful is more distinguished than the old, for example, agile is fast and flexible with all changes at any time Compared with the old

❖ Agile methodology:

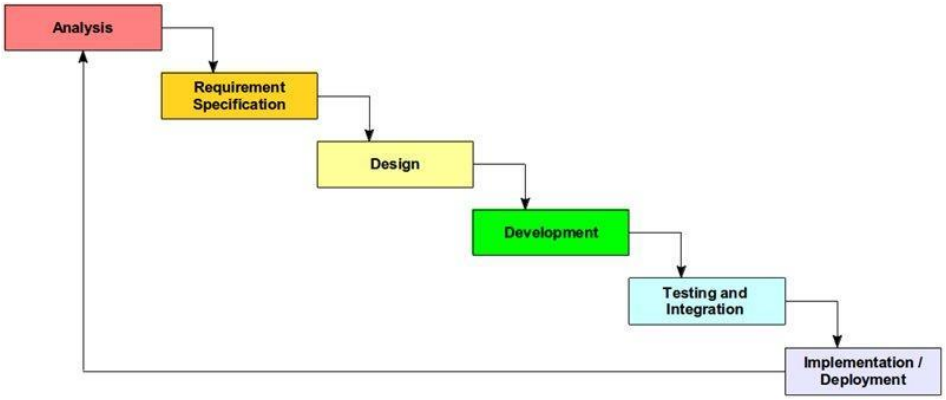
Agile methodology is a set of principles and a philosophy of rapid response to all changes in the unknown environment to support the development of information systems. This methodology is dedicated to the development of very modern software and has been chosen to solve the shortcomings of the traditional methodologies. The methodology is very flexible and changes at any time we want and is characterized by speed and response to all variables, whether expected or unexpected. One of the advantages of the modern generation is the quality of the sense that the team is responsible for all the steps and not just the testing team.

❖ Agile Models:

An agile model is a model that is just barely good enough, which implies that it exhibits the following traits:

1. It fulfills its purpose.
2. It is understandable.
3. It is sufficiently accurate.
4. It is sufficiently consistent.
5. It is sufficiently detailed.
6. It provides positive value.
7. It is as simple as possible.

❖ Phases of Agile Process:



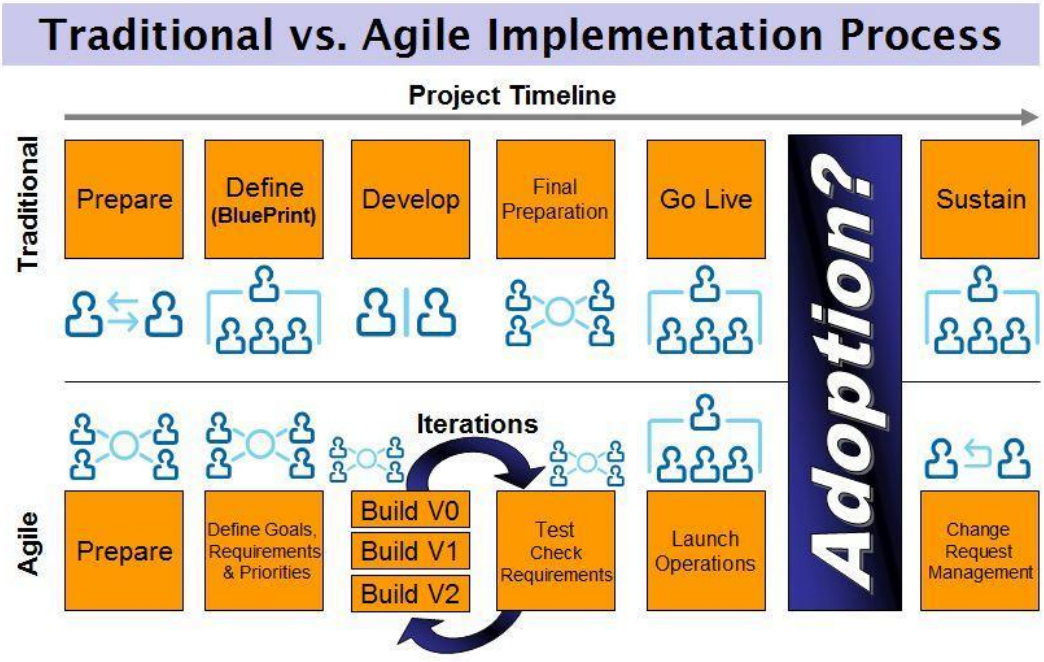
❖ Agile modeling principles:

1. Search for customer satisfaction through early delivery and programming with high quality and accuracy
2. Permission to modify and change the development at any time, even if it is in advanced and final stages, take small steps and address in small bites.
3. Set structured periods to deliver usable software, for example: from one week to one month.
4. Set specific working hours for the work of both developers and professionals during the period of work or project.
5. Provide a supportive and distinctive environment to complete the work as required.
6. Choose the best ways to communicate between development members, individuals and people, for example: face-to-face communication.
7. The best measurement for progress development is a usable program.
8. The advantages of the generation's methodology that encourages development on an ongoing basis.
9. Good and continuous attention in the field of technology and design raises the quality of the methodology of generations.
10. Delete unnecessary tasks to make them easier and simplified.
11. The more organized the team, the better the designs and specifications are designed and organized.
12. Set specific times and times until the team has reviewed and verified all steps for troubleshooting.

❖ **What is the difference between agile methodology and traditional methodology?**

There are many major differences between the agile and traditional methodologies. For example, in traditional methodologies, planning is considered as a control mechanism, while the responses of others' interactions as a control mechanism in the agile methodologies and the agile methodology is the delivery of the product exceedingly early compared to the traditional. So, the agile methodology is therefor much better than the traditional methodology.

❖ **There are differences between the agile methodology and traditional methodology in the stages, shown in the figure:**



❖ Agile Methodology Types

1. Scrum

The iteration and increment of all project types have been controlled and managed by Scrum. The other agile methodologies for many engineering exercises can be used by them. The advantage of using Scrum is easy to use so, that the reason it was chosen to be the most widely used by the software development community.

2. Lean Software Development

Tom Poppendieck and Mary were developed the software by an iteration methodology. A big company like Toyota was using the lean enterprise movement the first time. So, that the idea came for development in lean software. The main purpose is that the performance 'Value stream' mechanism that gave the value to the project that would be giving to the customers.

The main principles of this methodology are:

- Remove waste.
- Expand learning.
- Make decisions to make sure.
- Give results as quickly as possible.
- Authorize the team.
- Build integrity and safety.
- Give the vision for whole project.

By choosing only the features that have real value for the system, prioritizing and delivering them in small batches eliminates waste. The lean methodology confirms on performance, depending on the speed and giving information between the programmers and the customers. The customers require in the mean idea. Also, focus to minimize the hierarchy-controlled method by making it more efficient decision-making ability individually or by fewer team members. One of the important things that this methodology concentrates on is the team's productivity.

3. The Kanban Method

The management of the project's creation by the Kanban method. This method depends on the continued delivery and not make the development team suffering. For more efficient teamwork Scrum and Kanban were designed.

There are three principles:

1. Visualize what you do: see all the items within the context of each other – more informative.

2. Limit the amount of work in progress (WIP): balance the flow-based approach so teams are not committed to doing too much work at once.
3. Enhance the flow: as soon as one task is finished, start on the next highest job from the backlog.

The Kanban method always cooperation by both team and customers. It is supporting improving and learning to give the best work area to the team.

4. Extreme Programming (XP)

Kent Beck is originally described Extreme Programming (XP). It is the common famous agile methodology. The mean advantage of XP is a highly disciplined method as well as providing high quality software faster. It is allowing the customers to perform planning, testing and give feedback to the work area. Three weeks is the period to provide this software.

The original XP method is based on four simple values:
1. Simplicity
2. Communication
3. Feedback
4. Courage

5. Crystal

The most lightweight and adaptable developing software is the Crystal methodology. It is made up of several agile processes including Clear, Crystal Yellow, Crystal Orange, and other uniquely characterized methods. There are several factors that drive these processes including the size of the team, criticality of the system, and the priorities of the project.

The realization of the project has unique characteristics that what Crystal family focusing on, the policies and practices must be custom tailored to accommodate these features.

❖ General management and Agile

The work area nowadays depends on the software programming. So, the Agile is a helping process for every work area in the world.

Agile methodologies that incorporate new values, practices, principles, and benefits are a better alternative to the traditional command-and-control style of project management.

Agile process is even spreading throughout different industries and functions, including C-suites.

A bureaucratic top-down method is still operating while many companies are adopting Agile process. It is extremely useful for the companies to develop an agile management practice, but many companies facing difficulties with transition and style culture.

❖ The Business Advantage of Agile

Agile management reduces the common risks that are related to delivery, scope, and budget of the project.

It encourages collaboration between the clients and therefor team; giving mutual advantage within the mitigation of the high risks throughout the development of the software.

❖ The Benefits of Agile Software System Development

Top software system developers developed agile conference. Once repeatedly experiencing challenges and limitations from traditional waterfall development in real world projects, they wished to make a lot of efficient process for analyzing project development. The approach they used addresses the problems related to the philosophies and processes of traditional ways directly.

There are several advantages to the agile software system development. They include:

1. Stakeholder Engagement and Satisfaction

The agile process creates many opportunities throughout each sprint meeting for genuine engagement between the team and the stakeholders. Because the client is actively involved in the entire project, there is a continuous level of collaboration between all parties. This gives the team a chance to fully understand the client's vision. By delivering high quality, working software frequently, the stakeholders quickly develop a trusting and authentic relationship with the team. This also further promotes engagement between the client and the team.

2. **Transparency**

The agile approach actively involves the consumer throughout the complete project as well as the iteration coming up with, review sessions, and new feature builds within the software system. Clients, however, should perceive that in the transparency of the project, they're seeing a piece current and not the ultimate product.

3. **Early and Predictable Delivery**

Sprints are unit endured a set schedule of one to four weeks length. By exploitation this time-boxed technique, certainty is high as new options are often delivered to the stakeholders quickly and regularly. It additionally permits the team to tryout or unleash the software system sooner if it's adequate business value.

4. **Predictable Costs and Schedule**

Because the Sprints are on a fixed schedule, the costs are limited and predictable, and based on the amount of work done. By combining the estimated costs before each Sprint, the client will better understand the approximate costs of each feature. This offers more improved decision-making opportunities when prioritizing the features or adding iterations.

5. **Focuses on Business Value**

The team features a higher understanding of what's most vital for the client’s business and may deliver options that provide the biggest value to the business.

6. **Improves Quality**

The measure comes softened into manageable units, creating it easier for the team or specialize in high-quality development, testing, and collaboration. By making builds and conducts tests or reviews throughout the iteration, defects and mismatches are often found and glued early, rising over-all quality.

7. **It gives your team Purpose**

Most agile processes specialize in making a shared sense of possession and goals for all team members. This to offers your team purpose instead of making a false sense of urgency.

Purposeful groups have additional productive and challenge themselves to be quicker and more efficient.

❖ The Cons of Agile Methodology:

1. **Less predictability**

   For some software systems deliverables, developers cannot quantify the total extent of required efforts. This is often very true within the starting of the development life cycle on larger products. Group new to the agile methodology worry these unknowns. This worry drives frustration, poor practices, and often poor selection. The lot of controlled, waterfall process makes it simple to quantify the effort, time, and cost of delivering the ultimate product.

2. **More time and commitment**

   Testers, customers, and developers should perpetually interact with one another. This involves varied face-to-face conversations, as they are the most effective variety of communication. All concerned within the project should have close cooperation. Daily users ought to be obtainable for prompt testing and log off on every section therefore developers will mark it off as complete before moving on to future feature. This may make sure the product meets user expectations, however, is onerous and time-consuming. This demands longer and energy of everybody concerned.

3. **Bigger demands on developers and purchasers**

   These principles need close collaboration and intensive user involvement. Though is an attractive and profitable system, it demands an enormous commitment for everything of the project to make sure success. Purchasers should undergo coaching to help in development. Any lack of consumer participation can impact software quality and success. It additionally reflects poorly on the development company.

4. **Lack of necessary documentation**

   Because needs for software system are clarified simply in time for development, documentation is less detailed. This implies that once new members be part of the team, they are doing not know the small details regarding sure options or however they have to perform. This creates misunderstandings and difficulties.

5. **Project simply falls off track.**

   This technique needs little about to start and assumes the consumer's needs are ever changing. With this truly little to travel on, you'll be able to see however this might limit the agile model. Then, if a consumer's feedback or communications are not clear, a developer may specialize in the incorrect areas of development. It additionally has the potential for scope creep, and an ever-changing product becomes an ever-lasting one.

6. **Lack of understanding**

   The biggest downside of agile development is the general public do not perceive what it means that to be Agile. As a result, they create unsupported assumptions concerning what it means that for each development groups and the business. Several firms “want” to be Agile, however do not invest the time, money, or effort to really educate management or staff concerning however the principles apply and what methodologies can work best inside their culture and organization. Only too typically, Agile is adopted as a turned solution…or worse, inside a development team “bubble” that neglects the impacts on business and product considerations.

❖ Why Agile Fails in Large Enterprises

Agile software development has evidenced to be a significant profit to numerous groups; however, it will influence businesses otherwise betting on their size and the way they integrate the methodology into their operations. though agile will yield vital benefits, the journey is not forever simple. Agile comes found 71.5% success rate, compared with solely 62.8% of ancient strategies. it is important to grasp the foundation explanation for these issues to raised prepare your own organization for agile comes. we explore some common areas that impact the adoption of agile development method in giant enterprises:

- Lack of clarity

Large enterprises typically embrace massive groups which will contains remote members. beneath agile ways, it is important to collaborate everyone concerned within the project collaborate, thus if remote employees are not ready to simply communicate, it'll be tough to contribute.

- Continual reliance on old ways

When you transition to agile, it needs a big shift in culture. However, some groups still use waterfall and alternative old ways in specific operations, which might cause agile failure. in keeping with the ninth annual State of Agile survey by VersionOne, 42% of participants noted that their company culture was at odds with core agile values, and 37% felt pressure to follow ancient waterfall processes. to create things worse, participants cited lack of management support and temperament of team to follow agile as reasons their agile comes failing.

- Inadequate experience with agile

Possibly the most important reason why agile comes fail in large enterprises is that the incontrovertible fact that individuals simply do not have expertise with the methodology or the way to integrate it. In fact, it had been the highest explanation for agile project failure, cited by 44% of participants, in keeping with the VersionOne survey. For this reason, organizations ought to produce a game set up and supply expertise through pilot programs and training.

- Lack of collaboration in groups composed by totally different corporations.

Another downside, that is said to the primary delineate downside, is that the lack of collaboration at intervals groups composed of members representing totally different subcontracted organizations. during this context, the team is not really a team, sharing the identical objectives and therefore the same set up. there is not one cooperative game however several games and therefore the different games have different objectives. Team members must reply to project objectives further as those places forth by their own organization. However, the latter might not be aligned with the goals of different subcontractors working on same project. to form matters worse, on several occasions an organization is subcontracted to satisfy all positions in a part of experience (e.g., subcontracting an organization to try and do the testing). As we tend to all recognize, quality is that the responsibility of the full team, however once their disagreements, it is between the areas of experience and therefore the corporations.

- **examples of companies using agile methodology.**

Agile Techniques within Apple

Apple, this large use Scrum/Agile while not even talking regarding it. To search out why we'll analyze the agile options within the management of this company. The first thing that's value mentioning is that the Product Owner. It had been undoubtedly Steve Jobs, who presided as a product owner initially. He did everything that was required, projected and probe for one thing that may please the shopper. Now, all these duties area unit shared by many people, however the company's philosophy — targeting the end-user — hasn't modified since then.

Moving on to next purpose — tiny groups. All the massive groups can be divided into the smaller ones. The optimum variety of team members in steps with Scrum is 2 - 12 people. For instance, only 2 engineers wrote the code for the Safari browser conversion for the iPad.

There is another secret of company successful: responsibility. This can be not simply a word; all of the points are written in step with the DRI conception (Directly Responsible Individual). This manner everything from the difficult cross useful engineering tasks to the property rights queries is evident to everyone.

One more feature is that the cycle operation. Here we will draw a parallel with sprints. Each company has its own rhythm, the Apple development consists of projecting, making and testing. The product manager brings the beta version of a product from China to Cupertino which is a city in California for testing. And if one thing goes wrong, the total method repeats once more.

Philips Likes Agile Techniques

Another company that is worth mentioning is Philips. It started using Agile after varied changes within the firm management. The Agile Center of Excellence's director Edgar van Zoelen says that this technique helped them to beyond the bureaucracy.

The corporate has many totally different agile coaches who use Scrum boards. As an instance, Philips's lighting say that the best results were achieved once dividing the groups into smaller ones that is additionally a framework feature. As a result, it had been easier for the smaller teams to require responsibility for the product.

Microsoft Company

Microsoft could be a 41-year organization, elements of that implementing Agile and Lean. Gary Hamel mentioned the complaints of Microsoft's own workers that emerged in 2007 once Windows Vista was offered to the general public. In 2007, Microsoft was releasing Windows in three-year cycles with very little risk of feedback from users.

Today, true is incredibly totally different. Since 2014, Microsoft Windows 10 has had an interesting transformation. It currently obtaining feedback from a lively user cluster of quite seven million users and is provision updates weekly.

Quite with the exception of customers: once employees see their ideas implemented inside days rather than years, it's an enormous profit for employee's morale. Different parts of Microsoft such as the Developer Division and Skype also are implementing Agile.

Samsung Using Agile Methodology

At Samsung, they need to encourage their workers to showcase their talent through their numerous company culture. Every individual makes a sway to the corporate and plays an important role in contributing to the company's success.

They want to foster innovative thinking through enthusiastic work environment. Through synergistic collaboration with brilliant, good minds, and build several the foremost advanced technology.

Samsung has finally determined to alter from its previous 'Waterfall' methodology to 'Agile' methodology and they were succeeded on that.

In order to retain they gifted workforce, they encourage a healthy work-life balance so our workers square measure glad and a lot of productive. They concentrate on developing their workers by providing them with the proper tools and empowering them to succeed.

Intel Company Choose a Scrum

Intel Company selected to introduce Scrum to the organization at the beginning of a project, once most of the work was development of infrastructure. They got Scrum to their organization and that they were succeed and got a result of that.

Results

Scrum has created an influence in four major ways: Cycle Time, Performance to Schedule, Morale, and Transparency.

1. Reduced Cycle Time
- Scrum was a significant contributor to a sixty-six % reduction in cycle time.

2. Performance to Schedule
- They have got established and maintained capacity-based designing and a two-week cadence for over a year.
- They have got eliminated schedule slips and incomprehensible commitments.

3. Improved Morale
- Improved job satisfaction and communication.
- Who was lowest morale team is currently best playing team.

4. Increased Transparency
- Scrum has uncovered bugs, weak tools, poor engineering habits, and impediments.

❖ The Effects of These Company

Apple

The agile methodology had an incredibly positive effect on Apple Company, they become have better products, and people they work there seem to have more fun, happier employees, and the most powerful technology company in the world.

Philips

Philips have benefit from adopting a lot of agile approach to IT delivery, which might encourage bigger collaboration between its line of business units and its portion of techies.

Microsoft

At Microsoft IT, agile methodology has been successful, they found that agile methodology resolved several of the issues arising from the waterfalls model, where projects come are planned well ahead and might take months, or perhaps years, to complete. Using agile software development for small services shortened our release cycles from months to weeks. And through the course of a project, their groups agilely more established ever-changing needs and higher met current client desires.

Samsung

Samsung were succeeded on using agile methodology where the results of it the most recent Galaxy S7 smartphone, the development time is being shortened by one or 2 months due to agile. The accumulated collaboration, introduction of continuous testing, and push for shorter cycles are allowing permitting the team to maneuver development.

Intel

The Intel Company were succeeded by using agile methodology, they were determined that agile methodology was the key to pressure relief and streamline work and it was the way to be more creative.

❖ Expectation

In our opinion, the basic features of Scrum are freedom and innovation once you will break from the ties of scientific management. Performance can be increased through obligatory standardization of operating tools, ways and setting.

Agile methodology has the facility to remodel project management across each business, and even across life generally. By using agile methodology, you'll discovering a way to react a lot of quickly and respond a lot of accurately to the inevitable amendment that comes your way. And by staying focused, collaborating, and communication, you'll accomplish what actually has to be done — with success.

❖ Conclusion

Agile management is useful and easy to use by software development. Client can give suggestion and planning to improve the results. Organizations can continually find ways to increase the value to their customers when Agile programming done perfectly. The most efficient way to this programming is when active and hard worker of team member that working on the project to reach their companies' targets easily and efficiently.

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