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Batch: A2

Experiment No. 1

Aim: To identify a suitable life cycle model for your case study and justify your choice

MindPrep

ABSTRACT

Online teaching has imposed great challenges for student engagement during the pandemic. Building a virtual classroom with active student participation is our approach to address some of the concerns and make online learning more effective. As technology creates remote and global teams, all users must be able to connect. Our E-learning management system application, MindPrep provides all that the modern education system requires, such as a unified conversation platform where team members can have an open chat, voice, and video calls with optimal call quality and collaboration through content sharing. MindPrep is a single product that also offers a complete meeting solution, supporting sharing materials, voice, and video conferencing, allowing users to meet from anywhere. Users can use this application for all types of meeting -– spontaneous or scheduled; formal or informal with internal and external participants; along with sharing and submitting materials as per requirements.

MindPrep is introduced as a virtual study room with many virtual tables (channels), where each table (channel) serves as an integrated platform for group meetings. Within this application , Learner-learner interaction is boosted by virtual meetings, group poster boards, the “mention” function, and emojis. By integrating it with video conferencing, we can offer a zero blackout, fully interactive learning environment. The paper includes a detailed description of the required technologies for such a delivery, time requirements for the design and delivery of such an approach, and faculty assessment and perspective of the methodology.

FEATURES:

MindPrep features make it stand out from other collaboration software:

1. **Teams and channels**: Teams are made up of channels, which are conversation boards between teammates.
2. **Conversations within channels and teams**: All team members can view and add to different conversations in the General channel and can use an @ function to invite other members to different conversations.
3. **A chat function**: The basic chat function is commonly found within most collaboration apps and can take place between teams, groups, and individuals.
4. **Document storage in CloundShare :** Every team who uses MindPrep will have a site in CloundShare Online, which will contain a default document library folder.

All files shared across all conversations will automatically save to this folder. Permissions and security options can also be customized for sensitive information.

5. **Online video calling and screen sharing:** Enjoy seamless and fast video calls to employees within your business or clients outside your business. A good video call feature is great to have on a collaboration platform. One can also enjoy simple and fast desktop sharing for technical assistance and multi-user real-time collaboration.
6. **Online meetings:** This feature can help enhance your communications, company-wide meetings, and even training with an online meetings function that can host up to 10,000 users. Online meetings can include anyone outside or inside a business. This feature also includes a scheduling aid, a note-taking app, file uploading, and in-meeting chat messaging.
7. **Audio conferencing:** This is a feature you won't find in many collaboration platforms. With audio conferencing, anyone can join an online meeting via phone. With a dial-in number that spans hundreds of cities, even users that are on the go can participate with no internet required. Note this requires additional licensing.
8. **Full telephony:** That's right! The days of seeking VoIP vendors and overspending on a phone system are finally over. Microsoft 365 Business Voice can completely replace your business' existing phone system. Note this requires additional licensing.

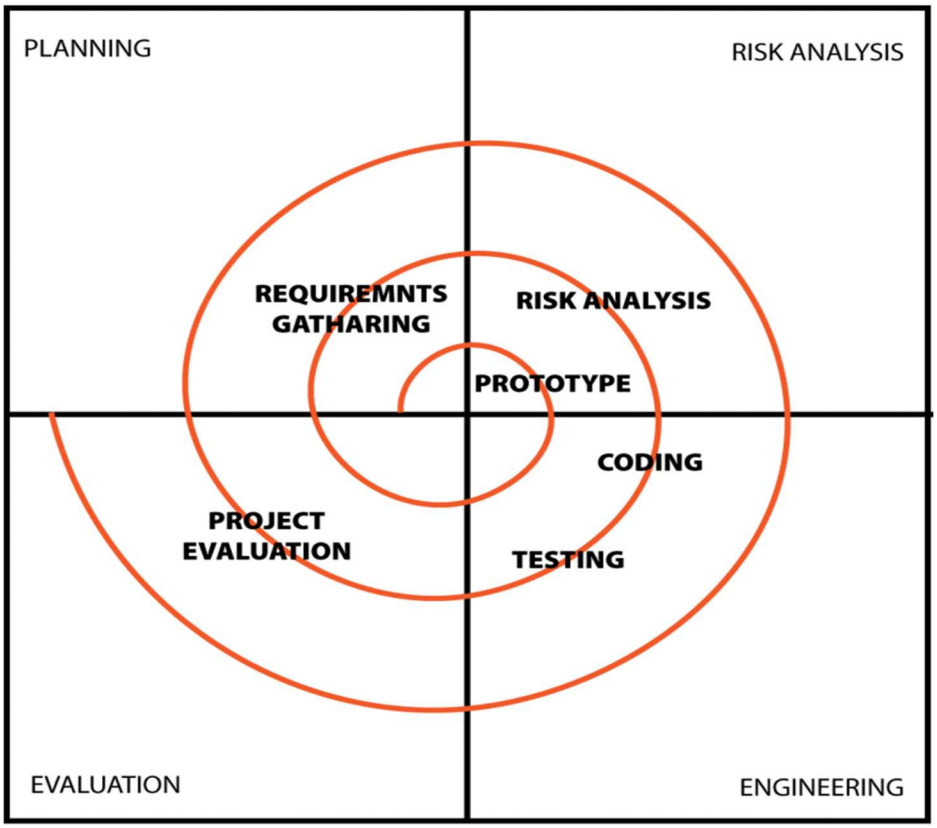
Life Cycle for MindPrep:

One of the potential lifecycle model for our MindPrep application is **Spiral Model** for the following reasons listed below:

- **Flexibility**: New features can be added easily in the later versions hence making our model flexible for updates.
- **Large projects:** MindPrep is a large project covering several micro-features thus spiral methods seems to be fit for our application.
- **Risk Management**: MindPrep has many micro-services thus having many possible point of failure like Technical risks or Business risks, making this model robust, when business needs may be unstable.

However, Spiral Model have certain disadvantages

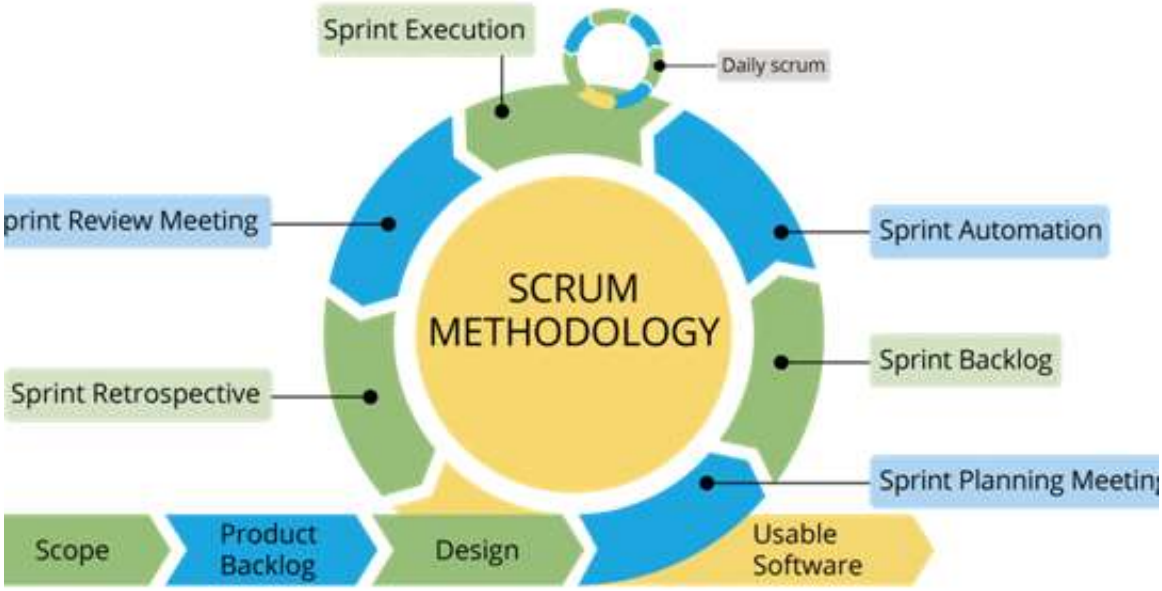
- **Risk Management**: Risk analysis requires highly specific expertise which is costly and resource exhaustive in the initial stages of development.
- **Delayed Testing:** Testing is carried out at the end of the engineering phase, thereby, delaying the product launch in Alpha and Beta phases and updating the bugs simultaneously.
- **Re-usability:** Services in the application need to be re-used while spiral supports reusability only up to some extent.
- **Comprehensive Documentation:** It focuses on comprehensive documentation while MindPrep being a customer-oriented application simpler documentation is required.
- **Time Management:** Difficulty in time management. As the number of phases is unknown at the start of the project, so time estimation is very difficult.
- **Expensive:** Can be a costly model to use.



Finally, we propose to use **Agility Scrum** as the development work is partitioned into "packets" and the testing and documentation are on-going as the product is constructed.

The key features of the aforementioned model:

- Small working team is used to maximize communication, minimize overhead, and maximize sharing of informal knowledge thus, engaging only related employees at a time.
- Process is adaptable to both technical and business risks to ensure smoother flow while development.
- Provides the ability to launch the product whenever required, thereby, allowing us to launch alpha/beta version so as to have a source of income while simultaneously working on the application.
- Scrum focuses on continuously taking feedback from the end user and implementing the updates. Thus, making our application more robust to bugs and glitches i.e. based on Demos (deliver software increment to customer for evaluation)
- Development work and team involved are partitioned into appropriate sub-domains for faster execution within the stipulated time.
- Testing and documentation is performed as the product is built thereby, allowing us to deploy the core features initially and then built on the additional features as per the success of the application.
- Sprints (work units required to achieve one of the backlog items, must fit into a predefined time-box, affected backlog items frozen)
- Scrum meetings (15 minute daily meetings) addressing these questions: What was done since last meeting? What obstacles were encountered? What will be done by the next meeting?



CONCLUSION:

In this experiment we understood the different life cycle models and their suitability in different scenarios. We chose the **Agility Scrum model** because testing and documentation is performed simultaneously as the product is developed thereby, allowing us to deploy the core features initially and then built on the additional features as per the success of the application. MindPrep being an end-user based application also requires continuous feedback from the end-users to make the application more user friendly and robust to bugs and glitches. Using Scrum model new features can be built into the product in subsequent sprints and also can be modified based on stakeholder's or customer feedbacks between sprints. Scrum model focuses on shorter scrum meetings engaging only the related employees thereby, blocking less resources and maximising the efficiency which is much economically beneficial for the application maintenance.