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CSE471 (6)

Answer to the Question No-1

Agile	DevOps
① Agile method centers upon collaboration, rapid small releases and customer feedback. It is an iterative approach.	① DevOps is Development and Operation. It means this practice brings both dev and op-team onboard together and searches for solutions.
② Agile manages complex projects.	② DevOps manage end-to-end engineering process.
③ Agile team members have wide variety of similar and equal skills.	③ DevOps divides skill set between development team and operation team.
④ Agile focuses on constant changes where feedback is given by customers	④ DevOps focuses on constant testing and delivery where feedback comes from internal team.
⑤ Agile doesn't put emphasize on automation and developing software is inhrent to agile.	⑤ The primary geoal of DevOps is automation as developing, implementat and testing.
⑥ Agile can be implemented in frameworks like sprint, scrums etc.	⑥ DevOps do not have acepted framework because it's ~~for~~ main focus is on collaboration.
⑦ Agile focuses on function, non-funtional readiness and fills the hole between development, customer need and testings teams.	⑦ DevOps focuses on business and operational readines and fills the hole between development and testing.
⑧ Agiles target area is Software development. JIRA, Bugzilla, kamband, etc. one some popular agile tools.	⑧ DevOps target area is first delivery and end-to end business solution. Tools used In this feild are Puppet, Chef, AWS etc.

Answer to the Question No-2

~~Parameters~~ ~~Year 0~~ ~~Year 1~~ ~~Year 2~~ ~~Year 3~~

Parameters	Year 0	Year 1	Year 2	Year 3
Total Benefit Total Cost	0 84468	43615 10819	58363 12316	74167 12776
net benefit (TB-TC)	84468	32796	46047	61393
Comulative net cash flow	84468	51672	5625	55768

Break Even Point (BEP) ⇒

$$BEP = \text{number of years of negative cash flow} + \frac{\text{Those years net cash flow} - \text{Those years commulative cash flow}}{\text{Those years net cash flow}}$$

$$= 2 + \frac{61393 - 55768}{61393}$$

$$= 2.091622 \text{ years}$$

Ans:

Answer to the Question No - 3

If Walton wants to build a food freshness checking app for refrigerators then the reauirement analysis for this would be-

* Functional Requirements :

- **System :**
  - The app will have a feature a login window where users have to put unique ID ~~of~~ to enable report sync.
  - The apps system will send notification to the user upon detecting sudden odor or grm intestation.
  - The apps system will provide daily freshness short report to the users.
  - The features will have built in camera functionality to scan food items via devices camera and get instant freshness report.
  - The app will have forward list of food items to the user that one going to expire soon to prevent food adulteration and eradicate possible future contagion of germs to keep overall internal refrigerator environment clean and fresh.
  - The app will also have current food Inventory, Temperature, Filter Report, Germ Detection, Rotten or expired food items, Commulative Health Report etc
- **Users :**
  - The users will be able to check internal health of the fridge and change manually upon getting a notification or reminder throug the app.
  - The users will be able to scan food items through built in cameras from the app upon adding items to the refrigerators inventory to get updates about foods freshness.

⊞ Users will be able to monitor the temperature ~~of~~ the fridge and ~~set~~ customize temperature according to their needs.

⊞ The users can be able ~~to~~ check status of the food inside the fridge over the internet via built in cameras into the fridge and identify possible expired or rotten food and germ infestation without accessing the fridge itself.

Non-Functional Requirements:

- Operational:

⊞ Each refrigerator monitoring app can have a~~n~~ unique ID to pair with available smart refrigerator.

⊞ There will be a feature called "Easy Mode" along~~e~~ with "Tough Mode" so both professional users and elderly user can access datas according to their needs.

⊞ The app can be accessed by directly from the mobile or desktop or laptop easily. Also, to ensure universal compatibility web version of the app can be accessed via any browser to fetch instant freshness report.

- Performance: ⊞ The fidge and monitoring app will communicate using WIFI-6 Technology. Being fast and wireless at the same time will make data sync very quick and users will be able to review freshness report

- Security: ⊞ The refrigerators will link up and communicate with the app upon completeing verification with its onboard unique device ID. This will prevent any potential risk ~~of~~ of data hack and unauthorized login.

- Data of the users will not leave its onbarb memory and control app.

- Cultural and Political:
    - To monitor and ensure freshness and the quality of the cooked foods ~~&~~ and data will be frequently added to the apps database via constant updates.
    - The app will feature and support scan of all the available food items within the country and international products as well to offer vast array of report ~~ret~~ calibration.

Answer to the Question No ~~a~~ 4:

Requirement Analysis (Functional and Non functional) for "BRACU Lost and Found App" for students:-

Functional Reqirements:

- System:
    - The app will use separate loging sections for three base Users such as Admins, Students, Guests.
    - The app will show urgent collection notice on the top of the window.
    - The system will offer list of item whic can be sorted by date and time, etc. The lists row will also feature a checkbox incorporating the current condition of the item for example lost/ ~~find~~ found.
    - The app will send notifications to the users about urgent notices, query on whether the students lost items were found or not and collection time etc.

- **Admin:** ⊞ The admins can view and approve posts from guests through the app.

  ⊞ Admin can view and approve 'claim'-ed posts from students and give collection time via the app.

  ⊞ Admins can mark a lost item valuable if its too-expensive and give command to the app to circulate a generalized notice to all the app users on an urgent basis.

  ⊞ Students during claiming time the admins can ~~k~~ scan ID of them to automatically navigate to his/her ~~it~~ claim request through the system.

- Users (Students and Guests):

  ⊞ The users can add lost items to the global list by posting and can also add details such as pictures.

  ⊞ Students can claim their lost items by showing valid cause and providing their student ID to the request and claim section of the app. and get an appointment on set a meeting for collection to visit builing-2 upon approval of the admin.

  ⊞ The user who does not have a university provided valid ID can place 'found' posts by login as guests via app.

Non-Functional Requirements:

- Operational: ⊞ The app can be accessed from android, IOs as well as proper desktop environments. It's universally accessible over the internet via web version of the App.

⊞ Each registered lost and found items will have a unique token ID to track its current condition within the system.

⊞ The app will feature separate user interface for admin and general users to assist them with their desired service and implemenet certain rules for each user type.

- Performance: ⊞ The server will update every 24 hours and found items will be erased from the app and their attached lost posts will be erased as well to ensure faster loading time for ongoing issues and items.

  ⊞ The system will feature compressed data management for which item pictures and a additional documents will load faster on the app.

- Security: ⊞ Every lost and found items found post will be tagged with authority provided ID. So scam with fraud item list and false claims can be monitored.

  ⊞ The lost and found database will be monitored by the university authority for which data leak can be prevented and data integrity remains intact.

● Cultural and Politicals:-

- Admins have the privilege to collaborate with local police if neciessary. They can do this from the app under the section "Admin-communication".

- The founder can ~~remain~~ remain anonymous if ~~the~~ he/she reports via 'Guests' section.