

Project Closure - Team 7

IBM Skills Enablement Web App

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A thesis presented for the degree of
Computer science in project manager

Computer Science
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Project evaluation

I. PROJECT SCOPE

A. Project summary

THE project is called the IBM Skills Enablement Web App, and its client is John McNamara, a leader at IBM's innovation lab. The aim of the project is to improve the user interface for IBM's educational content on Skillsbuild. This interface will recommend learning content to users based on their history, learning objectives, and areas of interest. The project also aims to increase user engagement by including gamified features like progress tracking and a points-based achievement system [1].

The intended users for the project are anyone interested in gaining knowledge and qualifications in the technology industry, including students, hobbyists, and those looking to enter the computing sector. However, the project may face technical challenges, such as designing the web page interface and backend to hold the data and incorporating natural language processing to create a user-friendly website [1].

The project's primary goal is to create a user-friendly interface with a practical algorithm for recommending learning content to users. While there are challenges in developing the algorithm, the UI design is a non-negotiable requirement that must be visually appealing and intuitive to meet the project's objectives [1].

B. Project Requirements and Major Milestones

The project comprises 17 functional requirements (FRs) and 11 non-functional requirements (NFRs). Table IV displays each requirement and its corresponding MuShCoW level, also with the task owner, while Figure 3 illustrates the relationships between these FRs. The user stories defined the requirements. A user story is used to help the team understand stakeholders' requirements. Table I and Table II provide two examples of user stories related to the project requirements. Figure 1 presents the project plan and significant milestones and timeline for each stage shown in Figure 2. As I was only with Team 7 until 17th January 2023, the timeline and milestones are recorded only during that time.

FR3.3 Account information page/profile	Could have
User story	As an existing user of the Skills App, I want to be able to view and customize my basic account information, and have access to a summary of my usage in the app, so that I can have a personalized experience and better understand my progress.
Requirement Description	Existing users can view and customise basic account information and view a summary of their usage of our skills app.
Dependencies	FR2.1, FR3.2
Acceptance criteria	Upon selecting the "view profile" button, the user is directed to a page displaying their email address, username, name, profile picture, a summary of the points and badges accumulated, number of courses completed etc.
Exception handling	The potential risk is if the user's attempted change is invalid. And the solution is the invalid fields are highlighted; the error message lists the field requirements.

TABLE I: User story: FR3.3 [1]

FR6.1 Points system	Should have
User story	As a user of the Skills App, I want to accumulate points by engaging with courses, progressing through them, and completing daily challenges, and have my points contribute to a competitive leaderboard with other users so that I can stay motivated, track my progress, and compare my achievements with others.
Requirement Description	Users should be able to accumulate points by engaging with courses, gaining points with course progression and completing daily challenges. This will also feed into a competitive leaderboard display with other users.
Dependencies	FR2.1, FR2.2, FR5.1, FR5.3
Acceptance criteria	The user's points will be updated when they manually update their course progress. Their current number of points will be displayed in the navigation bar and can be viewed on their profile page. Users can view the top scores on the leaderboard.
Exception handling	The potential risk is if there is no internet when the leaderboard updates. And the solution is to set point changes stored locally when no connection is available until the connection is resumed.

TABLE II: User story: FR6.1 [1]

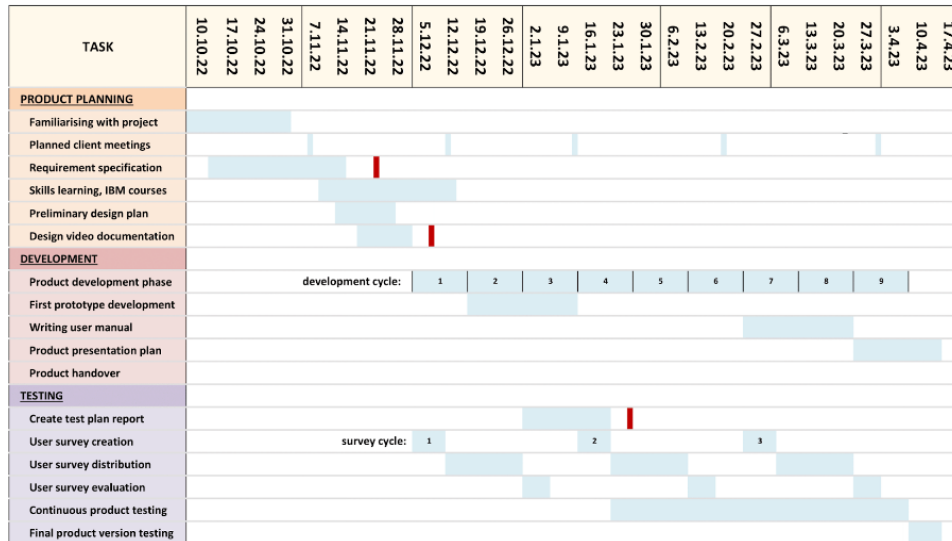


Fig. 1: Gantt Chart [1]

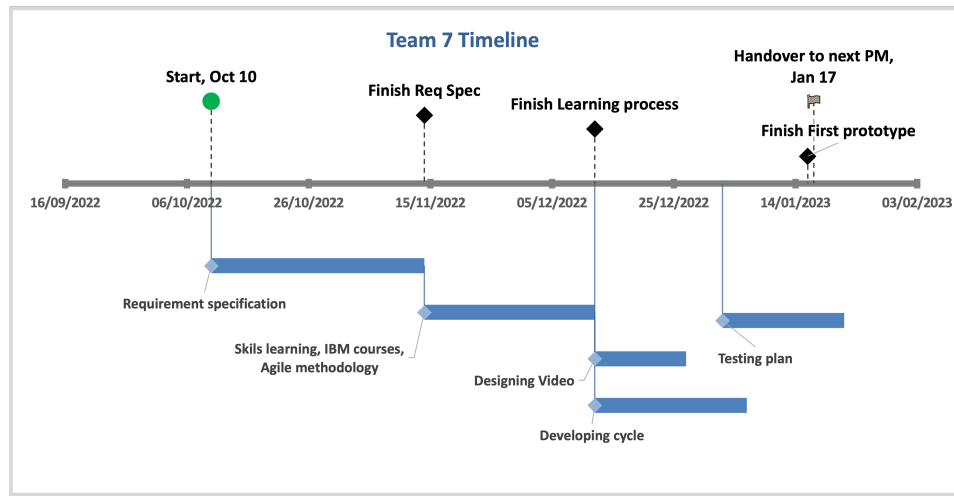


Fig. 2: TimeLine

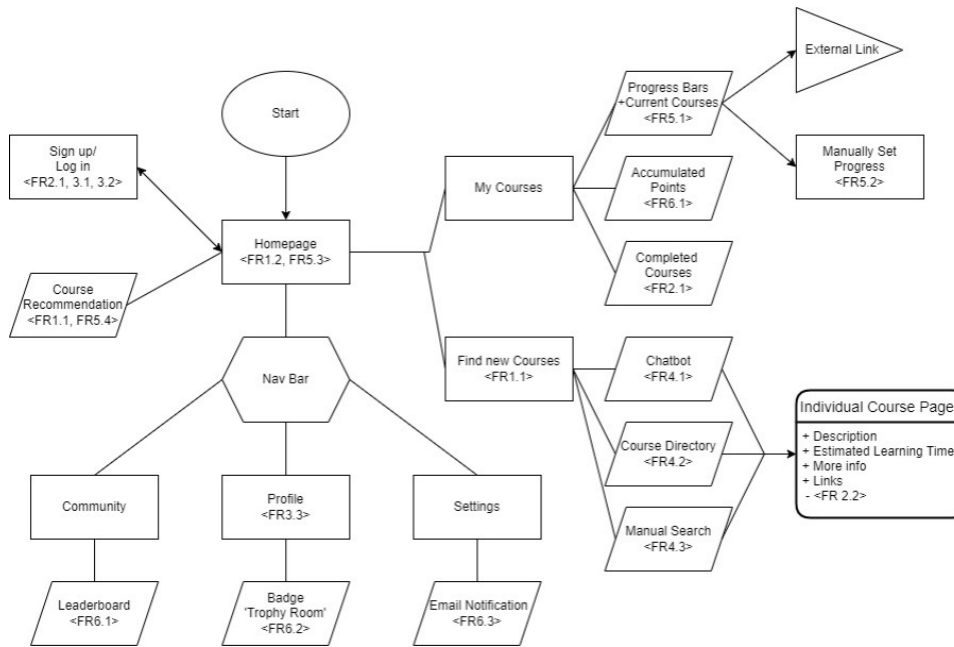


Fig. 3: Logic flow of FRs [1]

II. METHODOLOGY

The team implemented the Extreme Programming (XP) Agile framework, as illustrated in Figure 4 [1]. The decision to adopt XP Agile was driven by the challenges of conducting daily stand-up meetings, which were replaced with biweekly meetings. Furthermore, the team opted for more frequent communication within the team due to limited client availability, ensuring consistent and uninterrupted project progress. Most of the meetings were held in person, including the project manager, which increased work efficiency by improving the quality of communication. At the start of each meeting, the team followed a quick 15-minute stand-up format, during which each member used three minutes to report on their progress over the past two days and any challenges they were facing. This approach helped maintain alignment among group members and enabled timely identification and resolution of issues. At the end of the meeting, the group held a final discussion and set an achievable goal for the next meeting. This strategy allowed the team to understand better how long it would take to complete each task and to be aware of what needed to be done in the next few days. Adopting this approach enabled the group to achieve each milestone and maintain high-quality work.

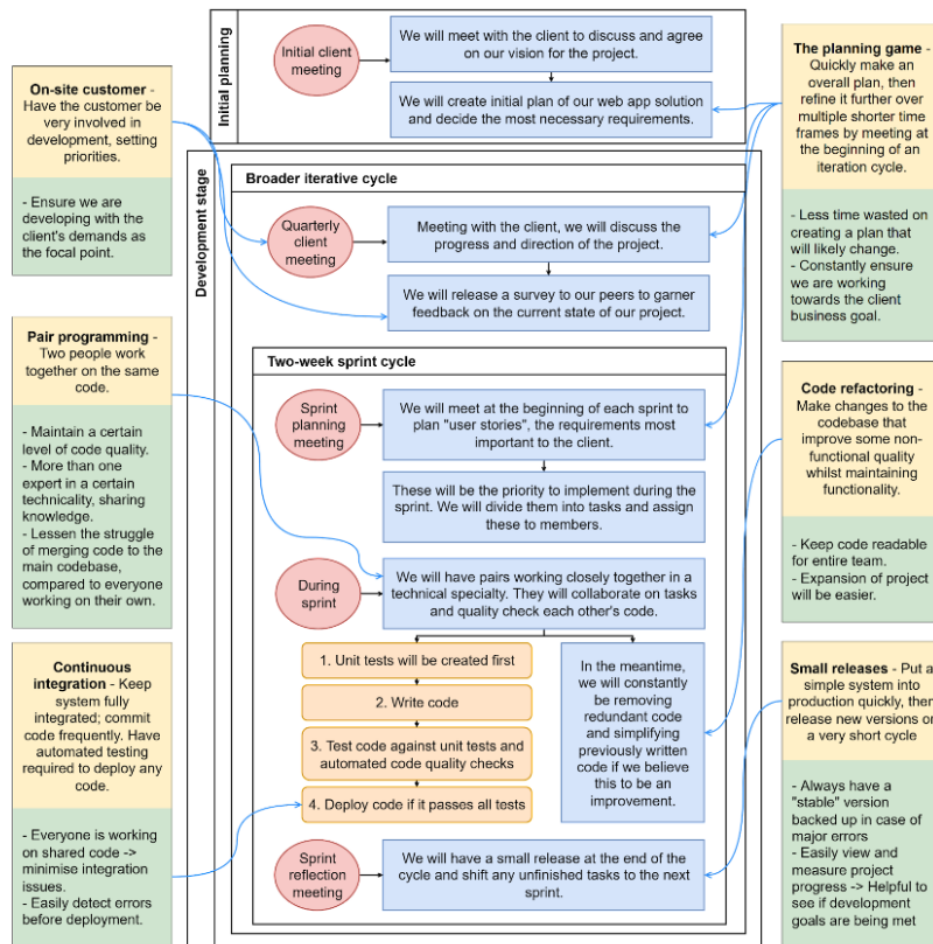


Fig. 4: XP Agile architecture [1]

III. RISK REGISTER

Figure 6 displays the Risk Register Table. A total of 26 risks were identified during the project. The significant risks included the team's lack of required technical knowledge, unclear scope, and stakeholders not being available. We first defined the minimum technical requirements to mitigate these risks and identified what we could accomplish with our current skills and what we needed to learn. Secondly, we documented user stories and used the Tree model to structure the requirements, making it easier for the team to understand the scope and track progress. Finally, we implemented each requirement following the Minimum Viable Product (MVP) principle. This approach focused on delivering primary functions rather than the end product, which allowed us to complete the requirements more efficiently and see results sooner. By using this methodology, we avoided significant risks and ensured project success.

IV. ANALYSIS OF PERFORMANCE

A. Qualitative

Based on the general feedback received from the team during our last meeting, it was noted that I was perceived as being very responsible and helpful in the project. Specifically, I provided valuable assistance by explaining the agile methodology, introducing workflows, demonstrating how to define requirements using user stories, and setting up the Taiga platform. However, the team also gave me feedback on areas I could improve in the future. They mentioned that I was too strict in meetings and that I came across as lecturing them. As a result, some team members felt uncomfortable, leading to a complex for them to express their ideas. In the next team meeting, I made some changes to address this issue, and I will reflect on these changes in the reflective report. At the end of

the meeting, I surveyed the team to gather their opinions on my performance as a project manager. As shown in Table III, two team members responded to the survey, and both respondents were satisfied with my performance.

Question	Response	Number
How well do I manage project risks and issues?	Extremely well	3
Do I provide sufficient support and guidance to the team?	Yes	3
Do I provide timely and constructive feedback?	Yes	3
How well do I manage project resources, including project timelines?	Extremely well	3
Do I promote a positive and collaborative team environment?	Yes	3
How well do I explain the agile methodologies and pipelines for the project?	Extremely well: 2, Somewhat well: 1	3
Do you have any suggestions or feedback about how I can improve?	Very good PM, and I very much appreciate it	1
PM attend the meeting everytime	Somewhat likely	3
PM is willing to help whenever the team needs.	Somewhat likely	3
PM is willing to provide feedback and suggestions	Somewhat likely	3
How satisfied are you with my overall performance as a project manager?	Average 4.67	3

TABLE III: Project manager evaluation survey

B. Quantitative

During the testing period, a total of 6 unit tests, system tests, and user acceptance tests were conducted as outlined in Table V. The overall passing rate was 72.2%, with a 50% passing rate for unit tests, a 66.7% passing rate for system tests, and a 100% passing rate for user acceptance tests. Overall, the results indicate that the project was successful, with the most significant requirements completed.

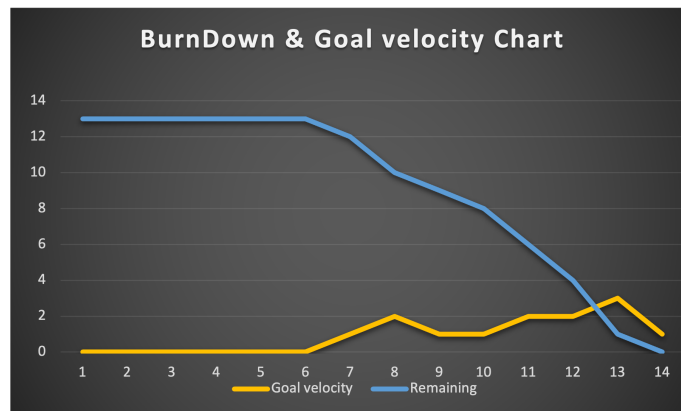


Fig. 5: BurnDown & Goal velocity Chart

The velocity and burndown chart displayed in Figure 5, with the x label representing the sprint number and the y label representing the number of requirements, illustrates the team's progress throughout the project. Initial sprints focused on defining the project and identifying specific requirements. By sprint 6, the team had gained technical knowledge and began implementing the project, achieving stability in each subsequent sprint. Holiday periods allowed for increased productivity in sprints 9 to 13, resulting in significant growth. Sprint 14 marked the end of my involvement with the group, during which a total of 13 user stories were successfully completed with stable progress.

V. CONCLUSION

The team started off well and had a solid plan at the beginning of the stage. They also managed to address as many requirements as possible. The team was open to implementing Agile methodologies and improved in each meeting. Even if the team couldn't master all the required techniques, I would still consider this a success. A good team should possess a passion for learning and the ability to improve their skills and should not be solely focused on whether they can complete every requirement. With the solid foundational knowledge and skills they have gained, I have confidence that the team should be able to work cohesively in future project processes. By following Agile methodologies and Design Thinking, they will be well-equipped to bring the project to a successful close and deliver a high-quality product.

I also received valuable feedback from the team on improving my project management skills. I have applied these lessons in my second group, and for more details, please continue reading the reflective report.

REFERENCES

- [1] Team 7. *IBM Skills Enablement Web App Requirement Specification*.
- [2] Team 7. *IBM Skills Enablement Web App Testing Plan*.

VI. APPENDIX A: RISK REGISTER

REF ID	RISK	RISK OWNER	RISK TRIGGER	RISK CATEGORY	PROBABILITY 1 - 5	IMPACT 1 - 5	PI SCORE Risk Impact	EXPECTED RESULT / NO ACTION	POSITIVE RISK RESPONSE	NEGATIVE RISK RESPONSE	RESPONSE TRIGGER	RESPONSE OWNER	RESPONSE DESCRIPTION	EXPECTED RESPONSE IMPACT
R001	Scope is incomplete	Team&Stakeholder	The project scope is missing details.	Project Scope	3	3	9	Team spent long time to understand the scope, and still have chance to do in another way		AVOID	Team can't start to do transform the project.	Team&Stakeholder	Team should contact the stakeholder to confirm the scope.	The project scope is clear to work on.
R002	Scope is unclear	Team&Stakeholder	The project scope is vague and make team confused.	Project Scope	3	3	9	Team spent long time to understand the scope, and still have chance to do in another way		AVOID	Team has different ideas on the project.	Team&Stakeholder	Team should contact the stakeholder to confirm the scope.	The project scope is clear to work on.
R003	Tasks get added during project without approval	Team&Stakeholder	Team discuss the project without considering the major requirements.	Project Scope	2	2	4	Team likely would spend more time on unnecessary tasks, but delay the major task.		MITIGATE	Team start talk tasks outside the project scope.	Team & PM	Project manager should correct the team on to the right way.	Team back on the track.
R004	Technical expertise of checking/reviewing not adequate	Team&Stakeholder	Team found that some technology needs more time to learn	Project Quality	3	2	6	Team requires more time to learn and would delay the work		TRANSFER	Team not able to work because of technology.	Team	Team should spend more time on learning, and make adjustment plan.	Team slowly learned and implement into the project.
R005	Technical errors	Team&Stakeholder	Team found that there is a function not work as expected.	Project Quality	3	3	9	Team requires more time to do the work and would delay the work		AVOID	Team run the function and found not working as expected.	Team	Team needs to review the work and learn from the future.	Team learnt from the failure and make less mistakes.
R006	Technical omissions	Team&Stakeholder	Team found that the function is not enough to work as expected.	Project Quality	3	3	9	Team may need to re-start the check point and would extend delay the work.		AVOID	Team found that the function is not enough to work as expected.	Team	Team needs to review the work and learn from the future.	Team learnt from the failure and make less mistakes.
R007	Required technical training or learning curve is longer than anticipated	Team&Stakeholder	Team found that the technology hard to learn as expected.	Project Quality	3	2	6	Team requires more time to learn and would delay the work		TRANSFER	Team found that the technology hard to learn as expected.	Team	Team should spend more time on learning, and make adjustment plan.	Team slowly learned and implement into the project.
R008	Design is not feasible	Team&Stakeholder	Team only discuss by talking but not making.	Project Quality	2	2	4	Team may need to re-start the check point and would extend delay the work.		MITIGATE	Team only discuss by talking but not making.	Team & PM	Project manager should correct the team on to the right way.	Team back on the track.
R009	Design is not practical	Team&Stakeholder	Team discuss the design without considering the requirements and clients.	Project Quality	2	1	2	Team may need to re-start the check point and would extend delay the work.		ACCEPT	Team discuss the design without considering the requirements and clients.	Team & PM	Project manager should correct the team on to the right way.	Team back on the track.
R010	Design is difficult or impossible to build	Team&Stakeholder	Team tried different ways but none of them work.	Project Quality	3	2	6	Team may need to think about another method to do the task, it would delay the work.		TRANSFER	Team found the work has been delayed on nothing product.	Team	Team should make a pause and think about if there is another way to do it.	Team find out another way to solve the problems.
R011	Design lacks features or flexibility	Team&Stakeholder	Team made the design, but it would take long to make a change.	Project Quality	3	2	6	Team need more time to add features, will make impact but would not happen if manage properly.		TRANSFER	Team found it is complex to make change.	Team	Team should make a pause and think about if there is another way to do it.	Team find out another way to solve the problems.
R012	Design standards are not met	Team&Stakeholder	Stakeholder not happy about the design / One of the team member not agree the design	Project Quality	1	3	3	Team may need to re-start the check point and would extend delay the work.		ACCEPT	Stakeholder not happy about the design	Team & PM	Project manager should correct the team on to the right way.	Team back on the track.
R013	Technological change impacts deliverables	Team&Stakeholder	Team found that require new technology to make approach.	Project Quality	2	3	6	Team may need to re-start the check point and would extend delay the work.		TRANSFER	Team found that require new technology to make approach.	Team	Team should spend more time on learning, and make adjustment plan.	Team slowly learned and implement into the project.
R014	Project is behind schedule	Team&Stakeholder	Team delayed the work.	Project Schedule	3	3	9	The tasks would be all delayed		AVOID	Work has been delayed about 2 sprints	Team & PM	Project manager need to have a discuss with team about the plan.	Team catch up with the plan.
R015	Resources cannot be secured as anticipated	Team&Stakeholder	Team not get the software support as promised	Project Schedule	2	2	4	Team would not able to work as planned.		MITIGATE	Team not get the software support as promised	Team	Team needs to talk with stakeholder about the requirements	Team got the software and the plan is adjusted.
R016	Stakeholders demand excessive consultation/communication	Team&Stakeholder	Team found that the stakeholder require more meetings	Project Schedule	1	1	1	Team would spend too much time on meeting but less on working, it would delay the work.	ENHANCE		Stakeholder requires more meetings	Stakeholder	Team decide the frequency to talk with stakeholder.	Team and stakeholder both happy about the frequency of meeting
R017	Contractor starts late	Team&Stakeholder	Team start late to work	Project Schedule	2	1	2	Team need to rush a bit but not too much. Require better plan.		ACCEPT	Team start late to work	Team & PM	Project manager needs to adjust the plan with team.	Team catch up with the plan.
R018	Contractor finishes late, pays penalty, delays others	Team&Stakeholder	Team finish late	Project Schedule	1	1	1	Team need to rush a bit but not too much. Require better plan.		ACCEPT	Team found hard to finish on time.	Team & PM	Project manager needs to adjust the plan with team.	Team catch up with the plan.
R019	Delay due to worker injury or fatality	Team&Stakeholder	Team member got cold or the COVID-19 impact.	Project Schedule	2	2	4	Team would not able to have some work efficiency, but can adjust the plan to fix.		MITIGATE	Team member got cold or the COVID-19 impact.	Team & PM	Project manager needs to adjust the plan with team.	Team catch up with the plan.
R020	Risks are not shared with stakeholders	Team&Stakeholder	Team not able to share risk with stakeholders because less communication	Risk Management	1	3	3	Team would make wrong decision and need to redo the work		ACCEPT	Stakeholder has less communication with team.	Stakeholder	Team needs to talk with stakeholder about the requirements	Team and stakeholder both happy about the frequency of meeting
R021	The product will not see enough Return on investment	Team&Stakeholder	Team would not get expected result.	Risk Management	2	3	6	Team would make wrong decision and need to redo the work		TRANSFER	Stakeholder has less communication with team.	Stakeholder	Team needs to talk with stakeholder about the requirements	Team and stakeholder both happy about the frequency of meeting
R022	Stakeholders do not receive sufficient communication	Team&Stakeholder	Stakeholder would not have time to communicate with team.	Communication	3	3	9	Team would make wrong decision and need to redo the work		AVOID	Stakeholder has less communication with team.	Stakeholder	Team needs to talk with stakeholder about the requirements	Team and stakeholder both happy about the frequency of meeting
R023	Project sponsor/executives are not aware of project progress	Team&Stakeholder	Stakeholder would not have time to communicate with team.	Communication	2	2	4	Team would make wrong decision and need to redo the work		MITIGATE	Stakeholder has less communication with team.	Stakeholder	Team needs to talk with stakeholder about the requirements	Team and stakeholder both happy about the frequency of meeting
R024	Stakeholders introduce additional cost or scope that was unknown at project planning stage.	Team&Stakeholder	Stakeholder would not have time to communicate with team.	Stakeholders	1	3	3	Team requires more time to learn and would delay the work		ACCEPT	Stakeholder has less communication with team.	Stakeholder	Team needs to talk with stakeholder about the requirements	Team and stakeholder both happy about the frequency of meeting
R025	Stakeholders ignore project communications	Team&Stakeholder	Stakeholder would not have time to communicate with team.	Stakeholders	2	3	6	Team would make wrong decision and need to redo the work		TRANSFER	Stakeholder has less communication with team.	Stakeholder	Team needs to talk with stakeholder about the requirements	Team and stakeholder both happy about the frequency of meeting
R026	Worker injury	Team&Stakeholder	Team member got cold or the COVID-19 impact.	Human Resources	1	1	1	Team would not able to have some work efficiency, but can adjust the plan to fix.		ACCEPT	Team member got cold or the COVID-19 impact.	Team & PM	Project manager needs to adjust the plan with team.	Team catch up with the plan.

Fig. 6: Risk Register

VII. APPENDIX B: ACCEPTANCE CRITERIA & ACHIEVEMENTS

Requirements	MuShCoW	Task owner
FR1.1 Course recommendation engine	Must Have	L
FR1.2 Web homepage / Dashboard	Must Have	J
FR2.1 User information table	Must Have	Y
FR2.2 Course information table	Must Have	Y
FR3.1 Account creation	Should Have	S
FR3.2 Account login	Must Have	S
FR3.3 Account information page/profile	Could Have	J
FR4.1 Course recommender chatbot	Must Have	K
FR4.2 Course directory	Should Have	A
FR4.3 Manual course search	Could Have	A
FR5.1 Courses progress status	Must Have	K
FR5.2 Course progress sliding bar	Could Have	S
FR5.3 Personal courses dashboard	Must Have	J
FR5.4 'Next' course recommendations	Could Have	K
FR6.1 Points system	Should Have	L
FR6.2 Badge 'trophy room'	Could Have	L
FR6.3 Email reminder notifications	Could Have	Y
NFR1.1 Modularized software	Should Have	All
NFR1.2 Well-documented software	Must Have	All
NFR2.1 Compatibility with mobile devices	Could Have	All
NFR3.1 Accessible and inclusive system for everyone	Could Have	All
NFR3.2 Intuitive and user-friendly UI	Must Have	All
NFR3.3 User-engaging design	Must Have	All
NFR4.1 Security of user data	Must Have	All
NFR4.2 Security of student survey data	Must Have	All
NFR5.1 In-app loading times	Should Have	All
NFR5.2 Processing times of IBM Watson	Should Have	All
NFR6.1 Product and component testing	Must Have	All

TABLE IV: Acceptance criteria: Requirement table [1]

Test ID	Test Description	Test Oracle	Pass/Failure status	Severity of failure and comments
UNT01	(API) Account log-in validation	Successful log in to the system	Pass	N/A
UNT02	(API) Account creation	Successfully creates a new account	Pass	N/A
UNT03	(API) Accessing Watson Assistant	Session is created successfully and presence of a HTTP Response	Pass	N/A
UNT04	List courses by accessing course information table	Returns the list of courses for a user	Fail	Major loss of functionality
UNT05	Update user course information	Successfully updates the users course information	Fail	Major loss of functionality
UNT06	(API) Update user point score	Successfully updates the users point score on the global system	Fail	Non-functional requirements not satisfied or minor functionality loss
SYS01	User log-in, selection of one of the functionalities on the main page	Smooth log in and navigation around the system pages	Pass	N/A
SYS02	Database update and data export to JSON file	Database sends JSON of requested data	Pass	N/A
SYS03	Course recommender responses via Watson Assistant	Course recommender responses via Watson Assistant	Pass	N/A
SYS04	Email reminder notifications	Reminder email sent to inactive account	Fail	Minor consequences without functional impairment
SYS05	Secure user account data storage	Tester should be unable to obtain the password plaintext	Pass	N/A
SYS06	Synchronised leaderboard	Points leaderboard dynamically updates for all users	Fail	Non-functional requirements not satisfied or minor functionality loss
UAT01	Visually and aesthetically pleasing UI	User perceives UI as visually and aesthetically pleasing	Pass	N/A
UAT02	Ease of navigation, intuitive UX	User finds navigating between pages easy and intuitive	Pass	N/A
UAT03	Ease of log-in and account creation	Log-in and account creation is easy and fast for users	Pass	N/A
UAT04	Ease of managing personal courses	Users find managing personal courses intuitive	Pass	N/A
UAT05	Course Recommender Chatbot provides expressive, meaningful and useful responses	Course Recommender provides expressive, meaningful and useful responses	Pass	N/A
UAT06	Accessibility and inclusiveness	Users perceive website as accessible and inclusive	Pass	N/A

TABLE V: Acceptance criteria and achievements: Test cases [2]

VIII. APPENDIX C: MEETING LOG

10.13.2022 Meeting notes:

Questions:

- Add gamification to the exploring process or to the learning tools? → should they access the courses via our app? Do we link to the courses externally from in the app or have to remake/embed them
- Primarily mobile/tablet or also optimised for PC?
- How to log them into the courses (w/ and w/o previous accounts)?
- IBM training as well? Same thing?
- About the gameified content, what are them exactly? Are we supposed to create a demo of them ourselves?
- An API for skillsbuild ect?
- What they want us to do with watson?

Skills Build

<https://skillsbuild.org/>

BM Academic Initiative

<https://www.ibm.com/academic/home>

Preliminary idea:

- Web app - electron? <https://www.youtube.com/watch?v=m3OjWNFREJo&t=1s>
- Use Watson to direct them to the correct tools via the info they put in - AI
- Duolingo style gamification - streaks, points, leaderboards?, badges, quiz at the end? ect
- First page: IBM logo/get started Sign up/register → do you already have an account? [post diagram here]
 - No → make new account
 - Yes → how to integrate courses the user already did?
- Chose topics you're interested in - use watson for that??
 - Ask about areas of interests/jobs/ position(student etc.)
- Progress bars and rewards? Daily bonuses?
- Much more streamlined UI - make it work on mobile especially
-

stuff we should do:

- Requirement spec deadline: Nov 24 2022 2pm
- Email john
- Meet John
- Everyone make an IBM account; D
- Skills Build/Academic initiative - What's the difference between them? Seem to be the same thing?
- IBM cloud and IBM Watson - what are they? how to use?

10.27.2022 Meeting notes

|

Introduction - Jonas

Introduction (Existing systems research & integration (1.3)) - Jacob

Section 2 Functional req (Assuming) - Anya, Liam, Chris

Section 3 - Shelley

Schedule in template

now - 17.10 - Requirement Specification

End of november: plan preliminary product design

1.12 - Design Video

26.1. - Test Plan Report

? - Final Product

9.3. - User Manual

9.3. - Product Presentation

20.4. - Handover of final product

Add starting point + deadlines for...

- student survey design
- test among students
- December: start of development
- first prototype
- Skills learning
- start of deployment

11.03.2022 Meeting notes

WHAT WE DID TODAY

- Looked over Jon's email - started added personal learning skills trrello boards to our group workspace
- Went over questions for tomorrow's drop-in session with Jon - created a dedicated question doc for meeting in requirements spec folder.
- Discussed plan for requirement spec (see below)

TO DO

- Personal trrello as John requested in the email
- Get our part of req spec mostly done until next thursday (initial ideas without formatting etc)

CLIENT MEETING

Meeting Fri 04/11 (tomorrow) 2pm remotely , Tuesday drop in session (maybe, depending on how many new stuff John throw to us in the meeting)

FURTHER PLAN

- Next Thursday (10.11): Brainstorming each part of req spec and see how everyone's getting on
- Next next Thursday (17.11): Complete formatting individual parts, merge the document and go through to see if anything need to be fixed
- Next next next Thursday (24.11): Deadline of req spec

11.10.2022 Meeting notes:

*M links

- <https://www.overleaf.com/read/qhmdjpsndk>
- https://lucid.app/lucidchart/a2b2810d-90bc-4860-8a15-1b028e6f8817/edit?viewport_loc=-1637%2C5349%2C3473%2C1941%2C0_0&invitationId=inv_aa4598bb-5296-4ff8-921e-5fda80d59779
- Gantt Chart:
 - What is Gantt: <https://www.gantt.com/>
 - Build Gantt Chart:
 - Use Overleaf to build: <https://www.overleaf.com/latex/examples/gantt-charts-with-the-pdftools-package/mkwxfmfxw>
 - Use Excel to build: <https://templates.office.com/en-gb/simple-gantt-chart-tm16400962>
 - Use Canva to build: <https://www.canva.com/graphs/gantt-charts/>

*Requirement brainstorms (already integrated to template)

*Rs: -User accounts:

- Sign up/login (must)

Course selection:

- Chatbox - IBM Watson Assistant (must)
- Exception handling - if user writes invalid input
- List of all courses (must)
- Manual search (could/should)
 - Filter by topic?
 - Length/difficulty (NFR)
 - Badge/certificate etc obtained?
 - Self paced/enrolment with teacher
 - Cost
 - By platform? (IBM internal/coursera/pdf etc)

Gamification:

- Progress tracker (could)
 - Completed? (must)
 - Progress bars (could/should)
- Gamification:
 - Points system (should)
 - Leaderboard? (could)
 - Badges - after a quiz/completing course track (could)
 - Reminder notifications (=spam emails)
 - Need to look at other examples of gamified learning: Duolingo, Datacamp, Coursera, Udemy

IFR's:

- Performance
 - - Metric: Server response time
 - Speed of loading pages
- Usability
 - Making app inclusive and accessible
 - Having an intuitive UI
 - Designed to maximise user engagement and productivity
- Security
 - Data collection of students
 - Server data storage, ToS / privacy
 - Network Security
- Testing - probably unnecessary
 - Chatbox testing
 - Database verify
 - Cross platform
 - Load courses from database
 - Student surveys - minimum satisfaction rating?

11.17.2022 Meeting notesAgenda:

- Req spec due 24/11/22 - next week
 - Finalise requirements
 - Standardise formatting for each requirement
 - Colour coding
 - Capitalisation
 - Clarifying what to write in expected results vs description
 - Rework FR categories?
 - Proofread other sections
 - Create Gantt chart
- Discuss video due 8/12/22 - 3 weeks from now(!)

Suggested FR categories:

1. User account
 - 1.1. Account creation/sign-up
 - 1.2. Account login
 - 1.3. Reset password
 - 1.4. Account profile page
2. Course selection
 - 2.1. IBM Watson Assistant chatbox recommender
 - 2.2. List of all courses/course directory
 - 2.3. Course filtering system
 - 2.4. Manual course search
3. Personal courses
 - 3.1. Progress tracking: Mark as completed
 - 3.2. Progress tracking: Categorise as not started/in progress/completed/not interested -> these courses will not be recommended
 - 3.3. Progress tracking: Progress bar which user can drag
 - 3.4. Current courses list
 - 3.5. Completed courses archive
4. More gamification elements
 - 4.1. Points system - daily, completed
 - 4.2. Badge system - use IBM's one? Just make sure users can visualise?
 - 4.3. Leaderboard
 - 4.4. Reminder notifications
5. Databases
 - 5.1.
6. Web app interface
 - 6.1. Main menu -> login/sign-up/view all courses
 - 6.2. Settings

11.24.2022 Meeting notesTo do:

- Have slides/script done by 29th
- Meeting 4pm Tuesdays in addition to Thursday
- Set up Taiga for backlog/Kanban board etc

Next week:

- Record videos individually until tuesday
- Merge videos
- Add subtitles

12.01.2022 Meeting notes

Plan:

- Finish slides until Sunday, add slides + script to presentation slide doc
- Meet online Tuesday, finish recording videos individually
- Merge videos until Thursday

12.08.2022 Meeting notes:

Plan for holidays:

- Start developing
 - Get all information from IBM page sites (course info, links, etc..) for database
 - Main front end draft of all the pages
 - No watson yet
- Design first user survey!
- Meet in sub-teams if necessary
- Start test report? → not important as we didn't have testing lectures yet

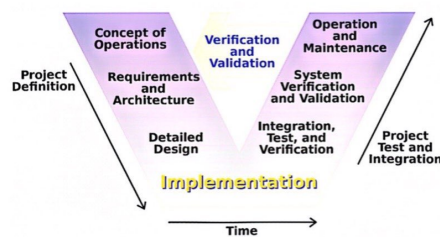


01.12.2023 Meeting notes:

To do:

- Focus on design for next week, test plan can be done in 3ish days
- General thing we want to test e.g. prototype survey, which red's to test
- Prioritise other deadlines for now

V-model: <https://www.geeksforgeeks.org/software-engineering-sdlc-v-model/>



General things to consider:

- JEST for the backend unit tests
- Decide which tests can be automated and which have to be manual
- Survey or user walkthroughs for UAT's
- Both FR and NFR's tested

IX. APPENDIX D: EMAIL SUMMARY

Good evening:

Hope this email finds you good health.

This email contains what we discussed and the plan for next week, also the protentional risk we have in the project.

- We have discussed:
 - How do we define the requirements
 - Team went through the major requirements and good brainstorm session.
 - Role selection and plan in next week.
- Plan for next week:
 - We need to have draft of Requirements doc before the meeting.
 - Next meeting should discuss:
 - Gantt Chart
 - Agile working – Taiga using (KanBan and Scrum)
 - Evaluate Risk and issue
- Risk in the project:
 - It would be red alert if we don't have draft by next meeting.

And by the way, do you use Team or some other ways to communicate each other? I would suggest to use Team if you haven't have a place to communicate.

Good afternoon:

Hope this email finds you good health and good progress on your incoming CW.

In last week **meeting** we have:

- Go through the FR and NFR.
- Confirm the job allocation.
- General deadline.

As discussed before, you should be able to have first draft of your requirement document and able to send to Brian to have a check to ensure you can have time to improve to get higher marks.

And please do let me know if you have met any accident issue on your report.

This week **meeting**, I was planning to discuss more able Agile methodology and the approach we will take in first half **meeting**. At the beginning of the **meeting**, we will have a stand-up **meeting**, this gives you the idea about how it works. Also, I will introduce the Agile platform Taiga, using quite often in company small scale of group.

Also, I am aware that your next Coursework is very soon and should do some work to show your progress. We will also talk about more in this **meeting**.

As mentioned before about communication tool, in my opinion, it is not enough to only have one **meeting** every week, and it might will cause some risks. So again, I would suggest you have a platform to chat and track. And if we still don't have one at end of this week, I would set up Team for you.

And let me know if you have any questions and any good suggestions.

Subject: Changing Project Manager

Good afternoon:

Hope this email finds you good health.

In the next meeting which is tomorrow I will not be the project manager of your team, however there is another great project manager [redacted] will replace me and continue to help your team's work.

As I aware, [redacted] has lots of good experience in the industry and has very decent coding experience and problem solving skills, I am very sure that you will able to learn and make your project goes smoother if you meet problems. Before the next Tuesday, I will hand over the report about the team and current process to her and finish whole process to ensure that it won't take too much time on familiar the project.

[redacted] A short brief about current progress:

1: They do have made great result in last two submissions, and one of them was over 70. Whole of the team has its passion to work and collaborating abilities.

2: They are currently focusing on the test report, in last meeting I have talked about the Unit test, system test and User Acceptance testing, also with the V-model they might will learn in the coming lecture to start the report. However due to loads of CW, the speed might slow down but it is not a problem for my seeing as they still ahead of lots of work.

3: They are using the google drive to store meeting notes and all documents need, [redacted] was holding it, it might need to ask permission to access.

4: The Agile we are using Taiga as the major platform, have done all the pipeline, just need to follow it will be good, here is the link: [https://taiga.io](#), and I will send an invitation link to you.

I think that is everything and please let me know if I was wrong or need to clarify something. Feel free to pop me a message or send me emails, I am more than happy to help!