Project Outline: Mark Book

Project Summary

The ‘Why?’

The King’s School currently uses the platform SM Marks to enter and calculate student marks, however, the system has several usability challenges. SM Marks is clunky and not user-friendly, leading to inconsistent usage among teachers and staff. This inconsistent usage also increases risk of mark input errors and overall inefficiencies. SM Marks also lacks the necessary integrations with other systems and analytic platforms (such as PowerBI), which limits the ability to analyse and distribute data effectively to teachers and guardians. In this way, The King’s School needs an alternative mark book platform that addresses these issues.

Alongside SM Marks, The King’s School currently utilises the Canvas Mark Book platform for assessments which are submitted online via Canvas. Although the Canvas Mark Book addresses a majority of the issues associated with SM Marks, there are gaps which misaligns with what the school needs:

- Canvas is restricted to AT total mark
- Canvas does not currently allow the marking of assessments at an outcome level
- Canvas does not allow marks to be extracted at a question level.

Goal

The goal of this project is to develop a new, user-friendly and time efficient mark book platform that addresses the usability challenges of SM Marks. The platform will enhance the user experience by providing a more intuitive interface, ensuring consistent usage and reducing the risk of mark book errors. Additionally, it will integrate with systems and external analytics tools such as PowerBI to enable efficient data analysis and reporting, improving data accessibility and accuracy for all stakeholders.

Current State

All marks are currently input into SM Marks, however, different departments have different processes:

- Some departments input marks into an Excel sheet before importing them into SM Marks
- Some departments input marks into SM Marks directly
- Some departments mark assessments via Canvas and re-enter the marks into SM Marks. The sync between Canvas and SM Marks is currently broken, which requires the double entry of marks into both platforms.

Once all marks are entered into SM Marks, a sync is completed with Synergetic to generate the semester reports. This comes with its own set of problems, as the sync is dependent on naming conventions, and that the marks are untouched during the sync. Any changes made after the sync requires reports to be manually generated again.

Future State

Through this project, we are aiming to provide a platform that simplifies the mark-entry, calculation process, report generation, and encourages consistent use school-wide. The platform will feature a more intuitive interface and include the required integrations for easy data sharing with external platforms. Through this solution, the aim is to streamline workflows and improve data accuracy and accessibility.

Project Roles

Project Sponsor & Resource Manager: [redacted]

- Oversees high-level operations
- Define project budget
- Defines and guides project vision
- Critical decision maker
- Allocates resources
- Reports to upper management

Domain Expert: [redacted]

- Share intimate knowledge of teacher mark book and reporting processes
- Manages project requirements
- Stakeholder management

Business Analyst: [redacted]

- Helps define the project and its goals
- Gathers project requirements
- Provides clarification on project data and requirements
- Tests solutions to ensure their effectiveness

Product Manager: Presley Liauw

- Manages with Business analysis day-to-day operations
- Manages with Business analysis the project schedule
- Translates the features requested into work items for the developers, and checks off the work.
- Defines tickets for developers
- Manages developer backlog
- Prioritises work for developers
- Provides any clarification of work for the developers
- Works/Reports to Domain Expert and Resource Manager to ‘check-in’, clarify requirements and project vision.
- Tests solutions to ensure their effectiveness

Terminology Chart

Agile Framework

Term	Definition	Example - Building a House
Epic	A large body of work that drives towards a specific goal. An epic can encompass multiple teams, and can be broken down into a number of smaller stories or tasks.	When building a house, you need to first build the foundation, put up the frames and attach the roof. Each of these phases would act as the epics for the house.
User Story	Short requirements or requests written from the perspective of an end user.	To build the foundation for the house, you would need to dig a trench, lay the rebar, mix the concrete, and pour the concrete. These are the tasks or user stories under the 'foundation' epic.
Acceptance Criteria (AC)	The conditions that must be satisfied for a user story to be considered as 'done'.	The AC for the pouring of concrete would be to ensure the right concrete was used, it passed compliance checks, and was allowed to cure. These AC's would have to be met before you can tick off the user story of 'pouring concrete'.
System Mockups	The designs of what the system will look like to the user, and includes all the functionality outlined by the user stories.	This would be the plans drafted for the house.
Backlog	A backlog is the list of user stories which the development team have not yet started or completed. The backlog is prioritised so that the item at the top of the backlog is the most important, and the bottom being the least.	Assuming no work has yet been completed on the house, the backlog would look something like this: 1. Dig trench 2. Lay rebar 3. Mix concrete 4. Pour concrete 5. Put up frames 6. … Painting the house would be item 300 in the backlog, as there are many items needing to be completed first before it can be done.
Grooming Session	A collaborative session which allows the product manager and developers to discuss the requirements outlined in the user stories, ACs, and mockups.	This would be the regular meeting the Builder would have with the Foreman and Construction workers to discuss the upcoming work they will be doing.

Sprint	A sprint is a short, time-boxed period when a team works to complete a set amount of work.	When building a house, the construction crew would be assigned to complete one well-defined area in a certain amount of time, like installing the kitchen cabinets or tiling the bathroom. At the end of the given time, that part of the house should be functional and ready for review.
Release Demonstration	A presentation of the features which have been implemented in the sprint for feedback and comment from stakeholders.	This would act as the time that the builder and surveyor reviews the house at each stage of it being built.
Roll out Plan	Defining the set of activities required to launch the product to users.	This would be planning required for the builder to do before handing the completed house over to its owner.

Education

Term	Definition
(AT) Assessment Task	Assessment tasks are designed to measure the extent to which students have achieved the Learning Outcomes specified for each particular course. All syllabuses published by NESA indicate the Learning Outcomes that are relevant for each course. Syllabuses for HSC courses also specify assessment requirements for that course. Assessments contribute to the award of public credentials in Yrs 10, 11 and 12, and therefore, the School must adhere to strict procedures as outlined by NESA.
Breach of Academic Integrity and Malpractice ***"Breach of Academic Integrity"*** - Yrs 7-11 ***"Malpractice"*** - Yr12 only	Students are subject to normal School rules when an Assessment Task is due, particularly in attending all classes. Allegations of malpractice including, but not limited to, cheating, plagiarism, unsatisfactory conduct, non-serious attempts, inappropriate computer use and late submission will be reported to

	the appropriate HOD and DOS to investigate. If the allegation is upheld, the award of zero (0) will usually be recorded for the Assessment Task.
Course Description	Is a brief overview that outlines the main objectives, content and structure of a specific course. At King's the Course Description is provided in the Student's Semester Report for each course undertaken by the Student and is compiled and written by the HOD. The Course Description is content-based and is specific to the reporting period and may incorporate outcomes from the syllabus. The Course Description has **a limit of 600 characters.**
Cumulative Assessment Mark	The total score or aggregate score a student earns across multiple assessment tasks over a term, semester or academic year. It provides a more comprehensive view of the Student's overall learning, progress and strengths within a course.
Cumulative Assessment Rank	Refers to the Student's overall standing relative to their peers studying that course. It is based on their Cumulative Assessment Mark.
Effort Rating Average	For Years 7-10, the Effort Rating Average of the Responsible Learning Profile which is a measure of a student's effort and application across all subject areas as a number in the range 1-100 based on the following aspects: • Organisation • Work in Class • Behaviour in Class • Homework completed. An effort rating of *60% and above is the **minimum expectation** at King's*. 60% reflects a 3 grade for all areas.Effort ratings appear on both Semester Reports. If an Effort Rating of below 3 is given, the Student's Mentor should be alerted/contacted, with further action to be taken. Effort Rating data is collected and will influence strategies to assist students.
Extension Courses	Extension courses may also be undertaken in areas of special interest. Extension units marked out of 50 are reported differently. They are reported as Bands: E4 E3 E2

	E1(regarded as Unsatisfactory.)
Examination Mark, Mean and Place in Course	For all year groups in Senior School, an ***Examination Mark, Mean*** and ***Place in Exam*** (examination rank) will be provided after formal examinations or at the end of a course.
Grade	A grade (A-E) is awarded for each Yr 7 to 11 course in both the Semester 1 and Semester 2 reports. For Yrs 10 and 11 the grades on the Semester 2 report will be the RoSA grades submitted to NESA. These grades are determined by aligning student performance to a grade scale in accordance with the requirements found on the NESA Assessment Resource Centre (ARC) website. For Yr 10 (Stage 5) RoSA Grades Course Performance Descriptors have been developed for each course. They describe the main features of a typical student's performance at each grade measured against the syllabus objectives and outcomes for the course. Note that while the school report will record a Grade A-E, for Mathematics these are further divided into nine levels (A10, A9, B8, B7, C6, C5, D4, D3, E2) when submitted to NESA for the RoSA. In the case of Physical Activity and Sports Studies the Common Grade Scale is used. The Academic report grades should be the same as RoSA Grades, no exceptions.
(GPA) Grade Point Average	For Yrs 7-10, a GPA is included. The GPA is a measure of a student's relative performance in his mandatory core subjects (English, Mathematics, Science, Geography and History) as a number in the range of 1-10. A Student's overall performance may then be compared from one semester to another against his own previous performance.
(HSC) Higher School Certificate	The Higher School Certificate is an exit certificate awarded and issued by the NSW Education Standards Authority (NESA). It marks the completion of 13 years of schooling, is the gateway to further study and employment and presents a profile of student achievement in a set of courses. Over the four terms of Yr 12 (commencing in T4 of Yr 11 and continuing in T1to T3 of Yr 12), the School conducts an Assessment Program in each

	subject. NESA requires that the School report a mark for each student in each subject that they are presenting for the Higher School Certificate. The purpose of the Assessment Program is to determine this mark through the administration of a variety of Assessment Tasks.The mark a student receives for each task in a course will be added together according to the weightings indicated in the Assessment Program. This will produce a final assessment mark for the course, which is submitted by the School to NESA. This information is then used as part of the moderation process in producing the HSC assessment mark reported by NESA. **Under NESA regulations, final HSC Assessment Marks as submitted to NESA cannot be provided to students**. The HSC fairly assesses each student's knowledge and skills. If a student meets the minimum standard expected in a 2 Unit course, he receives a mark of 50/100. When students display higher standards of performance, higher marks are achieved. For each course, students will receive easy-to-understand reports providing detailed information, giving clear indications of what students have demonstrated they know, understand and can do in each course. Students will be informed of their progressive assessment rank in each course in their Yr Mid-Year Report and their final assessment rank (Rank Order) will be reported in their Yr 12 Yearly Report. Students may also receive rank updates throughout the year from the relevant HOD (or class teacher). In addition, Yr 12 will receive their NESA Student Assessment Rank Order Notice via the NESA website. Students must check their Yearly Report rankings with the NESA Rank Order Notice and notify the school if there are any errors or they wish to appeal against their final assessment ranking.
(IB) International Baccalaureate **IB Programmes at King's:** ● ***(PYP)*** *Primary Years Programme* (offered at the Preparatory School and Tudor House) ● ***(DP)*** *Diploma Programme* (offered in Senior School)	A globally recognised education framework that provides students with a challenging, well-rounded curriculum aimed at fostering critical thinking, intercultural understanding and personal development. The IB Program is offered at multiple educational stages. ***IB Primary Years Programme***

	The ***PYP*** is for kindergarten and primary school aged students (3-12). The PYP places a powerful emphasis on inquiry-based learning and offers a framework to meet the academic, cultural, physical, social and spiritual development of each student. There are five essential elements to the IB PYP curriculum - Concepts, Skills, Knowledge, Attitudes and Action. ***IB Diploma Programme*** The ***DP*** is a comprehensive and rigorous two-year course of study, undertaken in Yr 11 and Yr 12. It is chosen by a range of students as an alternative to studying the NSW Higher School Certificate. Most IB subjects can be taken at "standard level" (SL) or "higher level" (HL). Is recognised around the world and ensures an increased adaptability and mobility for IB students.
(IMA) Illness Misadventure Application	The illness and misadventure process supports students who, at the time of an Assessment Task or Examination are unwell, have an accident or suffer other misadventure. A Student may lodge an **IMA** if they believe that circumstances occurring immediately before or during an Assessment Task or Examination prevent them from attending on the day or impact them during the course of the Assessment Task or Examination. The IMA must include supporting documentation (medical or other). A student should not be absent from any period on the day or the day prior to submission of, or sitting of, an Assessment Task. This includes timetabled classes before or after school. If the task is on or due on a Monday, the student shall not be absent on the Friday immediately prior. **If a Student does not submit the IMA documentation in this instance, he may incur a mark penalty of 30%**. At King's the IMA is processed online and the final outcome (which may impact the Student's mark) is determined by the DOS and communicated to the HOD.
Malpractice	Refer to Breach of Academic Integrity and Malpractice definition in this table.

'N' Determinations (non-completion of a course)	'N' Determinations are issued to students who do not complete the requirements for a course. Typically, 'N' Determinations are awarded for a course as a result of the Student: • Failing to apply himself with diligence and sustained effort to the set tasks and experiences provided in the course by the School; and/or • Failing to achieve some or all of the course outcomes. Failure to complete tasks, whether they be formal Assessment Tasks or otherwise and frequent absence, put students at risk.
NESA	**NSW Education Standards Authority** (schools report student grades, student malpractice incidents in Yr12 and other information to NESA).
Performance Outcomes	These are written by HODs based on the assessment tasks completed during the reporting period. Each HOD will provide staff with the Performance Outcomes for each reporting period. The Performance Outcomes will usually be topic specific and user friendly for parents to understand. **Reports are limited to 4-6 outcomes with a limit of 190 characters per outcome**. The **levels of achievement** for an outcome are either: • Excellent • High • Substantial • Satisfactory • Elementary • Not evidenced
Preliminary Course	Refers to Yr 11 Courses. NESA requires that, before students can progress to the HSC Course in Year 12, they must satisfactorily complete the requirements of the relevant Yr 11 Course.
Responsible Learning Profile	These areas break down the different components of a Student's profile to give a comprehensive overview. There are ***4 areas*** reported on and these are ***standard for all years*****:** • Organisation • Work in class • Behaviour in class • Homework completed

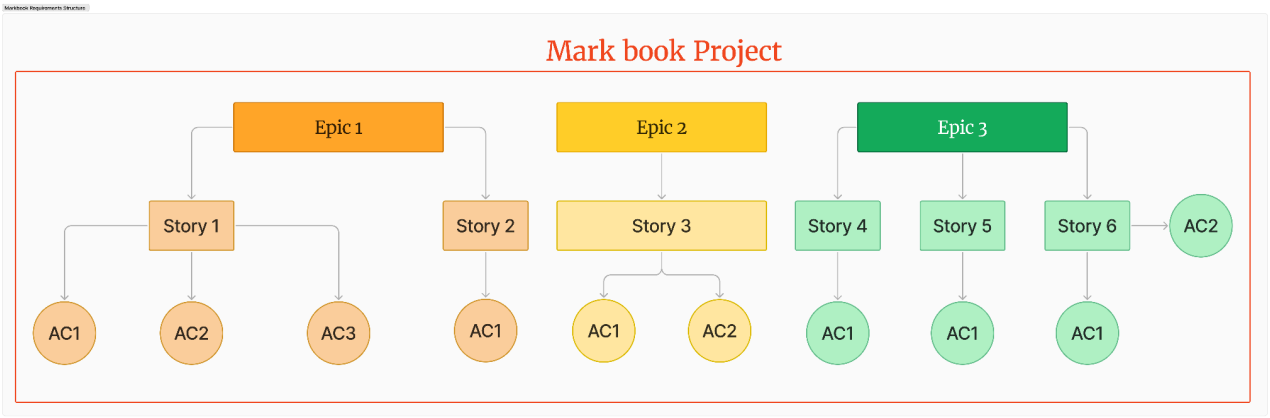
	The ***categories*** to report these will be displayed: • Well above expectation • Above expectation • Meets expectation • Below expectation • Well below expectation It is acknowledged that these categories are obviously subjective, but it would be expected that the ***default position*** *should be: Meets expectation.*
RoSA	NSW Record of School Achievement (Stage 5 and Yr 11 Course). For each subject presented for Stage 5 and the Yr 11 Course, the School conducts an Assessment Program. The Assessment Tasks are designed to produce a profile of each student's learning and achievement in the particular subject. The School determines the appropriate **Grade** to award to each student.
Semester 1 and Semester 2 Reports	Academic Student Reports are a means of formally communicating with parents, from the School, about the progress and achievements of students within a specific reporting period. Even though these reports are designed specifically for parents, reports are also likely to be read from time to time by members of the wider community. They will be seen not only as a snapshot of student achievement, but as a reflection of The King's School. The School, therefore has a responsibility to provide detailed, useful and accurate information about each student's achievement. The NESA standards-referenced reporting system has provided parents with a comprehensive and broader understanding of each student's achievements in each subject and activity reported on.
SID	Student Identification Number
UAC	The Universities Admissions Centre
(VET) Vocational Education and Training courses	Opportunities for students to study **VET** courses offered on site at King's or through TAFE will count towards the HSC and will also lead to qualifications recognised across a range of industries (VET qualification). Students may choose to enrol in both ATAR framework and non-ATAR framework courses.

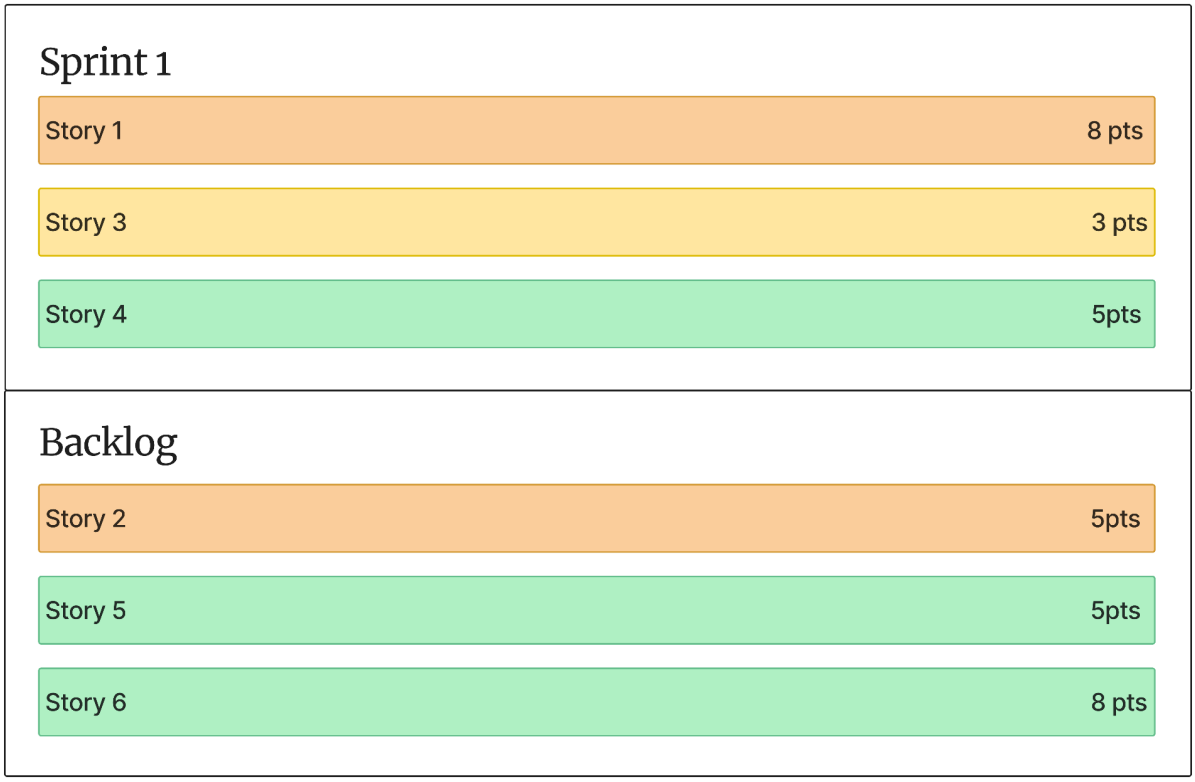
General

Abbreviation/Term	Definition
AT	We will refer to an Assessment Task as an AT# (Example: Assessment Task 1 = AT1)
Campus *King's has one senior school campus and two junior campuses*	**Senior School** at North Parramatta (Boys who are Boarders or Day Boys) **Preparatory School**, Juniors at North Parramatta (Boy's school) **Tudor House**, Juniors at Moss Vale (Boys and Girls who are Boarders or Day Students)
Campus Support	Administration support staff
Canvas	Online Learning Management System at King's
CRD	Continuous Reporting Dashboard
DAC [redacted] oversees the mark book with the DOO	Data Analytics Coordinator. A member of the Deputy Head, Academics Team and also referred to as the Studies Office)
DHA *King's has one DHA for each campus:* Senior School - [redacted] Preparatory School - [redacted] Tudor House - [redacted]	Deputy Head, Academics
DOO [redacted] will be the mark book Administrator. The Assistant Timetabler is Jeni Gilbert.	Dean of Operations. A member of the Deputy Head, Academics Team and also referred to as the Studies Office)
DOS Senior School has a DOS for each academic stage: ● DOS Stage 6 (Yrs 11-12) Marianne Stramandinoli ● DOS Stage 5 (Yrs 9-10) Scott Hoppitt ● DOS Stage 4 (Yrs 7-8) Sonya Harper	Dean of Studies. A member of the Deputy Head, Academics Team and also referred to as the Studies Office
EA	Executive Assistant
EOC	End of Course

EST	Estimate (mark)
HOD	Head of Department (academic departments)
KingsNet	Communication platform between the school, students and parents. The Assessment Calendar and school calendars are located here.
PowerBI	The PowerBI platform at King's will have student 'profiles' which contain information that can be useful to provide a snapshot or 'at-a-glance' look at a student in the form of education dashboards. PowerBI has the intelligence and customisability to effectively visualise copious amounts of data at a student level, class level, department level and school level.
Prep	Preparatory School (King's junior school)
T1, T2, T3, T4	School Terms in NSW: Term 1, Term 2, Term 3, Term 4
TH	Tudor House (King's junior school)

Epic, User Story, AC & Backlog Diagram





Mark book Agile Diagrams

Project Details

The below sections outline the steps to be taken in order to reach the future state described above.

1. Epic Creation

What is an Epic?
An epic is a large body of work that drives towards a specific goal. An epic can encompass multiple teams, and can be broken down into a number of smaller stories or tasks. For example, when building a house, you need to first build the foundation, put up the frames and attach the roof. Each of these phases would act as the epics for the house.

As a part of this step, epics would be defined in order to document and understand the large pieces of work which would need to be completed as a part of the project. These epics would be documented and created as epics on Jira, to allow the corresponding stories to be created under the epics in Jira.

2. User Story Creation

What is a User Story?

User stories are short requirements or requests written from the perspective of an end user, which in our case may be a Campus Support, History teacher, Head of Department, member of the Studies Office etc. These are the ingredients and tasks (stories) which make up the meals (or epics) that we had created in step 1.

As a part of this step, we would need to define the pieces of work required to fulfil the epic. These user stories will be formatted in the following:

As a [end-user], I want [intention], so that [end goal].

The goal of these stories is to define the smallest unit of work for the software feature in a way that ensures that we are fulfilling the needs of the end user. As a result, there could potentially be 100's of user stories created under one epic. These user stories would be created as tickets in Jira and linked to its corresponding epic.

3. System Mockups

What are mockups?
Mockups are designs of what the system will look like to the user, and will include all the functionality outlined by the defined user stories in step 2. Mockups will be created in Figma by the Product Manager, and will be iteratively approved by the Project Sponsors and Domain Expert.

4. Acceptance Criteria

What is Acceptance Criteria (AC)?
Acceptance criteria (AC) are the conditions that must be satisfied for a user story to be considered as 'done'. ACs provide details on the expected system behaviour and how it will fulfil the user story. The ACs will be based on the system mockups approved in step 3. The ACs will be formatted in the following:

Given [prerequisites for the criteria]
When [action or trigger]
Then [result or outcome]

The definition of the ACs provides a clear way to test functionality, ensure that all pre-conditions are accounted for, and determine clearly if a requirement has been fulfilled.

5. Prioritise the Backlog

What is a backlog?
A backlog is the list of user stories which the development team have not yet started or completed. This backlog is prioritised so that the item at the top of the backlog is the most important, and the bottom being the least.

The user stories created in Jira must be prioritised in the developer backlog in a way that accounts for their dependencies and their importance in creating a usable, viable platform. This will be done through the creation of a team backlog in Jira, which would allow the user story tickets created in step 2 to be added and ordered accordingly.

6. Grooming of User Stories

What is a Grooming Session?
A grooming session is a collaborative session which allows the product manager and developers to discuss the requirements outlined in the user stories, ACs, and mockups. Any questions the developers may have for the product manager will be clarified at this session. Once all questions are answered, the developers will then provide an estimation of the work to complete the user story. Once estimated, the work would then be prioritised based on any dependencies, and the overall importance of the work within the project.

Grooming sessions will be held on a weekly basis, to ensure that the development team has enough work in their backlog. Planning poker will be used with the development team to estimate the requirements accurately and unanimously.

- https://planning-poker-agile.web.app/

7. Sprint Planning

What is a Sprint?
A sprint is a short, time-boxed period when a team works to complete a set amount of work. The sprints in this project will be 2 weeks long (10 business days)

What is Sprint Planning?
The sprint planning is a session with the product manager and developer team to answer the following questions:

- What work can get done in the upcoming sprint?
- What work will we do in the upcoming sprint?

The above questions will be based on the prioritised backlog created in step 5.
The sprint planning will be scheduled every 2 weeks to determine what work the developer team will pick up as a part of the sprint.

6. Release Demonstrations

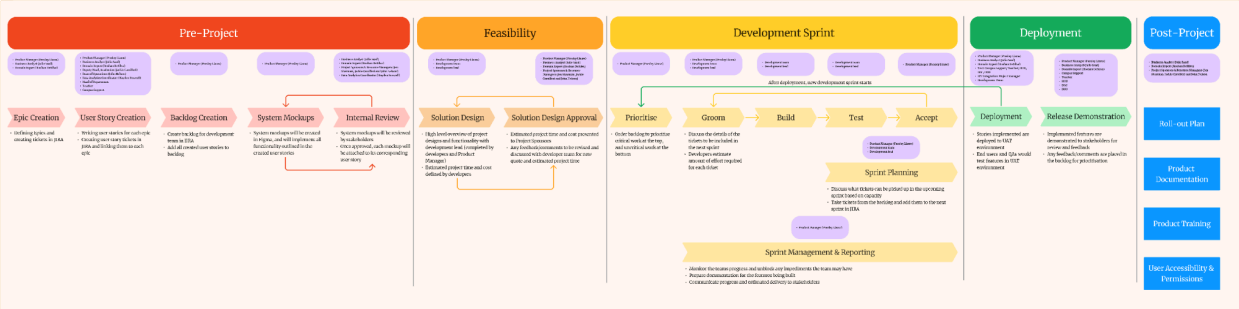
After each sprint has been completed, the features which have been implemented will be demonstrated to the appropriate stakeholders (Heads of Department, teachers, etc.) for feedback and comment. Any adjustments required would be created as tickets, prioritised and added to the team's backlog.

7. Roll out Plan/Change Management

Once the requirements for the product have been completed, the following questions will need to be answered as a part of the roll-out plan:

- Who will access and use the sandbox product?
- Determine the duration of the sandbox testing prior to the product going live?
- What training will be required for the product to go live?
- What documentation is required for the product?
- What is the worst case scenario and how do we mitigate against risks?

Product Development Cycle



[Product Development Cycle]