BAKERSDOZEN TECH

Assessment 3 / Stage 1: Project Report

OUA Building IT Systems (CPT111) SP1, 2021

The Team

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PROJECT BACKGROUND (10 POINTS)

MOTIVATION

When choosing the type of IT system that we wanted to build, our team took into consideration a number of factors such as personal areas of interest, possibility for challenging our skills and time required to complete our build versus actual time available in this course.

Initial group discussions revealed the our team collectively had minimal experience in game development and so there was a general consensus that taking on the task of developing a two dimensional (2D) game would provide us all with the opportunity to try our hand at game development and in turn increase our IT knowledge base.

We also took a realistic approach with relation to what type of system could be built from novice IT professionals in such a short timeframe. We wanted to ensure that the IT system we chose would be something that we could comfortably produce a product for by the set deadlines. Thus, we decided to pursue a 2D game, because we figured this would be a simple, yet fun, skill to learn.

Finally, as previously mentioned we also took into consideration team members' personal interest; a key to success is making sure those responsible for performing the work have some level of personal interest in the task at hand. Further to early conversations it was quickly realised that all group members enjoy playing video games and find joy in creating something tangible based on personal ideas.

THE TEAM

CHANNON WAYNE HARPER

Student Number: s3871491
Student Email Address: s3871491@student.rmit.edu.au
Role in the project

- Team Leader
- Head developer

Personal background and skills relevant to the project
Project manager/2IC at Hammels Plumbing with a role in job scheduling and tools related to achieve each task, ability to meet deadlines to not incur extra costings and project hold ups that were unnecessary. Communications with all parties involved to evaluate and change project outlay with any changes that are made.
Previous experience in Java, Website development and project management, although not directly associated with the project these experiences would be deemed valuable in the group setting.

JESSICA CRAMB

Student Number: s3813728
Student Email Address: s3813728@student.rmit.edu.au
Role in the project

- Report writer
- Researcher
- Tester
- Programmer

Personal background and skills relevant to the project
Having extensive experience in business administration roles I have built skills in tasks such as report writing, research and data relay. I have also honed my interpersonal skills which help to improve my contribution and communication as a team member. Further, I have had minimal exposure to the information technology aspect of my current workplace with relation to developments and maintenance of our local database. This limited exposure has sparked a personal interest in information technology, leading me to develop my programming skills on my own time. I believe that my administration background has been of benefit for our project with regards to the report writing and research needed to present our project. Lastly, I believe that my interest and self-lead learning in programming code has proven useful with regards to assisting in the programming and development of our game.

JOSEPH TSELIOS

Student Number: s3858508
Student Email Address: s3858508@student.rmit.edu.au
Role in the project

- Researcher
- Report Writer
- Helper

Personal background and skills relevant to the project
Strategical analyst for Esports team with heavy reliance on in depth research and study. Security officer at the National Gallery of Victoria where communication skills are practice on a daily which can assist with team communication.

JACOB KING

Student Number: s3858820
Student Email Address: s3858820@student.rmit.edu.au
Role in the project

- Validation Tester

Personal background and skills relevant to the project
Was an engineering student then changed to software engineering degree.

Some experience with programming units.

Project aim

Our goal is to build an indie 2D farming simulation game for a PC platform that will require fairly low-level user input for gameplay. Our game will be called “2D Farms – Live the Life” and will be an indie game, styled with pixel art.

Project goals

Achievement of our goal to build a simplistic indie game was largely accomplished by the act of coding and development performed on the game by our Team Leader, Channon Harper. This overall goal can be further broken down into three main accomplishments as follows:

Pixel Art

The artwork used for our game has been sourced from royalty free providers found through unity engine. To aide in this task our team performed research into game style and design for both indie games and farming games. This allowed us to determine elements such as character avatar, background setting and various objects that will be used during gameplay, such as tools and stationary objects like crates.

Game Movement

Game movement is pivotal in allowing gameplay in our project, without the ability to move the avatar around the screen the player would not be able to perform any of the tasks or objectives of the game. As such this was one of the first core features agreed on and one of the main goals that had to be achieved for us to meet our project aim. Research into game movement was undertaken by both Jess and Channon, with the final implementation performed by Channon. Other team members performed testing on this feature to ensure that it was working as expected. Feedback provided by other team members was used to make adjustments as needed.

Item Interaction

The underlying purpose of *2D Farms – Live the Life* is to allow the player to role play as a farmer and this requires the capacity to interact with items in the game world. These items include anything from tools of the trade such as hoes and shovels, crop goods such as seeds and plants and stationary items such as storage boxes or crates. To achieve the aim of including objectives in our game we have researched and written code to make item interaction possible. This task was largely completed by our team leader Channon Harper, and testing and evaluation of this feature has been performed by all team members. Feedback on bugs or issues has been provided to Channon for revision.

PROJECT BACKGROUND (10 POINTS)

DESCRIPTION

Our project, *2D Farms – Live the Life*, began as an idea to build a simple 2D game in a tried and tested format, farming simulation. The initial concept of our project was discussed between Jess, Channon and Damon. In this preliminary meeting we deliberated over the game concept in terms of the style, suggestions offered included simulation, puzzle or combat. Consideration to the purpose of the game was also given, specifically if it would be educational or recreational. Once the concept of the game was agreed upon, we then decided on the five minimum viable features and any extended features.

Initial development was slow going as it consisted of programming based off various tutorials and resources. In the early stages of development both Jess and Channon contributed to the creation of minimum viable features. However, after much research performed by Channon a single source was identified to be extremely valuable for development as this source covered all essential aspects of our game. From this point the coding was solely performed by Channon and progressed very quickly. We had a working prototype very early in our project thanks to the efforts of Channon which meant that we could focus the rest of our attention to reporting requirements.

Reporting and task tracking was the next aspect of our project that was addressed, task allocation and tracking was overseen by our Team Leader Channon however, each team member was responsible for maintaining their own task list in Trello. By this stage there had also been some team member movement, unfortunately Damon had to withdraw from the course, but on a positive note our other team members Joseph and Jacob were in a position where they could start to contribute. Development of the interim project report was a joint effort made by most remaining team members; Section 1 being completed by Jess, Channon and Joseph, Section 2 completed by Channon and Joseph and Section 3 being completed by Jess, in addition to the parts that had to be completed by all members and final editing and formatting. The second report saw our team of four really come together; the task of reporting on each MVF was split between all team members and saw Channon complete MVF's one, two and four. Joseph and Jacob completed MVF three, and Jess completed MVF five. In addition, sections one and two were completed by Jess and Channon and finally the group all contributed to the 'work effort' as required.

Completion of our project has followed our plan closely and this is largely due to having a working product so early in the project. The plan was only slightly impacted by the movement of team members, however those remaining made the effort to ensure that any excess work was reallocated and completed within deadlines. Lastly, there are number of extended features that we would have liked to add to our project, these included a menu and levelling system, but time constraints and competing priorities have impeded these aspirations.

Outcomes To Date

2D farms started off as a very basic farming simulator, but through a lot of hard work and dedicated time it has developed to mimic real life in a much more realistic fashion. We have achieved the basic function of movement through scripts that are attainable online. We have developed 2D farms to allow for different items to interact differently with the world that we have created. We are going to expand on this idea however, and allow the users cursor to turn red when they have the incorrect tool to interact with the specific object that they are hovering over. This feature will allow for clarity for the user to clearly understand what objects in the game require which tool. A key feature of 2D farms is the time lapse that we have enabled. The main premise of the game is to plant seeds, wait for them to grow. The waiting period is determined by the time in game. We have allowed 2D farms time scale to be editable to find a good balance between real life time and in game time. We have also made sure that as the in-game time gets later, the scene gets darker. This mimics real life farming perfectly as days turn into night is a core fundamental of our reality.

Scope creep

In the following section I have broken down to relate to the MVF's as not much has been progressed through the EVF's each heading will depict any changes made throughout the process of creation.

MVF1 – PLAYER MOVEMENT

Originally stated to be key bind movements the main change made to this item was to rather have an axis movement system. With the integration of Unity engine changing the scripting to allow axis movement opened the ability to use multiple movement binds including a gamepad. This change will prove beneficial as it no longer restricts the user to inputs. Apart from this change the original scope was left intact.

MVF 2 – ITEM INTERACTION

Originally the game had a key bind for interaction along with the use of a pop-up window. We have changed this to incorporate 2 functional interaction keys 1 for object and 1 for toolbar bound interaction. The pop-up window has been removed from the MVF and has been deemed to be an extended feature as it is not required for the initial workings. Instead of prompting the user with what interaction they wish to do instead the given equipped item depicts what interaction the player will achieve.

MVF 3 – TIME LAPSE

Time Lapse is of yet unchanged the initial outcomes we wished to achieve have been produced in the final project. Changes have been made however hat now the user can scale the timer themselves in game therefore giving a speed up option. There are also further additions of sleep and siesta to move forward the timer either 2 or 8 hours. Although not implemented one goal is to have all item interaction increase time scale so if the player was to plant a field or harvest this would increase to time accordingly to not increase gameplay but give a better example of real life farming.

MVF 4 – MENU NOW PLAYER INVENTORY

As the title depicts this was a major change with the menu now moving to an extended feature and the inclusion of an inventory relating to the new interaction was implemented. A toolbar and inventory were added to the player allowing multiple different items to be allocated slots, each of which would cause a different interaction on use. If the player did not have the right item selected interaction was not possible however if they equipped the right tool or seeds that is what would interact with the world. This feature is now the optimal setup to allow for scripting and to further the progress of the game, some features are still yet to be implemented however offers a very stable base for the game to work.

MVF 5 - GROWING AND HARVESTING

Some minor changes were made to this section due to scripting to suite the new interaction and inventory sections. Timers have not been made visible but crops still have a built-in scale to wither making them disappear. The HUD of the timers is still in the works but can be seen as an extended feature as this system is workable without. The only elaboration I feel needs to be input to this section is the growth scale is a scripted time phase which increases every hour of in game play so if a player were to plant something at 11:58 the next phase does indeed begin at 12:00 therefore shortening the overall time but to keep memory usage of the game down this is the shift that was decided upon. This feature also allows for future depiction of the UI to be easily visible. Other sections such as watering and fertilizing have also not been implemented but will be within this section once worked upon increasing the phase timer accordingly.

PROGRESS

Overview

For the most part things were done on schedule. Nothing, in terms of development, was done past the deadlines that were set. Not many deadlines were set however, as time was allocated as needed, while leaving enough time to complete the other tasks that were set.

Learning Unity

The team was tasked with learning how to use the Unity engine for development. Originally, we had given ourselves a week to figure out how to use the development software. This was later extended by a week over the course of the project, because of the pace people were learning how to use the tool. The learning process for all was continuous throughout development of 2D Farms as well. As new systems needed to be developed for each MVF, new techniques had to be learnt.

Game Menu changed to User Interface

Originally the plan was to include a feature of a menu. From here the user could access their save files, change options like volume and close the game. This was changed to user interface. The reason behind this change was to make the game more viable as a product. As a group we decided that this was for the best. However, this change did put the team behind schedule by four days on making the MVFs functioning. The team then made up for lost time in this regard by a focused rush on completing the User Interface. This was the most significant change that we faced as a team.

Crops and Harvesting

Crops and the harvesting system were to be developed together. Both parts of the same system were to work in tandem. When the crops system was being developed there was only one template trial crop. Part of the MVF was to have more than one crop in this system. Once the harvesting system was developed, it was left alone for around a week. Once other MVFs were completed then the team went back to this one and added in more crops.

Validation Testing

Validation testing was done on each of the MVFs as they were completed. The timeframe for this testing was two days. None of the MVFs required this much time for the testing to be complete. In all cases of testing, we were ahead of schedule, even when issues were discovered and fixed. This process was greatly accelerated by the Unity Engine. Every time there is an error in the code of the script for an MVF, the game will not compile. This means that any error had to be addressed as it came up. Validation testing of these features was focused on if the feature functioned as intended.

Learning & Research

Learning and Research for the MVFs was completed on time. Mostly this is because each MVF had a loose timeframe to be completed in. Research was up to the individual who was developing that MVF. Each of these MVFs were researched within a short enough time for the individual to complete the MVF to a decided satisfactory standard.

Testing

Testing thus far within the project has been fruitful, given that the implementations have been minimal most aspects were able to be tested upon development. Example if a developer would add in a script this would easily be tested running the game after the script is implemented. If any errors occurred during this process the script would be amended for working. Majority of this is done within the unity engine showing any exceptions within the debug console, we also added console logs to all new implementations to ensure they were indeed working as intended prior to removing these log codes from the scripting. As the project grows many features would have to be tested not only the working of the script as intended but to make sure the items do not produce results in other aspects they are not intended. In this case a testing system higher than what we have implemented would have to be made available with not only the original developer testing but multiple to ensure any new items do not affect the previous. The project as it stands should be able to be tested by the current number of developers but if it were to add in all EVF and even more a separate testing group should be employed once the project hits a certain release point. This way any bug tracking can be resolved prior to a public release, even at this stage an open comment section on the game should be made available so that any missed bugs can be reported from players and fixes made, as necessary.4

DISCORD

Discord is an easy program to use that can make communicating amongst the team reliable and consistent. There is a mobile version that will allow people to communicate while they are away from home or their PC. Our team uses discord for all direct communications, we opted for this option as it allows easier notification and scroll back for any missed messages. Can also directly message any team member if its talk not needing for the entire group to see, i.e., a question or query about something the other person is working on. The following link shows how we have used discord so far in the project although not all communication is shown here as we have separate channels this is for indication purposes only https://channon87.github.io/2dFarms/video/discordGrab.html

MICROSOFT TEAMS

Microsoft Teams is a more professional platform that we will be using for communication and documentation. Since it has a direct link to our Trello board and can have shared documents that any user can access and collaborate on it makes deliberation on items easy. We also use it for all meeting we hold including group and tutor, we can record each meeting which is then able to be viewed later for any participants that did not attend. We use a private channel that cannot be viewed unless authorized so a link will be lacking in this regard.

TRELLO

Trello allows the group to clearly communicate exactly what needs to be done, when it needs to be completed and who has dedicated themselves to completing 'x' task. So far, our use of Trello is related back to our meetings with what is expected for each team member to achieve within a week. Each member then adds these tasks to their personal swim lane so everyone can see the progress. The other section of Trello is dedicated to the allocation of main tasks; team members are expected to join a card to indicate that they will work on it. Each of these have checklist that need to be done prior to moving it into the done section, we still have some work to do on our board to neaten it up however currently the system we use is working for us.

GITHUB

Access to Github is free for all users, however as students of RMIT we have access to the student pack. This has a web application alongside a desktop application known as GitHub desktop. This will be used for the project creation itself. Currently we use GitHub as a backup of the game development alongside using it to keep all created sprites and a website that allows people to see artefacts of the game itself. Collaboration of the board is not set yet since currently one person takes care of the system backups and web design and although not included within the main resources of this project as the website is not a foregone necessity I choose to use Atom for html coding. You will find it here: https://github.com/Channon87/2dFarms.

SOFTWARE

UNITY

The version we are using is 2020.3.1f1 and with the benefits of being a student at RMIT the professional version is free for 4 years. Alternatives would be Godot Engine or Game Maker Studio 2. Each one has its perks however a decision was made for unity since it seemed to have the most tutorials and since none of us had used unity before seemed to be the easiest to learn. After using it now for 6 weeks the project progress is very good, with its ability to collaborate through their servers and roll back the game on big mess ups have not ran into any problems with it yet. When choosing a game engine for the future I believe that unity is where I will start again. As previously input into the document links to video artefacts, even after a brief period it seems to be able to do everything we intend for our project.

GIMP

Gimp or better known as a free/poor man's photoshop, we decided on this tool for that reason it is free. With creating a 2Dgame there are a lot of sprites and artworks that need to be made, with gimp we can make our 16x16 tile sprites and add in alpha channels for the transparent background with ease. Couple this up with a graphics tablet and you have an artwork studio to create anything your head desires. So far some of the asset sprites used to make the game have not had a transparent background or shadows which we did not want so using Gimp we had the ability to crop and change these to our intention.

MICROSOFT VISUAL STUDIO

Although other tools for coding in C# may be available MVS is attached to unity engine and offered on initial download. Given that they have features that work together the decision was easy to use this program. Our game being 2D does not have assets readily available that includes scripting, so all the scripting had to be done manually. I found that it much like many other tools like Atom have intelligent autocomplete (sometimes annoying) and the features within were easy to use once a script was saved it would automatically update unity to show this.

TOOLS

LUCID CHARTS

Like many successful projects planning is important and to have this in a visual manner is much desired. Lucid Charts allows us to map out our features with failures giving a rundown of how each of them should work in the end. So far, we are using Lucid Charts for all diagrams related to the project, future use will include script designing for the programming side of things allowing easy knowledge of class design and how each variable relates to one another.

YOUTUBE

Probably the go to system of learning things you do not know apart from google. YouTube has provided many tutorial videos on aspects of our game that has allowed us to learn the intricacies of C# as well as Unity design. If you want to learn something there is usually a video made for it finding the right one can, sometimes take time. Most of us being more visual learners found the videos more relatable than any text applicable websites available although some of these were helpful also.

CHALLENGES AND LEARNING (30 POINTS)

GROUP CHALLENGES

Communication was the main challenge faced by our group. Joseph recalls that it quickly "became obvious we were going to run into problems since people's time commitments were very different". Channon supports this stating "with online collaboration it is hard to confirm availability where everyone can sit down and discuss". Jacob confirms that "communication was sparse barring the group meetings" and Jess notes "often team members were unable to attend meetings causing issues with task delegation".

Other challenges included delegation of workload, addressing issues with report content, and providing peer feedback. Jess recalls that "completion of early tasks was unbalanced resulting in the work being largely completed by only two members". In recent weeks "this has since been handled ensuring the initial timeframe is still intact" affirms Channon. Jacob notes that "feedback was sorely lacking and was only done very last minute if at all" which is further evidenced by Channon who observed that "our collaboration was mostly done via text channels but was not optimal without live feedback".

Tools and technologies presented little issues, as remarked by Jess "we were fortunate to have chosen a reliable game development platform; issues mostly related to unsynchronized coding that caused runtime errors". Other tools used for collaboration included Discord, MS Teams and OneDrive, these tools "enabled the group to have a better flowing system that suited everyone's time allocations" as highlighted by Joseph.

Unexpected challenges included team member changes; one team member withdrew from the course and we attempted to add a new team member to re-stablish our full complement. Whilst departure of the former did have some impact, the most notable dilemma was the attempted addition of the latter. Jacob concisely sums this up as "new group addition caused a communication breakdown. Tools had to be adjusted to communicate with the new member. Work arounds on their imparted limitations were difficult at best. Minimal work was done around this time". Channon further comments "new addition could not access platforms the group was already using, thus restricting their capabilities to have any input in some areas".

HOW THE CHALLENGES WERE ADDRESSED

Meeting attendance issues were addressed using a few methods, Jess explains the first being "posting reminders before each meeting, which only partially resolved the issue as we are yet to have a meeting with full attendance". However, as noted by Joseph "regardless of the fact that the majority of the meetings were a two-person between Jess and Channon, it was a meeting nonetheless and Jess and Channon performing as clear group leaders, setting the correct example." When it was evident that meeting attendance would continue to be a difficulty "meetings were recorded for anyone to view in the later stages" advises

Channon and “minutes of these meetings were also taken for ease of use” notes Jacob. Joseph highlights other approaches, “with the knowledge of time restraints, we decided to communicate member tasks directly through email, while enabling discord to be a great source of communication for the members that needed to have a primary reliance on correspondence communication”. Discord plays a fundamental role as evidenced by Jacob “Discord was used the most frequently to address any problems/difficulties any member had. This was done via the main channel for group feedback, or via Direct Messages for any personal communication. This was by far the best solution. MS Teams was slower to use compared to Discord”.

Learning From The Challenges

Skills and experiences gained for our group mostly relate to interpersonal and project management. Channon explains that he “leant that to have a very thought-out plan prior to beginning is a defining factor and although AGILE learning allows changes without the initial backbone it is hard to plan and achieve goals”. Jess notes that “skills around meeting formalities were built on with the development of meeting minutes along with time management”. Joseph confirms that “adaptability and understanding are the two new skills that were most developed from these challenges”. Finally, Jacob summarised his learning as “dealing with difficult communicatees, adaptable communications and use of Unity”.

Changes

Despite the challenges mentioned, there were not many changes to our project, Jess notes some “adjustment to time allocated to this subject” was needed however as affirmed by Joseph “challenges that have been discussed didn’t change the outcome of our project much, rather the method in which we achieved these outcomes”. Jacob confirms that “we did change an MVF from menu to UI” and Channon expands on this noting “there were changes to scripting, but these were more on a development than a project situation”.

Project Plan Refinements

Consensus in relation to plan refinement is that task expectations need to be made clearer in future. Joseph recommends that we “find our method of communication and expectation sooner, we as a group need to be honest with each other from the outset to reduce possible disappointment or unrealistic expectation”. Jess proposes “establishing a stricter, formal meeting and task delegation process from the outset”. Channon suggests that “a more broken-down Trello board to depict deadlines and more emphasis on requirement on the MVF’s” would assist. Jacob also advocates for “more emphasis on assigning MVFs to individuals so that individuals work on their own MVF. This is just assigning clear tasks and deadlines for them”.

Timeline Refinements

The timeline developed for this project was evidently lacking in detail and so Jacob believes there are “no real changes because of lack of plan”. Jess and Joseph proposes “due dates for tasks be refined to ensure that contributions from team are made well before the assessment due date”. Joseph also proposes “providing precise expectations of completion time and work standard”. Channon adds that “a more broken-down timeframe would be desirable alongside the time availability for each member. Without knowing the time available of each member prior to the tasks given, the scale of the timeline is very hard to depict”.

Risks And Unexpected Events

Risks outlined in assignment one included Scope Creep, Technology Risk and Communication Breakdown. Unexpected events included the departure of a team member and unsuccessful attempt to add a new team member. Communication breakdown is the main risk actualised, as observed by Channon “at times we went days without hearing from team members causing doubt if we would see content and not knowing meant others started to work on tasks resulting in more work than was needed”. Scope creep was realized with the change of one of our MVFs, Jess explains “we decided to change the MVF ‘menu’ to ‘UI’ as we felt that having a menu was more suited to be an EVF”. Technology risks were only a real concern with the temporary addition a new team member due to limitations to what technology they could use, this “resulted in more negative outcomes than positive” as the addition “broke the systems that we had already created to be a decent functioning team” as summarized by Joseph.

MARKETING PITCH (10 POINTS)

Do you like Simulation? Want to get a grip of the real life? Then what we have is a game for you 2D Farms – live the life. A game allowing you to take up the role of a real production farmer with real time advancement and bills to be paid get a better appreciation of what our daily farmers go through. Unlike many other farming games this one will see you fail time and time again just like the real-world farming is not easy nor should the game be. You start with a bank debt and must produce a profit to pay this debt as well as have enough left over to plant the next season’s crop.

With all the articles as to how farmers are struggling, we believe our game only helps for users to see the exact reason behind this. Like many other aspects of life people have lost touch with exactly what happens for them to live their day-to-day life. You go to a shop and buy a loaf of bread not knowing the struggle behind what has happened to produce it, our game 2D Farms -live the life will bring knowledge back to the uneducated people as to just how hard this life is. Once a user plays this game our anticipation will be that they will not only educate themselves but have more compassion and get behind the many movements to help their local farmers.

SKILLS AND JOBS (10 POINTS)

PROJECT MANAGER

What is this position:

A Project Manager’s job is to keep the other team members on track while working towards a set goal. Project managers set up schedules to follow, goals to aim for, outline who will be doing what, and how to use the resources most effectively they have at hand. They know the limits of the team they work with, and how to make the team more effective. When problems arise, it is the project manager’s job to see that they are dealt with swiftly and effectively. A project manager should be good at smoothing over interpersonal conflict within team. The team’s needs and struggles should be the sole focus of the Project Manager while they aim for a quality product.

What you will be doing:

The project manager position for 2D Farms will involve managing the new team members required to put the game into full production. Some of these members are listed in this document. The main focus of the Project Manager in this case will be getting the team to work smoothly together to deliver a quality product. This means working closely with development, art, and community teams throughout the development process. Timelines and scheduling needs to be done by the project manager to ensure that the goals that are set by the team are met.

Skills Required:

Excellent communication

The main goal of the project manager is to keep the team on task. This can only be done if everyone working on the project knows what par they play, and what jobs needs to be accomplished. Without the Project Manager’s effective use of communication, everything would grind to a stand-still.

Interpersonal skills

Besides dealing with the team, the project manager will also be working one-on-one to help solve any problems that might arise. Doing so requires excellent interpersonal skills to maintain morale of the individual.

Time Management

The project manager will be creating the schedules for the team. Time must be allocated for solving these issues while staying on track to meet the final goal. On a smaller scale, the project manager must also be good at allocating their daily time to helping the team where needed.

Flexible

While sticking to the timeline they created, they must also be flexible enough to solve problems on the fly. These problems could vary wildly. Helping solve interpersonal conflict to helping marketing address customers, the project manager must be able to com up with good solutions reliably.

Resilient

The project manager will be facing many problems. This means facing them head on without hesitation. The project manager in this position must be able to do so.

Risk Management

No development is risk free. There will come a time where the project manager must weigh the risk of an action to determine if it is worth taking, This could be a new marketing strategy bought up by a team member or it could be the validity of a new feature of the game weight against how much time is left to meet the goal.

Tech Savvy

Developing a game requires many different programs to be successful. The project manager should have the basic understanding of all software used in this project and more. This extra knowledge should be on how to use scheduling and team management software.

Community Outreach

What is this position:

This position is about communicating with the community around 2D Farms. At first, this position will help develop the community, then after to get feedback from the people who play the game. This feedback will then be used to help improve the game for a better play experience. This position will announce upcoming patches and systems or changes in the game as it is released and further developed. Developments will be made because of this community feedback. Events, competitions, and giveaways will also be organised by this position to help further popularise 2D Farms.

What you will be doing:

A dedicated social media presence will be a great asset to the team. This position requires the person to build and maintain a social media presence dedicated to 2D Farms. This will be to advertise the game itself and to build a community around the game. Questions and queries will be answered by this position. Events and other community engagement strategies will also be developed by this position.

Skills needed:

Interpersonal Skills

Interpersonal skills are required to be an effective team communicator. This position requires close communication with a wide variety of people – not just other team members but also members of the community. Candid messages

Teamwork

Teamwork is a must because this position is required to work closely with artist and developers. The Community Outreach Manager must be a team player to ensure that no information is lost while keeping the community engaged with correct information.

Effective communication

A community outreach manager must be excellent at communicating with a large audience. Communications must be clear and effective while also understanding what the community is saying.

Reliable

The Community Outreach Manager must provide regular communications with the 2D Farms community. Weekly or even daily announcements to keep the game relevant are required. On top of these, any developments with the game must also be communicated via social media. Upcoming changed/events need to have a clear timeline, so the community does not miss out.

Organisational Skills

This position requires regular communication with he community. Some of these communications might be promotional material that only hints at what has been developed as a surprise. If these surprises are not managed correctly, it could make the messages less effective at keeping the community engaged.

Resilient and Confident

Dealing with online personalities can be challenging at the best of times. The Community Outreach Manager must be able to deal with these people in a friendly way and be confident in the answers they give.

Patience and Tolerant

Dealing with people and interacting with them will be the main aspect of this position. To maintain the audience and to avoid alienating them, this position requires tolerance of people. The individual in this position must also be patient with people, helping them resolve any issue they might have.

Innovative Engagement

This is a standard position for larger game to have. As this is a smaller project, the community engagement factor needs to be increased. This can be done using innovative engagement with the online community. Unique events and other strategies should be employed to be the most effective.

Junior Developer

What is this position

A Junior Developer is someone relatively new to the game development scene. They have some experience in creating, designing, coding, testing and implementing new code. Junior developers usually work in small teams, where the team is tasked with a certain goal. These goals are usually set to a schedule. A junior developer is expected to have familiarity with several programming languages such as Java, C++, Python. Junior developers are expected to fill a wide variety of rolls that all revolve around creating systems.

What you will be doing

The Junior developer for 2D Farms will be tasked with creating new features for the game. Design, coding, implementation, and testing are all expected of the junior developer. This position also requires work on previously created systems to improve them. This could be optimisation to lighten the load on hardware. Or it could be to improve the functionality of pervious systems. At first the junior developer will focus on creating new systems, optimising these systems is a secondary priority for the junior developer.

Skills required

Technical Experience in coding

This position requires the most technical experience with coding. This position requires systems to be developed in the Unity Engine. Planting/harvesting is just one example of a system. Any further developments to additional features will be done by the Junior Developer. Experience in designing these systems is essential.

Analytical Frame of Mind

To properly ensure that systems and features are handled correctly, the junior developer must have a good eye for detail and have an analytical frame of mind. Features must function as intended, and any issues that arise must be analysed to be solved.

System Design

The junior developer will be developing, designing, and implementing new systems and features into 2D Farms. This position requires the individual to be proficient in such.

Good Communication Skills

The junior developer will be working closely with the 2D Farms team. Communicating with them effectively is essential. Knowing and understanding what tasks are needed to be done is accomplished only though communication with other team members.

Creative and Artistic Flair

For 2D Farms to be a successful game, the junior developer must have a good creative eye. Systems and features should feel fun to use, while also being fresh to the gaming scene. Putting a unique spin on things will only make the game stand out more.

Dedicated Artist

What is this position:

A dedicated games artist's job is to make and model game characters and objects to get the desired graphical result. Some games aim for realism and others go for a more stylised look. This is a major factor in a game's success as their art will grab consumer's attention before anything else. Generally, the better the art the more enjoyable the gaming experience. By imposing their vision, an artist can bring a game to life.

What you will be doing:

In this case, a dedicated game artist will focus on making sprites and art for several features for 2D Farms. These include sprites for; the character, crops, environment interactables, the UI, item icons, game menus, tile set, buildings, and tools. The artist is also required to make assets for the environment including the day/night cycle and to develop the look of the lighting in-game. For 2D Farms the artist will also be required to make promotional art materials for the marketing position. Promotional material must resemble the in-game look as to not mislead consumers.

Skills needed:

Time Management/Organisation

This position requires work to a schedule. This can be as flexible as the artist needs so long as the desired outcomes are met at the set time. The artist will be working with the developer to make this timeline as the two positions will work in tandem.

Communication

The artist must have good communication skills to best organise which aspects of the project need to be prioritised. Communicating what has been done, what needs to be done, how to improve aspects of 2D Farms must all be communicated with the team effectively as to make the work as smooth as possible.

Artistic Skills

An artist is nothing if they can not make quality designs that fit their vision. The artist in this position will have free rein over all aspects of the visual design, meaning that they must make their own style and stick to it on their own. The artist must take pride in their work.

Attention to Detail

The look of the game will be of the artist's vision. While maintaining an overall aesthetic, the artist must also play close attention to detail in their work. Assets should look unique but also like what they represent in the real world. Artistic liberty should be taken when possible, to give a flair, but should not be too outlandish.

Game Engine Knowledge

The Artist hired for this position should have knowledge of the Unity game engine. This is to make the process of integrating their art seamless. The more knowledgeable the artist is with the Unity Engine

Knowledge of Artistic Software

The Artist in this position must have proficiency in their choice of artistic software. This could be photoshop, gimp etc. Proficiency in this case meaning familiarity, comfort and ease of use to get things done in a timely manner.