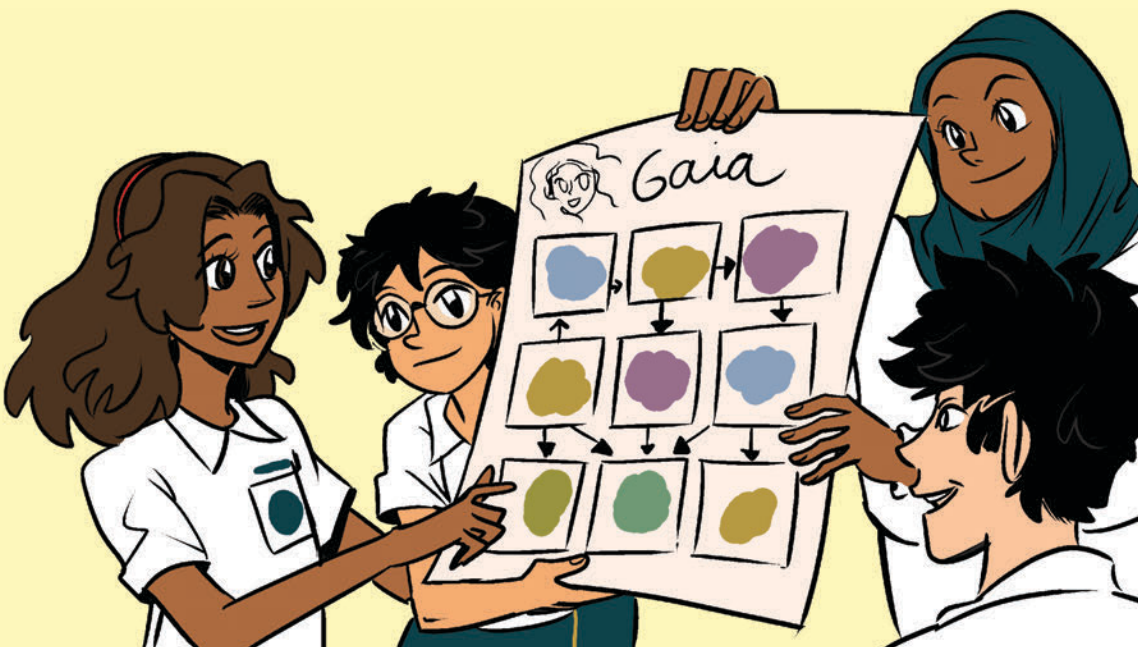
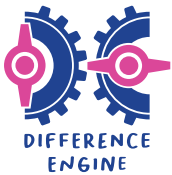
TEACHING RESOURCES FOR

THE MAKERS CLUB
GAME ON!

REIMENA YEE & TINTIN PANTOJA

POWERED BY DIFFERENCE ENGINE





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ABOUT THE CHARACTERS

NADIA TAN

Artistic and geeky, Nadia likes drawing, making zines, and eating pineapple tarts. She can usually be found in her bedroom reading, making art, or daydreaming. She loves her family and wants to do well in school to make them proud. She is the self-proclaimed number one fan of the *Banyan High* series.

PRIYA KUMAR

A loner, Priya spends most of her time in her room playing video games to escape her parents and the rest of the world. She is seldom seen without her noise-cancelling headphones and hoodie. Smart, focused and driven, Priya always wants to win. She is a new fan of the *Banyan High* series.

FU YONG QIANG

Everyone's best friend, Yong Qiang never fails to light up every room he enters. Sporty and resilient, he always finds a way to make things interesting and fun. His love of the *Banyan High* series is second only to Nadia's.

AQILAH ZURAIDI

Creative with a flair for fashion, Aqilah loves designing and crafting. She's a fiercely loyal friend and is determined to be an independent young woman. She is always battling Yong Qiang for the position of second biggest fan of the *Banyan High* series.

TILLY TAY

Tilly is a maker, tinkerer, and loves working as a school librarian. She is devoted to her students and her cat, and is never too far away from her next cup of coffee. She always ensures the school library has the latest *Banyan High* novels.

GLOSSARY

APAM – Also spelled as "appam", it is a type of Indian pancake made of fermented rice batter and coconut milk.

CLIMATE CHANGE – A change in global climate patterns caused by human activities. This has led to unprecedented levels of carbon dioxide released into the atmosphere. Climate change effects include global warming, rising sea levels, and extreme weather conditions.

CODING – A way to communicate and give instructions to a machine. We can write code in different programming languages. These become the building blocks of software, websites, and more.

COMPENDIUM – A concise and detailed guide to a subject, usually presented in the form of a book.

DIORAMA – A three-dimensional model used for exhibitions. Both miniature models and large scale museum models can be called dioramas.

FANDOM – A community of fans who shares an area of interest. Examples include Harry Potter fandom, K-Pop fandom, and Mars Rover fandom.

FANGAME – A video game made by fans based on existing stories or gameplay – just for fun! (Not for commercial purposes because that would be copyright infringement.)

GAIA – In the Greek mythology, Gaia is a titan and the ancestral Mother Earth. In the video game project, the name Gaia is used to symbolically represent Persephone becoming the best version of herself.

GAME MECHANICS – The rules and controls behind how a game works. All games from the simple (like tic-tac-toe) to the complex (like commercial video games) have game mechanics.

GINISANG MUNGGO – A Filipino mung bean stew that often includes ingredients like onion, tomato, garlic and other vegetables.

HANTU – A word in the Malay language meaning "ghost".

LORE – The collective histories and knowledge about a specific universe. It can refer to any fictional world, such as fantasy or sci-fi, like "Banyan High lore", or it can also refer to real world knowledge tradition in a real subject area like "basketball lore".

MAKER – The maker culture is a growing Do-It-Yourself movement for technology and crafting. Makers are encouraged to tinker around with existing parts or combine different parts to create something new. Problem solving in this context often requires both technical and design skills. The workspace for a community of makers is called a Makerspace.

PERSEPHONE – In the Greek mythology, Persephone is the goddess of nature and spring. Nadia and Priya are inspired by her and choose her name for the video game character who has abilities to restore the environment.

PONTIANAK – A female spirit from the Southeast Asian folklore.

ROLE-PLAYING GAME – Often shortened to RPG, it is a genre of game in which players take on the role of a character in a fictional setting.

VISUAL NOVEL GAME – A genre of interactive game that relies mainly on text-based narrative which may have a single or multiple endings. The games with multiple endings will allow the player's choices to control the narrative outcome.

WIKI – It is a documentation that serves like a user manual for programmers. Every programming language has its own code wiki. This is different from Wikipedia, the popular online encyclopedia.

NADIA'S THOUGHT PROCESS

In *The Makers Club: Game On!*, Nadia and Priya took a few months to create their visual novel game for their science project. However, professional game developers can take years to build just one video game! It can be a very lengthy and time-consuming process. Nadia knew she had to start somewhere, and the best way to do that, was to brainstorm for ideas. Here's what she did!

NADIA WANTS TO DO A COMIC

RESEARCH ON COMICS

*This book sparked her interest in games.

RESEARCH ON GAMES

- COMPONENTS OF A GOOD GAME
  - AWESOME CHARACTER DESIGN
  - RICH WORLD BUILDING
  - FULL MECHANICS THAT MAKE SENSE WITH THE STORY
- STORY TOOLS
  - DIALOGUE CHOICES
  - INTERACT WITH ITEMS
  - FIGHTING
  - BACKGROUND INTERACTION
  - BECOMING THE CHARACTER
- TYPES OF GAMES
  - PUZZLE
  - ACTION GAMES
  - PLATFORMER
  - VISUAL NOVELS
    - ASSETS NEEDED
      - MUSIC
      - BACKGROUNDS
      - CHARACTERS

WHAT IS YOUR THOUGHT PROCESS LIKE WHEN YOU'RE BRAINSTORMING FOR IDEAS?

DISCUSSION QUESTIONS

1. Describe Nadia's and Priya's characters. How are they different? How are they similar?

2. Why do you think they didn't get along at first? Can you think of a time when you and your teammates did or did not get along? Why was that so?

3. In their project, what were Nadia's and Priya's roles? Did you think they were able to work together effectively? What were their respective goals and do they complement each other?

4. When Miss Tilly was teaching Priya and Nadia the basics of video game coding, she went at a brisk pace and Nadia struggled to keep up. If you were Nadia, what would you have done?

5. Priya lost her laptop, which was key to the project. Have you ever encountered a setback and what did you do?

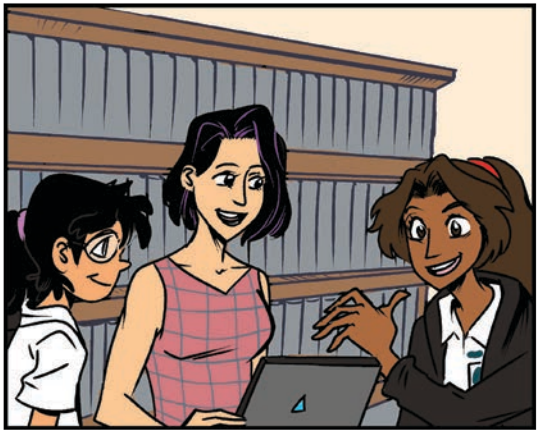
6. What do you do when you face a subject you have absolutely no clue about? What are the steps you can take to learn?

7. Do you have a makers club in your school or neighbourhood? What are the activities conducted there?

8. There are many kinds of video games! If you wanted to make a game, what kind of game would you make?

9. Nadia likes to draw Banyan High fan art in her free time. Do you draw fan art or write fan fiction in your free time too? Which fandom are you part of?

10. Apart from video games, can you find other situations where art and technology work well together?



PUTTING TOGETHER A COMIC BOOK IS TOUGH! THERE ARE MANY STEPS THAT GO INTO CREATING A COMIC BOOK. IN *THE MAKERS CLUB: GAME ON!*, DIFFERENT PEOPLE WERE RESPONSIBLE FOR EACH STAGE OF ITS PRODUCTION. THE ENTIRE PROCESS OF CREATION MAY BE DIFFERENT WITH EACH CREATIVE TEAM. HERE IS A SNEAK PEEK BEHIND THE MAKING OF THIS BOOK!

STORY PLANNING AND SCRIPT

Reimena the writer started the project by planning out how she wanted the story to unfold. She then wrote the comic script! It describes the scenes and what happens on each page, as well as the characters' dialogue. This is important because it lets the illustrator, letterer, and editor know what the writer has in mind for the story.

Page 48:

Panel 1 (inset):
Next day, in the library.
Nadia and Priya are helping Miss Tay carry a stack of books on coding and game design. Nadia slams her stack down on a free table, looking pleased at their collection. The first book on that stack is Making Video Games 101 (will come up again in a later page).

Panel 2:
1. Nadia: There! Those are all the books we need.

Panel 3:
2. Miss Tay: Hooray! I'm so excited!
3 . Miss Tay: So what do you two know about coding?
4. Nadia: Nothing! I can't wait to learn what it is --

Panel 4:
5. Priya: (jumps in, excitedly) Oh! Oh! I attended a boot camp last year and we learned about how to build apps and websites.

Panel 5:
6. Narration (Nadia): Wow, this is the first time I've seen Priya this energetic.
7. Priya: I was the fastest coder! I love coding!

Panel 6:
8. Miss Tay: (laughs as she types on her laptop) Haha! Woah there. You're bursting with passion! I love it.
9. Miss Tay: But…coding games is going to be different from coding for apps and websites.

Panel 7:
Miss Tay is already on the landing page of a free, for-kids website about the basics of coding. CODE FOR KIDS. LESSON 1.
10. Miss Tay: Let's start with the basics first, okay?

PENCILS

Using the script as a guide, Tintin the illustrator then sketched out the pages digitally, using a tablet. The Pencils are the most time-consuming step because she needs to consider things such as the characters' expressions, the composition in each panel and even little details in the environment such as the *Banyan High* posters in Nadia's room! As you can see, the sketches are pretty rough.

INKS

At the Inks stage, Tintin created a new layer on top of the Pencils and went over the sketches, this time round drawing with cleaner lines and adding in any details she might have left out during the pencils stage. Once that was done, the linework was more or less final!

COLOURS

It's back to Reimena for Colours! As you can see, Reimena decided to go with a cheery colour palette. Don't you think adding colours adds a whole new dimension to the comic?

LETTERS

Last but not least, the speech bubbles and dialogue were added in by Melanie the letterer. There is a whole art to Lettering that most people don't realise! For example, she had to make sure the speech bubbles did not block any important elements such as the characters' faces, and place them so that they are read in the correct order.

SO THAT WAS THE LONG, CREATIVE PROCESS BEHIND THE MAKERS CLUB: GAME ON! THERE WAS A LOT OF TEAMWORK INVOLVED, AND MANY ROUNDS OF DISCUSSION. BUT SEEING EVERYTHING COME TOGETHER WAS ALL WORTH IT!

INTERVIEWS WITH GAME PROFESSIONALS

HAVE YOU EVER WONDERED WHAT CREATING A VIDEO GAME IS LIKE? HEAR FROM SOME GAME DESIGNERS AND CODERS! TO READ MORE OF THEIR INTERVIEWS, HEAD TO HTTP://QRD.BY/THEMAKERSCLUB1 OR SCAN THE QR CODE.

AIYSHA PLEMPING

GAME ARTIST

TELL US ABOUT WHAT YOU DO!

"I am currently a User Interface (UI) artist working on mobile games. I design mockups and art and make sure things feel good for the user. In addition to creating mockups, I also deal with graphic design, icon creation, and interface integration."

WHAT ADVICE WOULD YOU GIVE TO AN ASPIRING GAME ARTIST?

"Work on your fundamentals. It doesn't matter if you are a character artist, 3D artist, or UI artist. You'll be surprised how much easier your life will be if you have a strong foundation. Get to know people! I don't like networking, but it is useful. Also, manage your expectations. The games industry is, quite frankly, pretty brutal. You face deadlines, difficult people, pressure from all sides, long hours, and lots of challenging work. Burnout will happen, and you have to be prepared for it. Even so, if you ever feel alone and feel inadequate because of burnout, remember — even the best of us have experienced it. Remember why you love what you do and try to find that again."

WHICH GAMES DO YOU MOST ENJOY?

"I like puzzle games and casual match 3 games nowadays. I used to play lots of *Red Alert* and *World of Warcraft*, but it's pretty difficult to find time for them now. Recently I picked up *Final Fantasy XIV* and that has just been a glorious trip for the eyes!"

KO WAN LING

GAME DESIGNER

TELL US ABOUT WHAT YOU DO!

"I come up with events, features and/or concepts for games, and work with the team on realising these concepts. Every day, I check the current status of the live game: make sure everything is running right, read up on the players' opinions on the forums, see that our sales are doing well. All these live happenings are fed back into my design process and will influence any design balancing I have on hand at that moment, or later on in new upcoming features."

WHAT ASPECTS OF CODING OR GAME DESIGN DO YOU ENJOY?

"The coolest thing about game design is that you always start off with just scraps of paper, or messy drawings on whiteboards, and you watch these ideas come to life together with your team. And when you see actual players playing your game, and enjoying it, there's this really gratifying feeling that bubbles up and makes you want to make more games that are even more fun and exciting. There are also times when you think you've made the most awesome feature ever, but players just hate it. Despite that, I really enjoy the mix of emotions from all parties every time you deliver a feature you designed, which I think is something that's really unique and emphasised in games.

The game designers' main role is to manage the overall direction and balancing of the game economy, but we can also touch on the narrative and marketing aspects, and even some basic art direction or concept prototypes. There are so many things that we can do as game designers that it's rarely dull when we go to work. And of course, we also need to regularly play up-and-coming games on the market in order to keep ourselves updated on the latest design trends, which really isn't a chore for me.

I don't really code much nowadays as a game designer, but personally, my favourite part about coding is when I manage to get something working. It makes me feel like I've just solved the world's hardest sudoku puzzle."

SARAH TAN

GAMEPLAY ENGINEER

TELL US ABOUT WHAT YOU DO!

"Since my company is a startup, I get to wear many hats, which is really fun! It allows me to program almost every part of the game, from the server and databases all the way to the user interfaces and menus, which is an opportunity you don't get at big companies."

WHAT IS THE PROCESS LIKE FOR DEVELOPING A GAME?

"*Rec Room*, the game I am working on, is continuously updated with new features, so our development process will look different from traditional game companies. For us, each large feature is a 'project', and we usually begin by asking ourselves what we are trying to achieve with the feature.

If it's a feature requested by the players, what do they really want, and how can we generalise the solution? We also come up with goals and how to measure them. For example, we might want players to understand that there are many user-created rooms, and measure that with the percentage of players who go to a user-created room during their first session.

Next, a designer will come up with a design document breaking down that large feature into smaller ones, and detailing the different user flows.

At this point, we do a project kickoff meeting, where we sit down and start planning and asking questions. Such as: What is the testing plan like? How long do we need to complete it? Who needs to be on this project team? Are any art assets required?

Once that's done, the programmers start coding. There will definitely be questions which arise during this stage, and that's where the goals help us make decisions — we're constantly asking ourselves, 'Does doing this thing a certain way help us achieve any of the goals?'

Throughout this whole process, we're constantly testing, and when the main feature work is done, we do a broader test with the Quality Assurance (QA) folks. If it passes their tests, the project is good to go and can be shipped out to players, or else we fix any bugs and submit it for testing again."

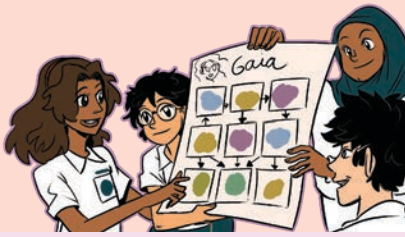
ABOUT THE CREATORS

REIMENA YEE

Reimena Yee is an illustrator, writer, and designer hailing from the dusty metropolis of Kuala Lumpur. She once was a STEM student with the wish to enter academia, but left to pursue a passion for the world and all of the histories and cultures within it, which she weaves into her art and stories. She is the author-illustrator of the gothic comics *The World in Deeper Inspection*, the Eisner and McDuffie-nominated *The Carpet Merchant of Konstantiniyya*, and *Séance Tea Party*. Elsewhere, she is the co-founder of UNNAMED, a comics collective that aims to build community and resources for visual-literary creators in Southeast Asia, through workshops, panels and partnerships. She can be found at www.reimenayee.com.

TINTIN PANTOJA

Philippine-born artist Tintin Pantoja graduated with a BFA in Cartooning and Illustration from the School of Visual Arts in NYC, having acquired a love of comics from early exposure to Hergé's *Tintin*, *Archie*, and the *X-Men*. She has been illustrating comics since 2007. Among her works are adaptations of *Hamlet*, *Pride and Prejudice*, and the educational middle-grade *Manga Math* series. She divides her time in Manila between making comics, caring for her four dogs, and scouring the web for fountain pens. You can see more of her work at www.tintinpantoja.com.



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LOOK OUT FOR

THE MAKERS CLUB

BOOK 2

Childhood friends Aqilah and Yong Qiang have lost touch over the years. When they are unexpectedly reunited in Pangolin Secondary School, they discover that things are very different and life seems a lot more uncertain than it once was. Together, will they be able to convince their friends, family, and, more importantly, themselves that they're ready for independence?

Find out how the founding members of The Makers Club forged a friendship that would change their lives forever.