VIETNAM NATIONAL UNIVERSITY

HO CHI MINH CITY UNIVERSITY OF TECHNOLOGY

FACULTY OF COMPUTER SCIENCE AND ENGINEERING

Software Project Management (CO3012)

Lab 1

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Lesson 1

Exercise 1. Learn some open sources that support project management similar to MS Project.
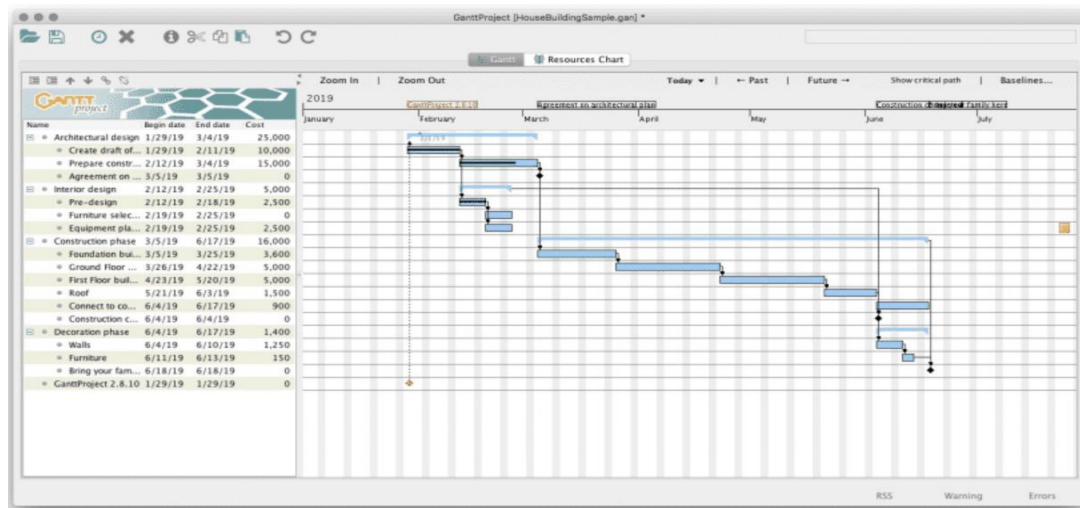
monday

monday.com Work OS is much more than just a project management application. It is an easy-to-use platform that helps teams collaborate, meet deadlines, and foster a transparent culture. In Monday.com, you can manage a single project in a variety of ways. It can mold your workflow to fit your team's needs - for any project, process, department, or customer. The best features of Monday.com are the ability to prioritize what is most important to your team, set project timelines, milestones, and dependencies, and manage your entire team's workload in one place.
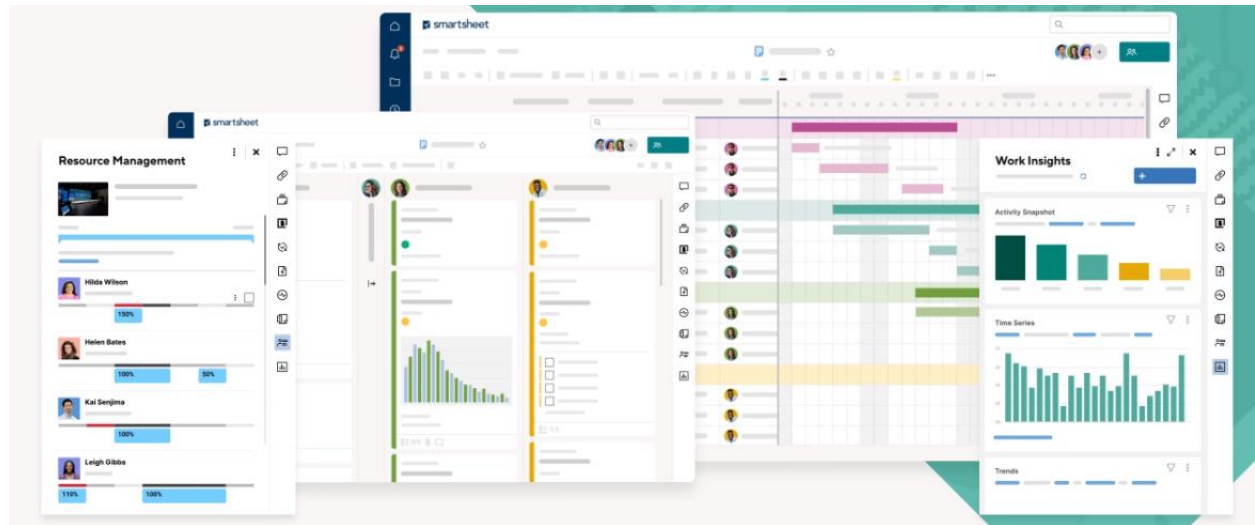
GanttProject

GanttProject was founded in 2003 and has since released countless minor and major updates. GanttProject can still open documents created years before in 2022. It is a cross-platform desktop tool for project scheduling and management. It runs on Windows, Linux, and MacOSX, is free, and its code is open source.

Some highlights about GanttProject:

- **GanttProject is easy to use:** the user interface is simple, intuitive, and uncluttered, allowing you to break down the work, create a Gantt chart, assign resources, and calculate project costs in minutes.

- **GanttProject is mature, popular and trusted:** GanttProject is downloaded by tens of thousands of people every week. They can be found in nearly 200 countries across all continents and speak more than 25 languages.

- **GanttProject is Free Software:** All GanttProject packages are completely free. You can choose a paid download and pay as much as you want to help those who work on GanttProject. GanttProject is free software distributed under the GPL3 license. Under the terms of the GPL3, you can download the source code, modify it, and redistribute it.

smartsheet

smartsheet is a service offering for collaboration and work management that uses a tabular user interface to assign tasks, track project progress, manage calendars, share documents, and manage other work. According to their website, Smartsheet is the only platform that can scale from a single project to end-to-end work management, connecting businesses on a no-code, cloud-based platform where anyone can create the solution they require — backed by the control and security IT demands.

Exercise 2. Suppose you are a Project Manager. Create a Project and set a schedule for each team member. (Bookstore management system).

1. Khoảng 50 nhân viên
2. kho phân phối, có 7 nhân viên quản lí kho
3. mỗi actor như thế nào, lượng tồn kho, doanh thu, thống kê doanh thu theo tháng, quý, năm

   ▪ Nhân viên tạp vụ : 8tr/ tháng + 1tr phụ cấp : 3 người 1 chi nhánh = 9 người = 81tr

   ▪ Nhân viên bán hàng : 10tr/tháng + 1tr phụ cấp : 8 người 1 chi nhắn = 24 người = 264tr

   ▪ Kế toán: 10tr/tháng + 1tr phụ cấp: 3 người = 33tr

   ▪ Quản lí cửa hàng: 13tr/ tháng + 1tr phụ cấp = 1 * 3 = 3 người = 42tr

   ▪ Nhân viên kho: 11tr/ tháng + phụ cấp = 7 người = 77tr

   ▪ Bảo vệ : 8tr/tháng + 1tr phụ cấp 2 người = 6 = 48tr

   ▪ Tổng: 45 nhân viên

- ▪ Mặt bằng: 100tr/tháng * 4 = 400tr
- ▪ Chi phí vận hành : 20tr / chi nhánh + kho = 80tr
  - ▪ Tổng lương nhân viên: 545tr/ tháng
  - ▪ Tổng chi phí: 1,025 tr / tháng
4. 500tr/3 tháng

APP REQUIREMENT
1. Actor:
   - ▪ staff - level 1 : Chấm công
   - ▪ staff - level 2: Chấm công, access vào kho sách để xem lượng sách còn, ở chi nhánh nào, vv để chăm sóc khách hàng
   - ▪ manager: staff lvl 2 + quản lí staff lvl 1 + staff lvl 2 + kế toán
   - ▪ Kế toán: chấm công, access tài chính để kiểm toán, báo cáo
   - ▪ admin của system: thêm, bớt nhân viên, vv
   - ▪ Chủ: Xem được cả 3 chức năng

2. Chức năng:

   - ▪ Quản lí nhân viên: tính ngày công, ngày nghỉ, ngày trễ, chấm công, phạt , thưởng doanh thu/năng suất
   - ▪ Quản lí sách: Quản lí số lượng sách trong kho, số lượng sách bán ra ở từng cửa hàng, số sách bán online
   - ▪ Quản lí tài chính: Quản lí lượng tiền ra tiền vào, doanh thu của từng chi nhánh, doanh thu online, so sánh doanh thu để người chủ có thể phân tích
   - ▪ Bán sách: Để nhân viên thu ngân thanh toán và nhân viên sales nhận đơn từ sàn thương mại điện tử.

3. Outcomes :
   - ▪ Giúp chủ quản lí nhân viên dễ dàng hơn
   - ▪ Giúp tiếp cận nhiều đối tượng hơn với việc bán hàng trên các sàn e-commerce
   - ▪ Giúp chủ quản lí tài chính dễ dàng hơn
4. Development cost
   - ▪ 4 dev:
     - ▪ 1 FE dev: 20tr/ tháng x3 = 60tr
     - ▪ 1 BE dev : 25tr/tháng x3 = 75tr

- 1 Full-stack 25tr/tháng x3 = 75tr
- 1 Lead : 30tr/tháng x3 = 90tr Tổng 300tr

- Chi phí hoạt động của hệ thống: 15tr/tháng
- propose cho khách hàng các mức giá khác nhau, cấu hình thế nào
- Thưởng cuối dự án : Lead 100tr. Còn lại chia đều cho các thành viên

5. Timeline:

Tên công việc	Timeline
Phân tích các requirement	Tuần 1 (ngày 1-3)
Đưa ra các đề xuất khả thi (về công nghệ, phân công nhân lực,...)	Tuần 1 (ngày 4-5)
Thiết kế hệ thống (cơ sở dữ liệu, CI/CD, ...)	Tuần 2
Hiện thực hệ thống	Tuần 3 - Tuần 10
Kiểm thử hệ thống	Tuần 11
Bàn giao hệ thống + Huấn luyện sử dụng hệ thống + dự phòng	Tuần 12

Lesson 2

Exercise 1. Write a Project Charter and Scope Statement.

Project Charter

Definition: A project charter specifies the scope and objectives of a project, as well as the individuals who will be involved in it (stakeholders)**.** Contains the most important project information to serve as a reliable source of reference.

The following checklist can be used for a project charter:

- A brief introduction to the project's business case
- Project objectives statement
- List of high-level project requirements (time, quality, scope and budget)
- A description of the final product
- A list of known project risks and problems
- Achieving Milestones (including end dates)
- Project budget expected
- List of stakeholders
- Critical success factors list
- A table with the names and responsibilities of everyone on the project team

Scope Statement

Definition: A project scope statement expands on the scope defined in the charter. This must be done in collaboration with the project team. The primary audience for this is the team (it is also useful when reporting to stakeholders).

- The following checklist can be used for a scope statement:
- What are the project deliverables? If we are delivering software, we may also be required to deliver a help manual and training materials.
- What restrictions are in place. Is there a skill that the team lacks? Is a key project member not always available?
- What assumptions do we have about how things will turn out? Are we assuming that we have access to the necessary equipment?

- What are the project's risks? Is there a project team member who possesses a highly specialized skill? What if they decide to leave? Do we expect another team to finish their project first?

- What is out of scopes. Is there anything we should make it clear that we will not deliver? Is there any "non-goals" that need to be stated?

Exercise 2.

a. You celebrate a birthday or a death anniversary at home. Make a plan to see what tasks will be, how many people are required to work, and how much it costs.

Plan

- **Site selection (free):** Choosing a location for the birthday party will affect the party environment, so we must consider the following factors:
  - Weather: The frequent rain makes it more comfortable inside the house.
  - Number of people: 10 (family and friends).
  - Outdoor or indoor activities: both.
- **Preparations**
  - Prepare the house for the party by cleaning and decorating it (200k).
  - Food and drink (200k/person => 2000k).
  - Cake for a birthday (500k).
  - Indoor fireworks (100k).
  - Coal for outdoor barbecue parties (50k).
  - House decoration balloon (50k).
  - Cigarette and ice (100k).
- **Activities**
  - Having meals.
  - Listening to music and dancing.
  - Birthday cake and indoor fireworks celebration.
  - Talking and chatting.

Total cost: approximately 3,000,000 VND (300,000 VND per person)

b. Your family organizes a picnic or camping. Make a plan to see what tasks will be, how many people are needed, and how much it costs.

Plan

- **Choice of location:** Choosing a camping or picnic location is critical because it has a huge impact on the camping experience. Choosing a site takes a variety of factors into account:
    - Camping experience: inexperienced
    - Location distance: a shorter distance reduces travel costs.
    - Total number of people: 15 (family and friends).
    - Level of safety: established camps or national theme parks have lower risks than more remote locations.
- **Choice of date:** create a vote pool for a suitable date, and if there is a majority choice, choose the day.
- **Booking ahead of time:** because the village site is free, there will be no charge to rent a campsite.
- **Preparations:**
    - Tent rental: 4 tents for 4 people for 2 days ((80k + 40k)*4 = 480k).
    - Camping mattress rental: quantity: 2, ((20k + 10k)*2 = 60k).
    - Cooking stove rental: 180k for two days.
    - Cooking set: brought by self, free of charge.
    - Fuel: 100k.
    - Ice carrier: self-brought and free of charge.
    - There is no charge for the flashlight.
    - Sleeping bags: 40k * 15 = 600k.
    - First-aid kit: 600k.
- **Activities:**

- Tent construction: 3 people per tent.
- Cooking area setup: 3 people.
- 1 person checked attendance.

- **Food preparation:**
  - Food: meat, vegetables, fruits, sweets: 200k/person => 3m (15 people)
  - Water: 20k/person = 300k
- **Cleaning up after the picnic:** everyone will pitch in to help clean up the camp site, which will save a lot of time.
- **Transportation:** bus reservation: 200k/person => 3m (15 people).
- **Expenses incurred:** there will be unknown factors that drive up costs: 100k per person = 1.5m.

Total cost: 9,820,000 VND => 9,820,000 / 15 = 655k per person.

c. Your company organized a 2-day trip to Vung Tau. Make a plan to determine the tasks and estimate the cost per person.

Plan

- **Route determination:** Vung Tau has many attractions, including the Front Beach, Back Beach, Jesus Christ statue, Hon Ba isle, and many more. The majority of activities for a group of 30 people will take place on the beach, with some sightseeing in famous places thrown in for good measure. As a result, the path can be as follows:
  - Day 1: arrive at the hotel, have lunch and rest before going to the beach for activities in the afternoon.
  - Day 2: sightseeing in the morning, team building activities on the beach in the afternoon.
- **Choice of date:** create a vote pool for a suitable date, and if there is a majority choice, choose the day. The duration in this case is two days.

- **Booking ahead of time (hotel booking):** 220k / 1 person / day => 13,200,000 (30 people – 2 days).
- **Preparations:**
  - Swimsuits: self-prepare.
  - Sunscreen: self-prepare.
  - Beach mats are $3 each, and 30 people require at least ten mats, so the total cost is $30.
  - $30 for a first-aid kit.
  - Personal belongings: self-brought.
- **Activities:**
  - Team building activities: 20 people.
  - Attendance check: 1 people.
- **Food preparations:**
  - Food: $15/ person (snacks, lunch, and dinner) => $450 (30 people).
  - Water: $2/ person = $60 (30 people).
- **Site cleanup after team building:** everyone will pitch in to clean up the camp site, which will save a lot of time.
- **Transportation:** booking bus: 220k/person = 6,600,000 (30 people).
- **Cost incurred:** there will be unknown factors that drive up costs: $5 per person = $150 (30 people).

Total cost: $1590 => $1590 / 30 = $53 per person.

d. Your class has a year-end party or a picnic. Make a plan to see what tasks will be, how many people are required to work, the duties of each person, and how much each person must pay.

Assume it is the end of 2022, and your class has completed outstanding work throughout the year. Our picnic will be attended by 20 people. Our plan is to visit Ba Den Mountain

and relax there. It is approximately 110 kilometers from Saigon. This location also allows us to hike and picnic together.

Plan

- **Choice of route:** because there are numerous routes on Ba Den Mountain, it is best to ask the tour guide to lead the way.
- **Choice of date:** create a vote pool for a suitable date, and if there is a majority choice, choose the day. The duration in this case is two days.
- **Booking ahead of time (hotel booking):** 220k / 1 person / day => 8,800,000 (20 people – 2 days).
- **Preparations:**
  - Hiking tools: $50.
  - Sunscreen: self-prepare.
  - First-aid kit: $30.
  - Bug, insect repellent: $4.
  - Personal stuffs: self-prepare.
  - Rent a tour guide: $50 a day => $100.
  - Tents renting: 5 tents of 4 people for 2 days (($4 + $2)*5 = $30).
  - Camping mattress renting: quantity: 2, (($1 + $0.5)*2 = $3).
  - Cooking stove renting: $9 for 2 days.
  - Cooking set: self-brought, no cost.
  - Fuel: $5.
  - Ice carrier: self-brought, no cost.
- **Activities:**
  - Tents build: 3 people per tent.
  - Set up cooking place: 3 people.
  - Hiking.
  - Cable car travel: $4 per person => $80.

- Team building activities.
- Sightseeing.
- Attendance check: 1 person.

▪ **Food preparation:**
- Food (snacks, lunch and dinner): $15 per person => $450.
- Water: $1/person = $20.

▪ **Site cleanup after team building:** everyone will pitch in to clean up the camp site, which will save a lot of time.

▪ **Transportation:** booking bus: $2.5/person = $50 (20 people).

▪ **Cost incurred:** there will be unknown factors that drive up costs: $5 per person = $100 (20 people).

Total cost: $1331 => $1331 / 20 = $66.53 per person.

e. Your class does charity at a Center for the lonely elderly or provides relief in flood-hit areas. Make a plan to see what tasks will be, how many people are required to work, and how much it costs.

On the trip to the Center for the Lonely Elderly, ten of our class members and the teacher are in charge. They accept responsibility for the entire class in making an impact on the environment in which we live. The charity will run from the morning until the afternoon, and we have raised approximately 5 million VND. There are about 15 to 20 lonely elders at the center.

Plan

▪ **Choice of date:** Saturday or Sunday because we're all students. So this activity will take place on weekends.

▪ **Preparations:**
- Food and beverages (2000k).
- Hire musical instruments (500k).
- Decorative items (500k).

- **Activities:**
  - Cleaning tree downfall
  - Supply food and drink (3500k).
  - Cooking exercise in the afternoon (400k).
  - Dancing and group talking in the evening.
- **Transportation:**
  - Bus : 5k/person => 100k
- **Cost incurred:** there will be unknown factors that make cost increase: 50k /person = 500k.

Total cost: 5,000,000 VND (500,000 per person).