ITPM Project

Team Members:

Heba Alaa Ahmed Diaa 37-5660
Omar Elmoghazy 37-4185
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Omar ElSobky 37-6244

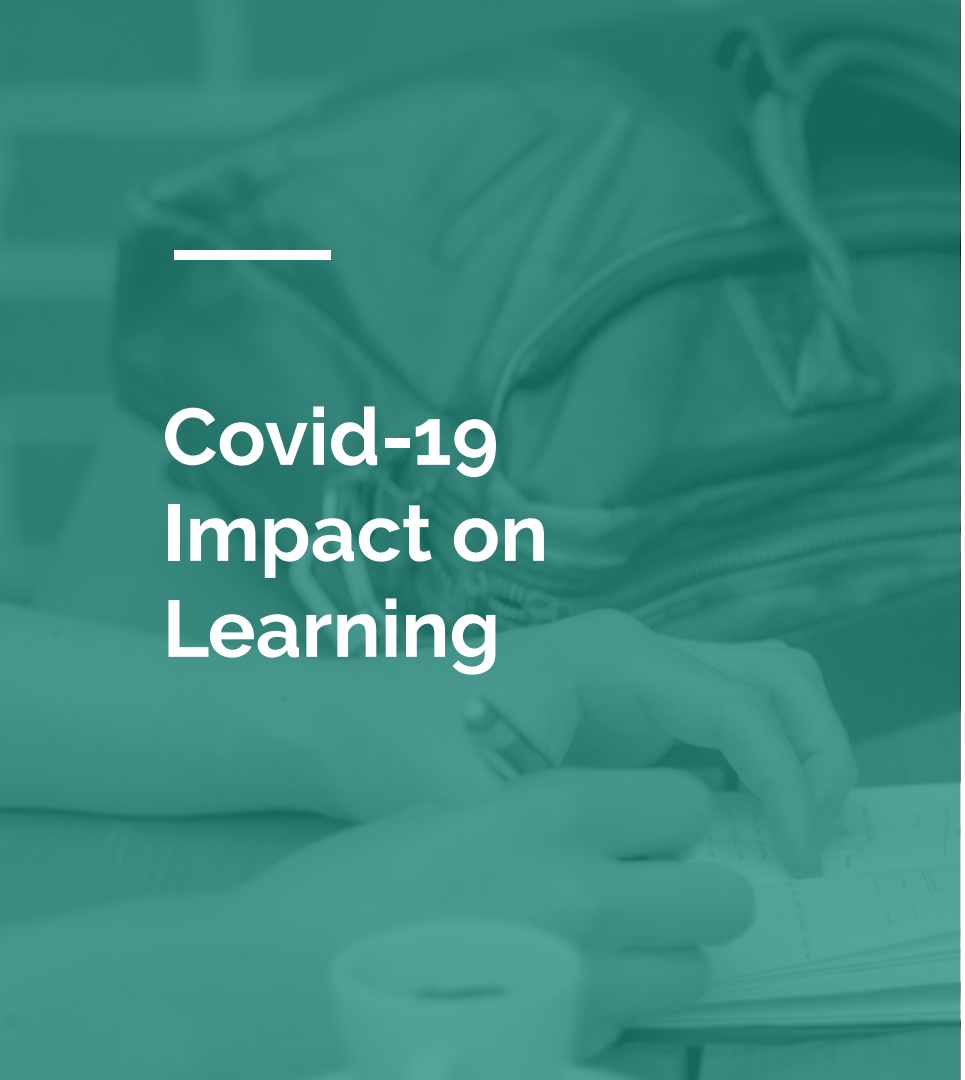
MET
T-18

Knowledge Areas:

1. Integration (Omar ElSobky)
2. Scope (Omar ElSobky)
3. Time (Omar ElMoghazy)
4. Cost (Omar ElMoghazy)
5. Quality management (Aya)
6. HR (Heba)
7. Communication (Heba)
8. Stakeholder management (Aya)

Outline

Problem



Covid-19 Impact on Learning

Lack of

- Interaction
- Communication
- Visualization
- Evaluation

Project Idea

3alemny:
E-learning Platform

- Interactive video platform
- Instant Chat application
- Q&A Section
- Visual playgrounds

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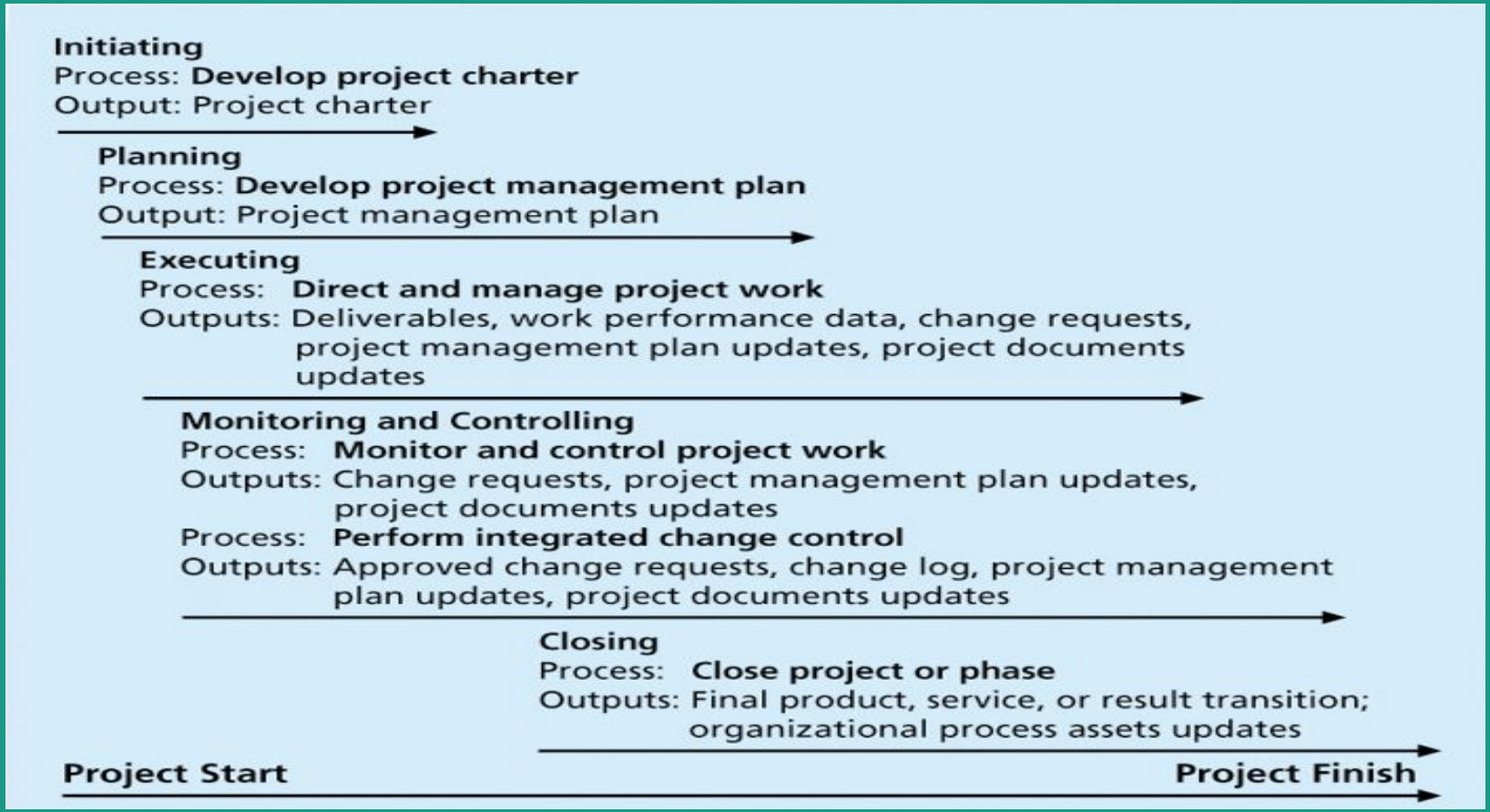
Knowledge Areas & Analysis

1. Integration
2. Scope
3. Time
4. Cost
5. Quality management
6. HR
7. Communication
8. Stakeholder management

1. Integration

Name: Omar El-Sobky

Integration



Project Charter

- A project statement of work
- A business case
- Agreements
- Enterprise environmental factors
- Organizational process assets

3alemny

Project Start Date: June 1
Projected Finish Date: July 1

OVERVIEW

Due to the spread of the new pandemic virus (COVID-19) almost every facility has to be close and its work had to be continued from home. This project is to address the problem of closing the GUC and the goal is to develop a new platform that merges existing application to build a new and more complete platform for E-learning

MILESTONES

Complete the beta version of the software by June 15

Complete production version of the software by July 1

Client GUC

PROJECT MANAGER Omar ElMoghazy

Sponsor GUC

Main Project Success Criteria

The software must meet all written specifications, he thoroughly tested, and be completed on time. The CEO will formally approve the project with advice from other key stakeholders.

Project Management Plan

1. Collecting requirements phase
    a. Interactive video platform
    b. Q&A section
    c. Instant chat application
2. Developing the merged platform
    a. Backend
    b. Frontend
3. Testing
4. Supporting

Executing

- MEETING with team members to assign milestones to finish before a specific deadline using Project management information systems to facilitate the execution throughout meetings
- Release a beta version so we can receive Expert judgment from experts and The GUC’s students can test it and receive a feedback from it.
- Fix the bugs and improve the application
- Keep supporting the Platform as long as the client want to

Monitoring and Controlling

- Changes are inevitable on most projects, so it's important to develop and follow a process to monitor and control changes
- Monitoring project work includes collecting, measuring, and disseminating performance information

- A baseline is the approved project management plan plus approved changes

Change Control System

- The “48-hour policy” will be used to allow project team members to make decisions, then they have 48 hours to reverse the decision pending senior management approval
- Delegate changes to the lowest level possible, but keep everyone informed of changes

Closing

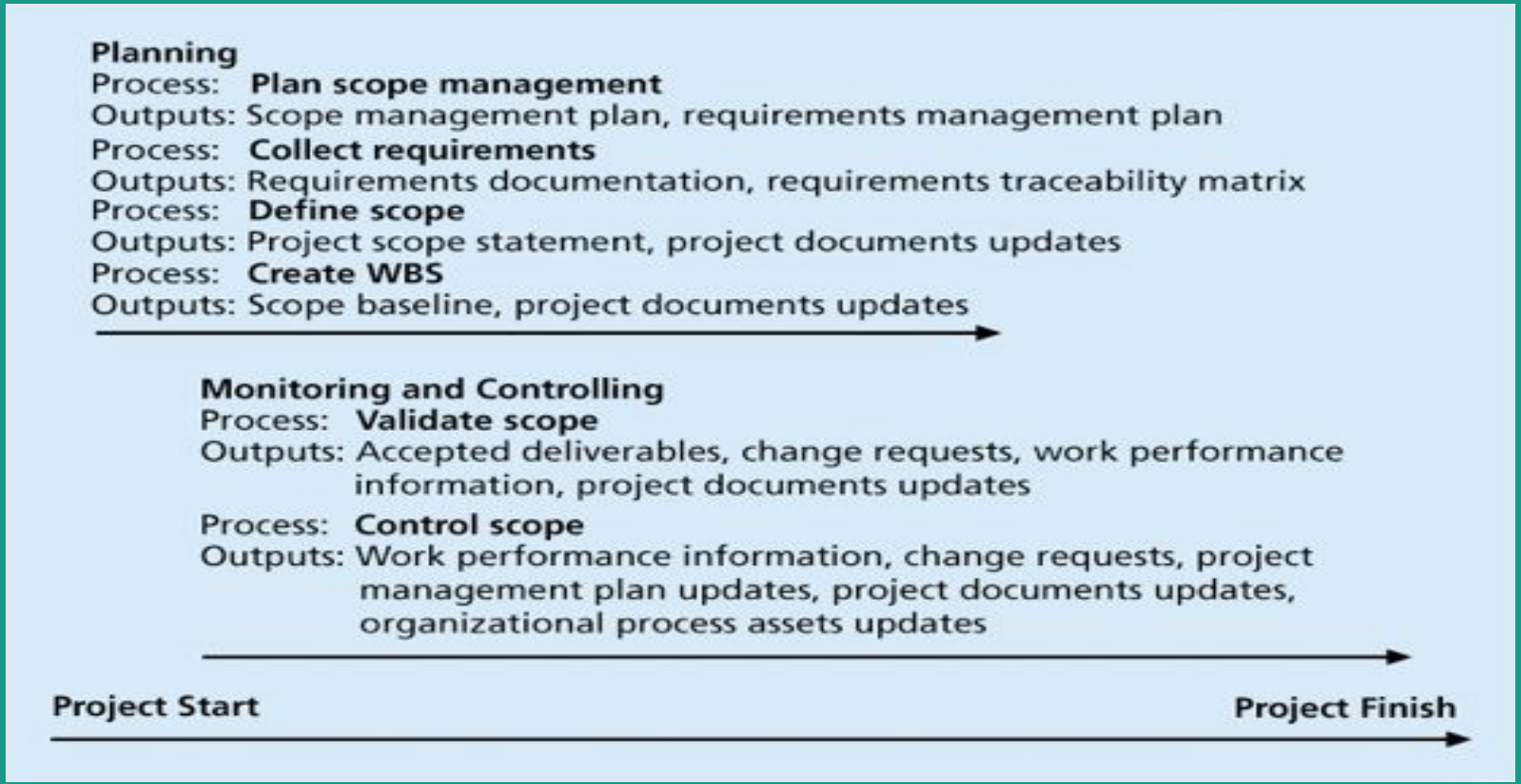
- To close a project or phase, you must finalize all activities and transfer the completed or cancelled work to the appropriate people
- Main outputs include
  - Final product, service, or result transition
  - Organizational process asset updates

Required outcome	Example of oversight	Scenario-based example
Assurance that all the work has been completed	Scope elements are not done, (because they were not of high priority, part of a change request that was approved but not implemented, re-planned to take lower priority, or constantly delayed because of resource (or other) constraints.	The IT team has completed the development of an application. The application was fully tested and accepted by the business and users. A few months later, users look for basic "how-to guides" but never find them, because they were seen as a secondary product and of lesser importance that the application itself.
Assurance that all agreed upon project management processes have been executed	Management processes are overlooked, oftentimes intentionally, on the premise that they are minor, irrelevant, or purely on the premise that the project manager does not have the time, focus, or bandwidth to carry out those processes.	At the end of the application development project, the project manager is required to close the contract with the vendor who provided him with two HTML developers—but hasn't—on the premise that this is a minor administrative matter and everybody knows that the project is over.
Recognizes the formal completion of a project	Stakeholders do not realize that the project is over and continue to treat it as an active project, requesting changes, modifications, additions. This would result in scope creep, as well as tying resources unnecessarily to the project	There is no formal end to the application development project, and hence developers' time is still allocated to that project. They are not free to work on other projects or tasks, and stakeholders continue to view this as a long-term project.

2. Scope

Name: Omar ElSobky

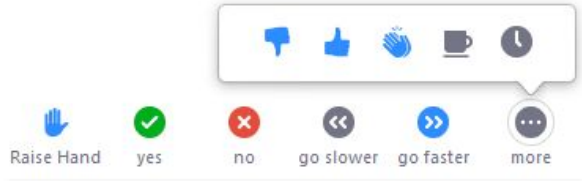
Scope


Planning
Process: Plan scope management
Outputs: Scope management plan, requirements management plan
Process: Collect requirements
Outputs: Requirements documentation, requirements traceability matrix
Process: Define scope
Outputs: Project scope statement, project documents updates
Process: Create WBS
Outputs: Scope baseline, project documents updates
Monitoring and Controlling
Process: Validate scope
Outputs: Accepted deliverables, change requests, work performance information, project documents updates
Process: Control scope
Outputs: Work performance information, change requests, project management plan updates, project documents updates, organizational process assets updates
Project Start
Project Finish

Collecting Requirements

Interactive video platform: Zoom

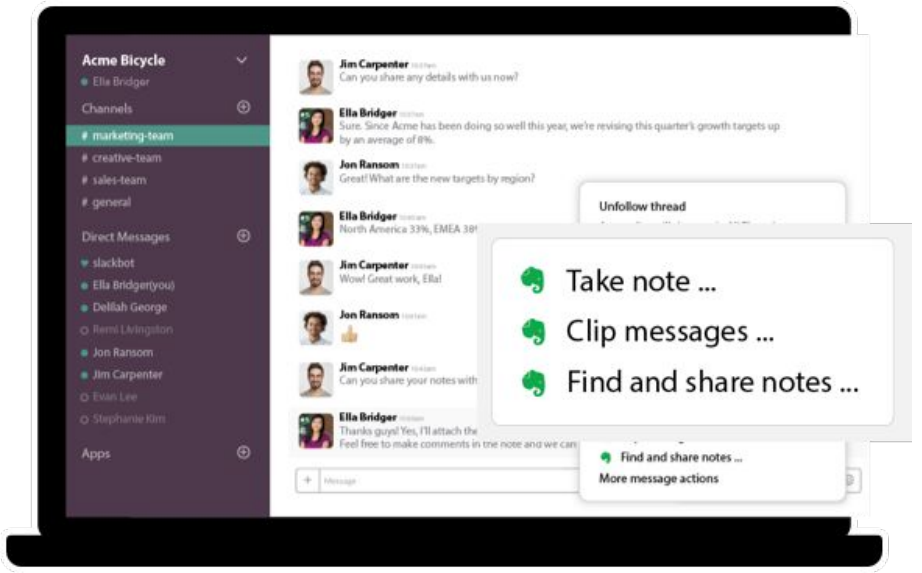
- Conference video calls
- Enable classroom Interactivity
- Classroom control



Collecting Requirements

Instant chat application: Slack

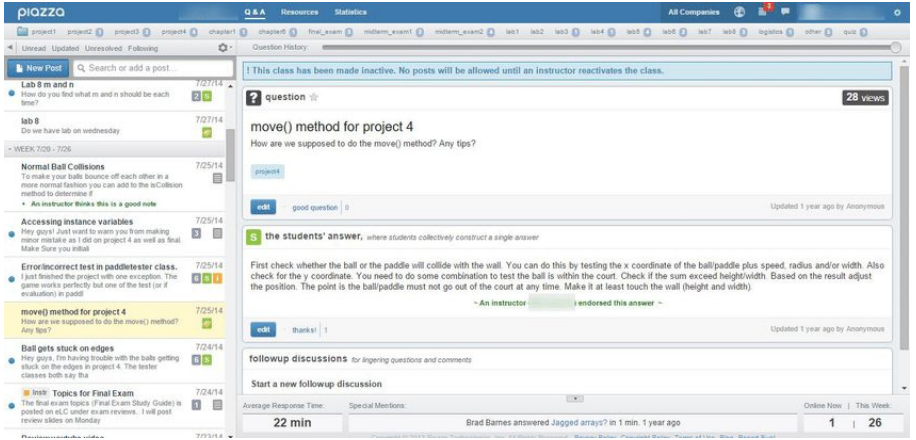
- Instant communication between tutors and students via texts
- Group channels
- Important notes and announcements

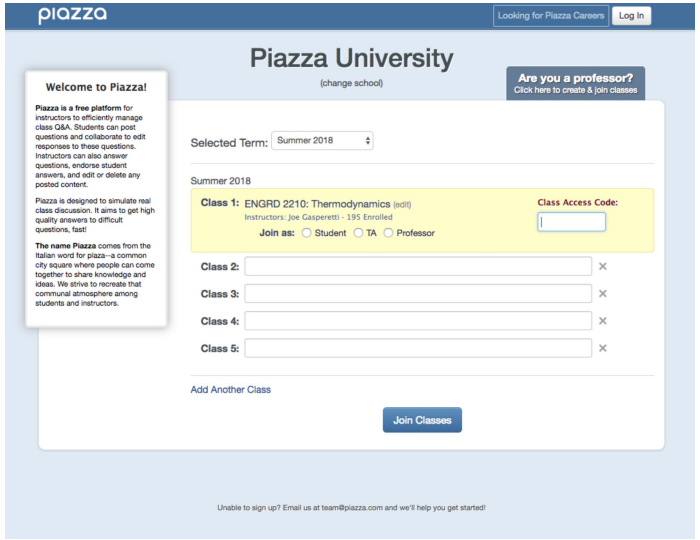


Collecting Requirements

Q&A section: Piazza

- Question Threads
- Valid answers only

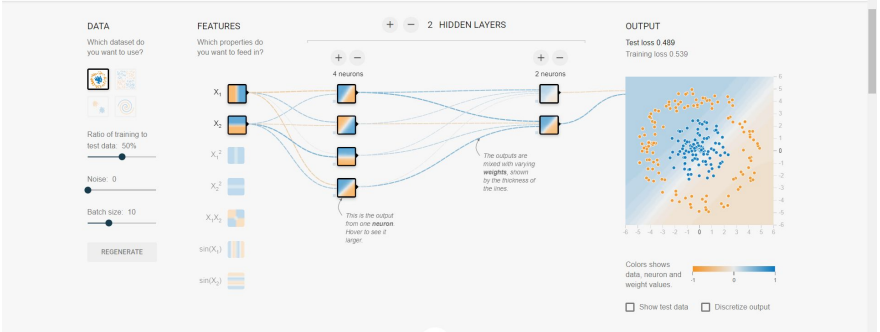




Collecting Requirements

Visual playgrounds:

- Visualization of content
- Easier studying
- Simpler way of teaching



Define Scope

E-learning platform that provides:

- Interactive video platform
- Instant Chat application
- Q&A Section
- Visual playgrounds

Work Breakdown Structure

Level 1	Level 2
1. Develop Front-end	**1.1** Video platform **1.2** Chat platform **1.3** Q&A section **1.4** Playgrounds **1.5** Front-end completed
2. Develop Back-end	**2.1** Video platform **2.2** Chat platform **2.3** Q&A section **2.4** Playgrounds **2.5** Back-end completed
3. Deployment	**3.1** Deploying video platform **3.2** Deploying chat platform **3.3** Deploying Q&A section **3.4** Deploying playgrounds
4. Testing	
5. Deploying full e-learning platform	

Validating Scope

- Rechecking that all the required deliverables were provided
- Initial trial for GUC students
- Collect feedback and evaluate

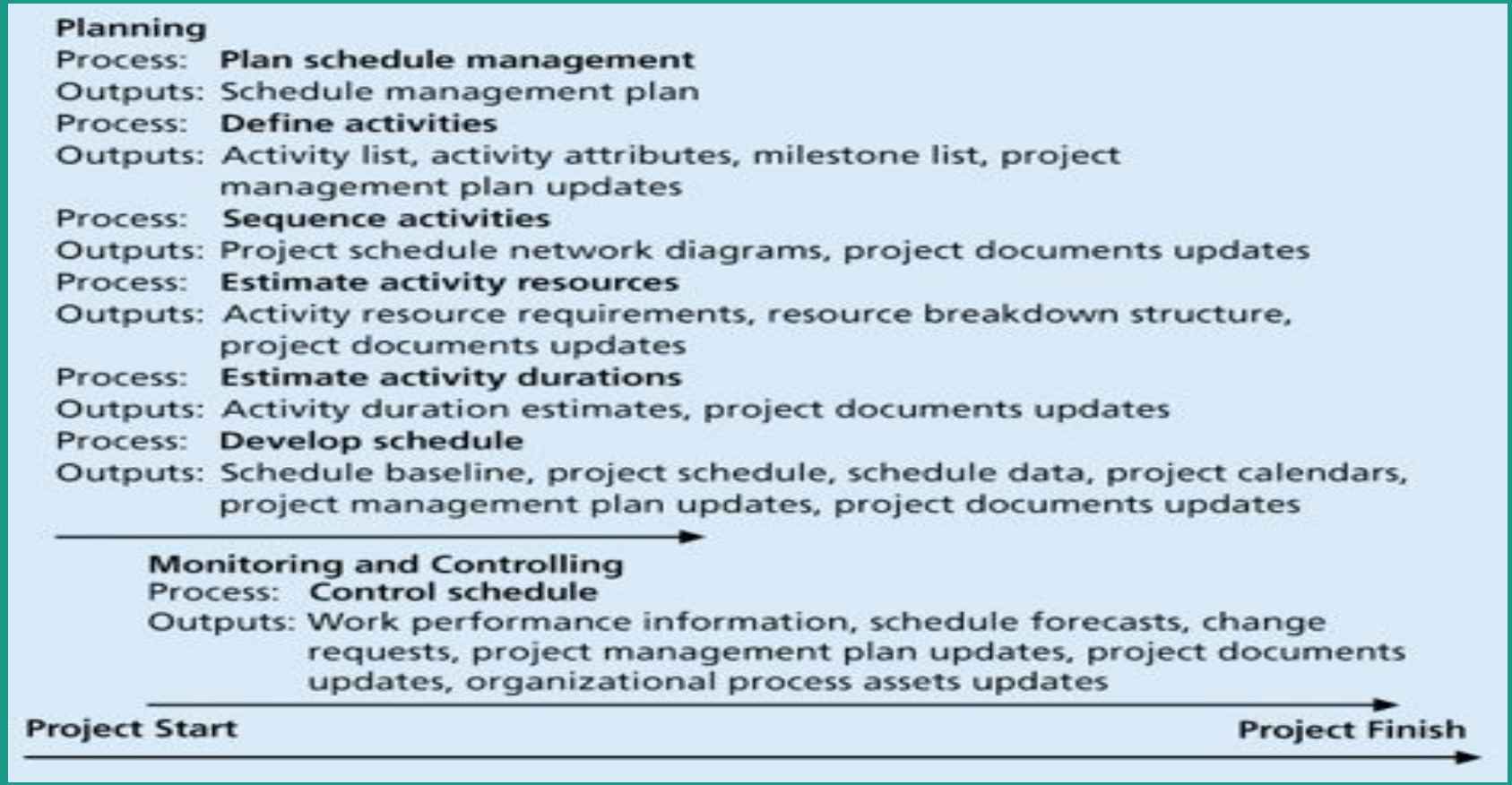
Controlling Scope

- Collecting ideas from students
- Release initial versions and study feedback every time
- Controlling changes without changing the main output

3. Time

Name: Omar Elmoghazy

Time


Planning
Process: Plan schedule management
Outputs: Schedule management plan
Process: Define activities
Outputs: Activity list, activity attributes, milestone list, project management plan updates
Process: Sequence activities
Outputs: Project schedule network diagrams, project documents updates
Process: Estimate activity resources
Outputs: Activity resource requirements, resource breakdown structure, project documents updates
Process: Estimate activity durations
Outputs: Activity duration estimates, project documents updates
Process: Develop schedule
Outputs: Schedule baseline, project schedule, schedule data, project calendars, project management plan updates, project documents updates
Monitoring and Controlling
Process: Control schedule
Outputs: Work performance information, schedule forecasts, change requests, project management plan updates, project documents updates, organizational process assets updates
Project Start
Project Finish

Planning Schedule Management

- 1 month schedule
- Work measured by working hours
- Maximum of 8 working hours per day
- Minimum of 6 working hours per day
- Providing a report of the current outputs every week
    - How many working hours
    - Summary of finished tasks
    - Future adjustments if any

Defining Activities

- Interactive Video Platform:
  - Video conference rooms for each tutorial
  - Video conference rooms for discussions
  - Based on a clearly updated schedule

- Instant Chat Application:
  - Channel for each tutorial
  - Main channel for each subject
  - Channel responsible for important notes and announcements for each subject

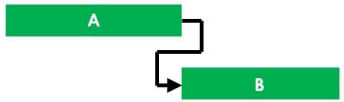
Defining Activities

- Q&A section for each subject that includes:
  - General questions
  - Assignments related questions
  - Project related questions

- Visual Playgrounds:
  - Which subjects would require such thing
  - Create playground where needed with different exercises

Sequencing Activities

- Interactive Video Platform has a *finish to start* relation with all other tasks
- Without the video platform:
  - No information to discuss in tha chat platform
  - No questions to ask in the Q&A section
  - No understanding to use the playgrounds
- All other tasks can developed in parallel



Finish to Start (FS)

Estimating Activity Resources

- Hardware:
  - PCs
- Software:
  - Servers
  - Licensed programs
- Staff:
  - Executives
  - Managers
  - Team leaders
  - Front-end developers
  - Back-end developers
  - Database engineers

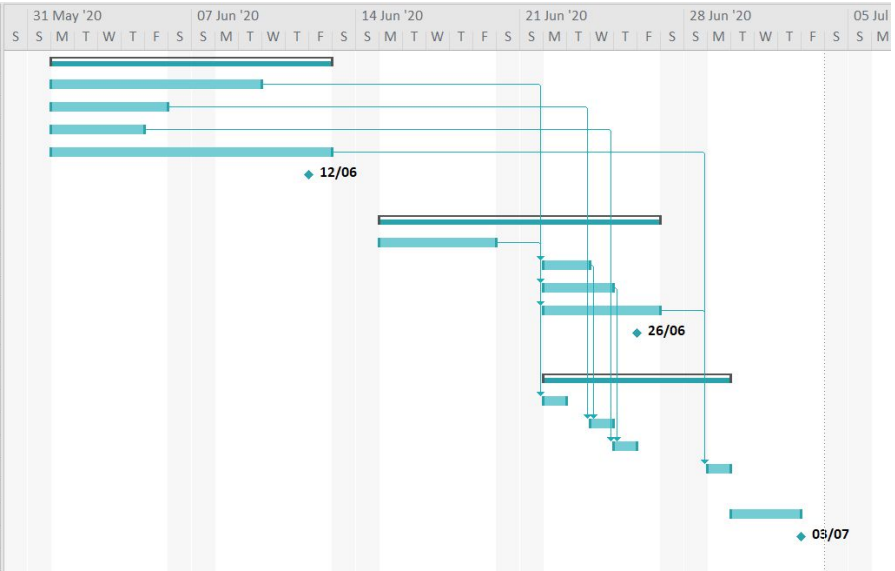
Estimating Activity Durations

Three-point Estimates: optimistic, most likely and pessimistic estimates

- Developing front-end → 5 days | 7 days | 10 days
- Developing back-end → 5 days | 7 days | 10 days
- Testing initial version → 1 day | 2 days | 3 days
- Deploying full e-learning platform → whenever any platform is finished

Developing the Schedule

	Task Name	Duration	Start	Finish	Predecessors
1	**Develop Front-end**	**10 days**	**Mon 01/06/2(**	**Fri 12/06/20**	
2	Video platform	7 days	Mon 01/06/20	Tue 09/06/20	
3	Chat platform	5 days	Mon 01/06/20	Fri 05/06/20	
4	Q&A section	4 days	Mon 01/06/20	Thu 04/06/20	
5	Playgrounds	10 days	Mon 01/06/20	Fri 12/06/20	
6	Front-end completed	0 days	Fri 12/06/20	Fri 12/06/20	
7					
8	**Develop Back-end**	**10 days**	**Mon 15/06/2(**	**Fri 26/06/20**	
9	Video platform	5 days	Mon 15/06/20	Fri 19/06/20	
10	Chat platform	2 days	Mon 22/06/20	Tue 23/06/20	9,2
11	Q&A section	3 days	Mon 22/06/20	Wed 24/06/20	9,2
12	Playgrounds	5 days	Mon 22/06/20	Fri 26/06/20	9,2
13	Back-end completed	0 days	Fri 26/06/20	Fri 26/06/20	
14					
15	**Deployment**	**6 days**	**Mon 22/06/2(**	**Mon 29/06/2(**	
16	Deploying video platform	1 day	Mon 22/06/20	Mon 22/06/20	9,2
17	Deploying chat platform	1 day	Wed 24/06/20	Wed 24/06/20	3,10
18	Deploying Q&A section	1 day	Thu 25/06/20	Thu 25/06/20	4,11
19	Deploying playgrounds	1 day	Mon 29/06/20	Mon 29/06/20	5,12
20					
21	**Testing**	**3 days**	**Tue 30/06/20**	**Thu 02/07/20**	
22	**Deploying full e-learning platform**	**0 days**	**Fri 03/07/20**	**Fri 03/07/20**	



Controlling the Schedule

- Managers and executives supervision
- Team members working 80% of their working time
- Daily meetings discussing all updates
- Compare the delivering timings with the ones in the Gantt chart

4. Cost

Name: Omar Elmoghazy

Cost


Planning
Process: Plan cost management
Outputs: Cost management plan
Process: Estimate costs
Outputs: Activity cost estimates, basis of estimates, project documents updates
Process: Determine budget
Outputs: Cost baseline, project funding requirements, project documents updates
Monitoring and Controlling
Process: Control costs
Outputs: Work performance information, cost forecasts, change requests, project management plan updates, project documents updates, organizational process assets updates
Project Start
Project Finish

Planning Cost Management

- **Studied different cost management plans from other platforms**
- **Conducted several meetings with the stakeholders to agree on:**
  - Units of measuring salary
  - Budgets
  - Contracts

Estimating Costs

Bottom-up estimate:

- Estimating and calculating small tasks and activities
- Summing up to the bigger tasks
- Calculate a total budget

Estimating Costs

Example

	# Units/Hrs.	Cost/Unit/Hr.	Subtotals	WBS Level 2 Totals	% of Total
WBS Items					
1. Project Management				**$306,300**	**20%**
Project manager	960	$100	$96,000		
Project team members	1920	$75	$144,000		
Contractors (10% of software development and testing)			$66,300		
2. Hardware				**$76,000**	**5%**
2.1 Handheld devices	100	$600	$60,000		
2.2 Servers	4	$4,000	$16,000		
3. Software				**$614,000**	**40%**
3.1 Licensed software	100	$200	$20,000		
3.2 Software development*			$594,000		
4. Testing (10% of total hardware and software costs)			$69,000	**$69,000**	**5%**
5. Training and Support				**$202,400**	**13%**
Trainee cost	100	$500	$50,000		
Travel cost	12	$700	$8,400		
Project team members	1920	$75	$144,000		
6. Reserves (20% of total estimate)			$253,540	**$253,540**	**17%**
Total project cost estimate				**$1,521,240**	

Determining the Budget

Assigning the estimated cost to their places accordingly:

- Purchases
- Monthly salaries for employees

Creating a cost baseline

Determining the Budget

Example

WBS Items	1	2	3	4	5	6	7	8	9	10	11	12	Totals
1. Project Management													
1.1 Project manager	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	96,000
1.2 Project team members	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	144,000
1.3 Contractors		6,027	6,027	6,027	6,027	6,027	6,027	6,027	6,027	6,027	6,027	6,027	66,300
2. Hardware													
2.1 Handheld devices				30,000	30,000								60,000
2.2 Servers				8,000	8,000								16,000
3. Software													
3.1 Licensed software				10,000	10,000								20,000
3.2 Software development		60,000	60,000	80,000	127,000	127,000	90,000	50,000					594,000
4. Testing			6,000	8,000	12,000	15,000	15,000	13,000					69,000
5. Training and Support													
5.1 Trainee cost									50,000				50,000
5.2 Travel cost									8,400				8,400
5.3 Project team members							24,000	24,000	24,000	24,000	24,000	24,000	144,000
6. Reserves				10,000	10,000	30,000	30,000	60,000	40,000	40,000	30,000	3,540	253,540
Totals	20,000	86,027	92,027	172,027	223,027	198,027	185,027	173,027	148,427	90,027	80,027	53,567	1,521,240

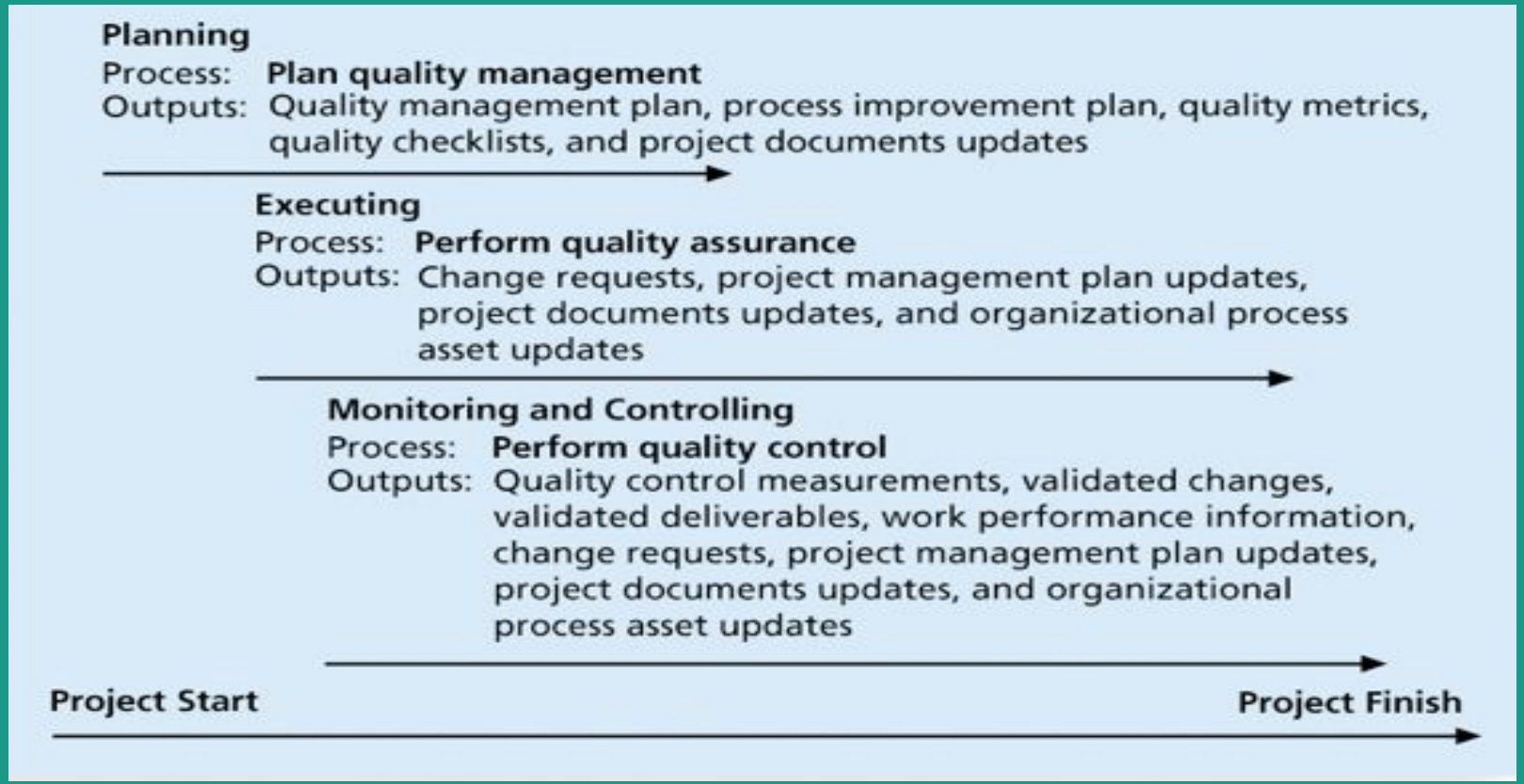
Controlling Costs

- Monitoring output of costs against their amounts
- Keeping track of any added funds due to new changes
- Keeping the shareholders updated regularly

5. Quality Management

Name: Aya Waleed

Quality Management



Planning

- Project manager’s responsibility.
- Metrics to identify the standards of measurements include:
  - Functionality
  - Features : (Interactive video platform, Instant Chat application , Q&A Section and Visual playgrounds)
  - System Outputs: Webpages.
  - Performance
  - Reliability
  - Maintainability: Uploading regular data of the subjects.

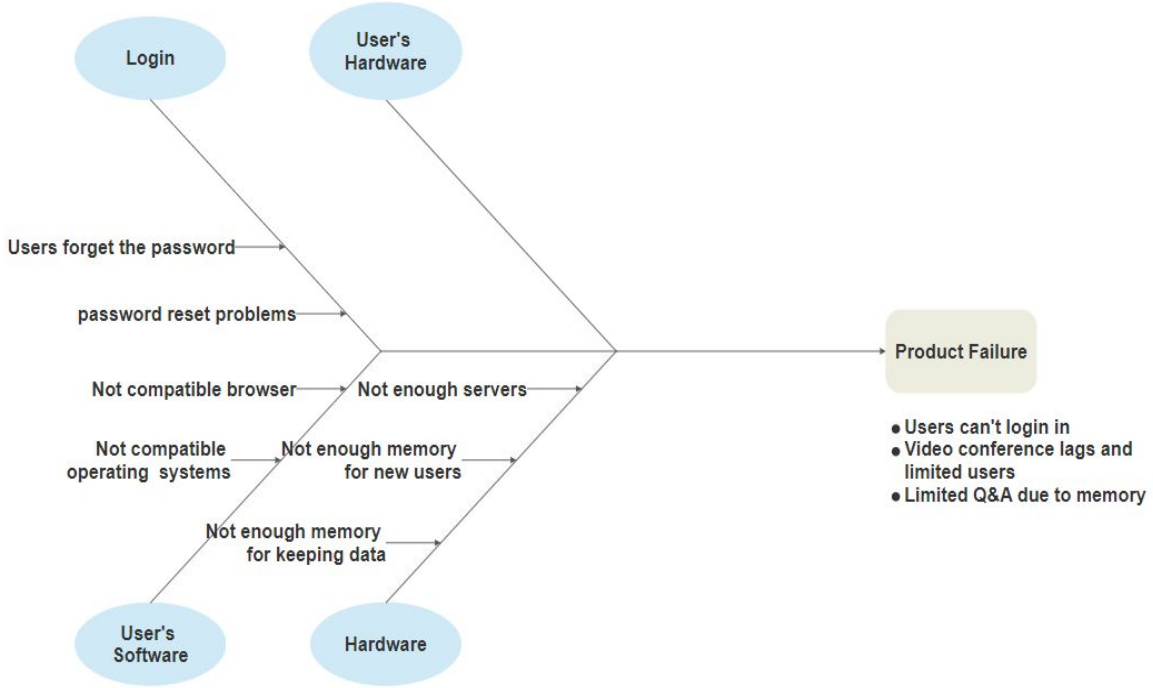
Executing

- Quality Management assurance.
- Benchmarking: Our improvements and quality will be compared with Piazza platform and Slack.

Control

Performing quality control depends on 7 tools:

1. Cause-and-Effect Diagrams



Control

2. Quality Control Charts
3. The Seven Run Rule
4. Checksheet

System Complaints

Source	Day							
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total
Email	𝍸	𝍸	𝍸	𝍸	𝍸		𝍸	12
Text	𝍸 𝍸	𝍸	𝍸	𝍸	𝍸	𝍸	𝍸	29
Phone call	𝍸	𝍸	𝍸	𝍸	𝍸	𝍸		8
Total	11	10	8	6	7	3	4	49

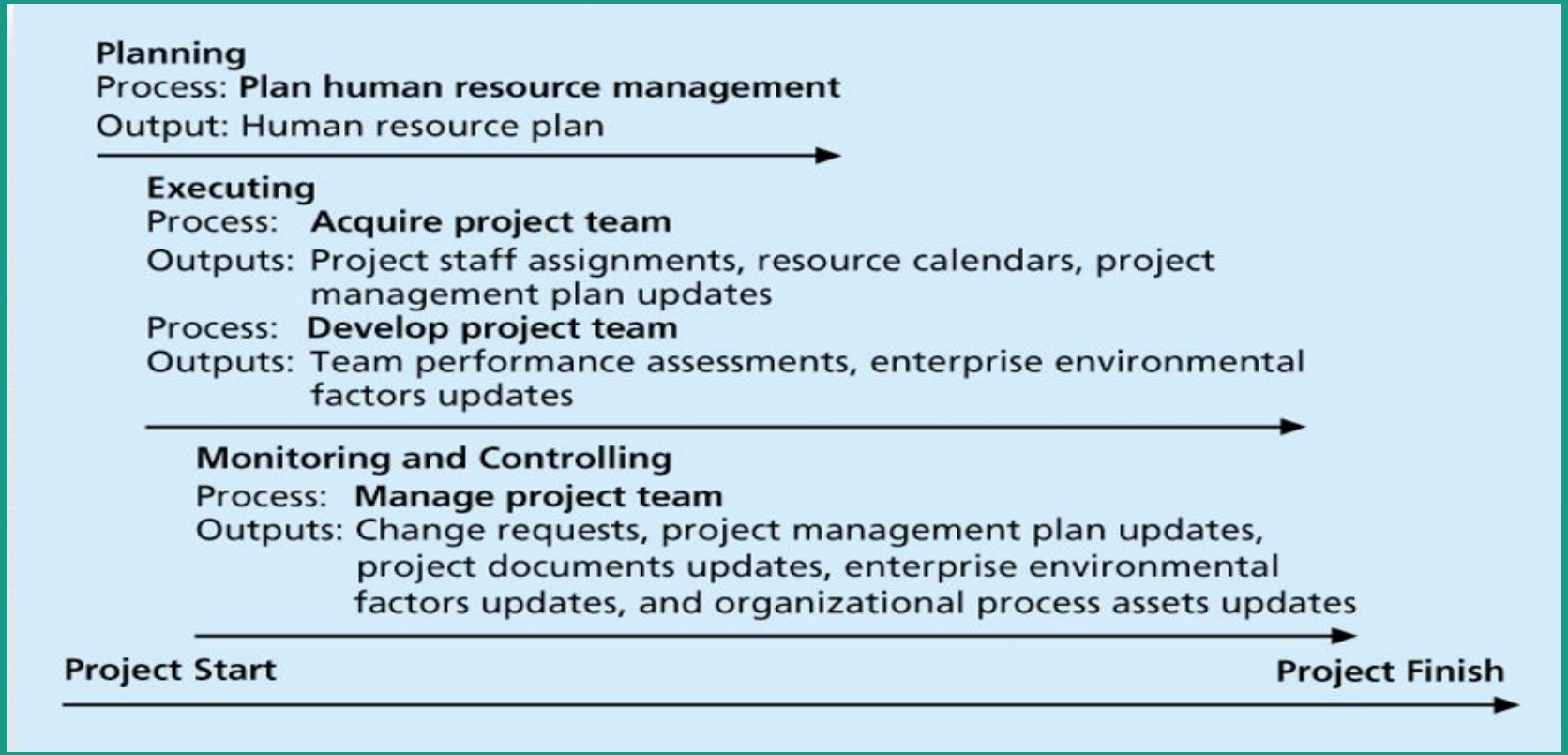
Control

5. Scatter diagram
6. Histograms: to present the frequency of problems that might happen such as lagging of video conference, login issues, not answering the questions, data are not regularly updated, etc.
7. Pareto Charts: to identify the problems and figure out the cause and prioritize them.
8. Six Sigma Quality

6. HR

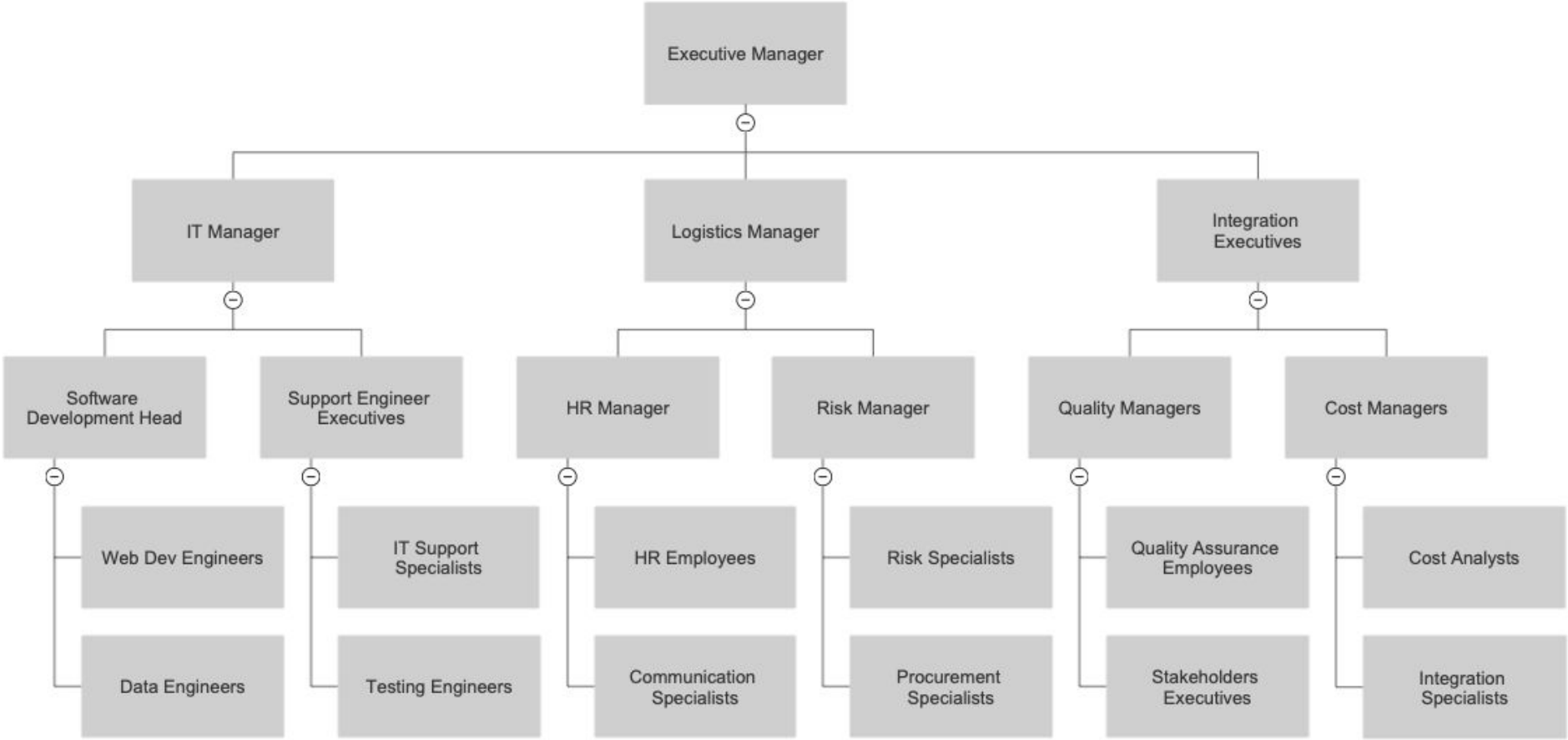
Name: Heba Alaa Ahmed Diaa Abdelrazek

HR


Planning
Process: Plan human resource management
Output: Human resource plan
Executing
Process: Acquire project team
Outputs: Project staff assignments, resource calendars, project management plan updates
Process: Develop project team
Outputs: Team performance assessments, enterprise environmental factors updates
Monitoring and Controlling
Process: Manage project team
Outputs: Change requests, project management plan updates, project documents updates, enterprise environmental factors updates, and organizational process assets updates
Project Start
Project Finish

Planning

- Develop a human resource plan:
  a. **Organizational charters.**
  b. Staffing plan.
  c. Responsibility assignment matrix.
  d. Resource histograms.



a. **Organizational Charter for the project:** 3alemny E-learning Platform

Planning

- Develop a human resource plan:
  a. Organizational charters.
  b. **Staffing plan**: **describes when and how people are added/taken off the project team.**
  c. Responsibility assignment matrix.
  d. Resource histograms.

Planning

- Develop a human resource plan:

c. Responsibility assignment matrix:

Maps WBS tasks to people responsible for their work.

Example:

WBS activities →

OBS units ↓

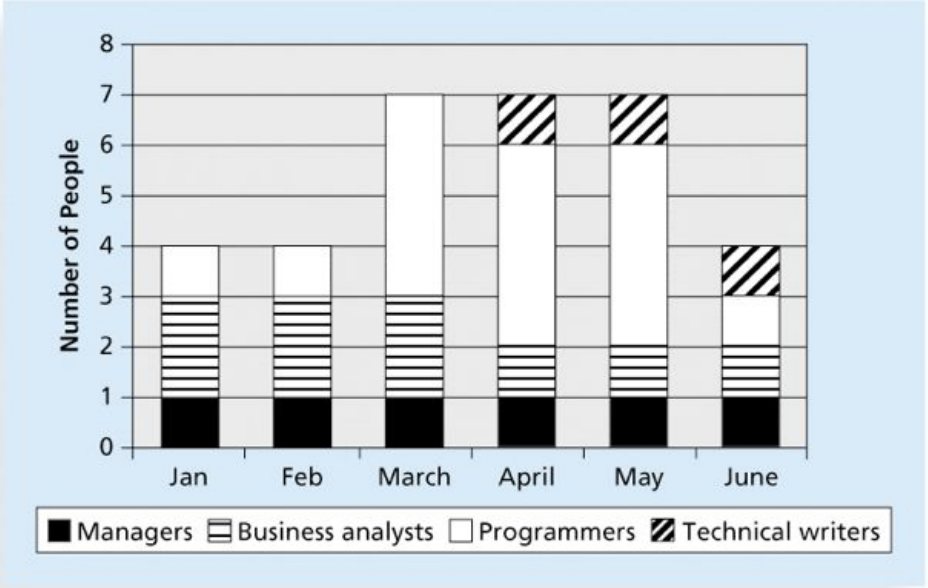
	1.1.1	1.1.2	1.1.3	1.1.4	1.1.5	1.1.6	1.1.7	1.1.8
Systems Engineering	R	R P					R	
Software Development			R P					
Hardware Development				R P				
Test Engineering	P							
Quality Assurance					R P			
Configuration Management						R P		
Integrated Logistics Support							P	
Training								R P

R = Responsible organizational unit
P = Performing organizational unit

Planning

d. Resource Histogram: column chart shows number of people assigned to a project overtime.

Example:



Planning

- Identifying & documenting project roles, responsibilities, & reporting relationships.

- Use Expert Judging, meetings, data representations, & organizational theory.

Executing

- **Acquiring the project team:**
  a. Qualified team members.

  b. 3alemny employees should be dedicated about education & increasing its reach especially in times of hardships like the pandemic.

Executing

- **Developing the project team:**
  a. Build skills to enhance project performance, and help people work effectively together.

  b. Via training, team building activities, rewards, personnel assessment tools.

  c. Outputs team performance assessments and updates.

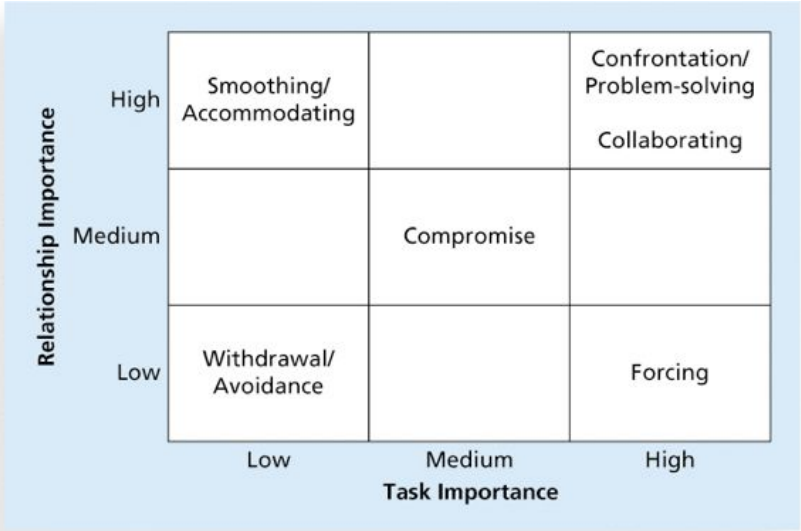
Monitoring & Controlling

- Tracking team member performance, motivating team members, providing timely feedback, resolving issues and conflicts, and coordinating changes to help enhance project performance.

- Outputs: Change requests, updates in project documents & organizational process assets.

Monitoring & Controlling

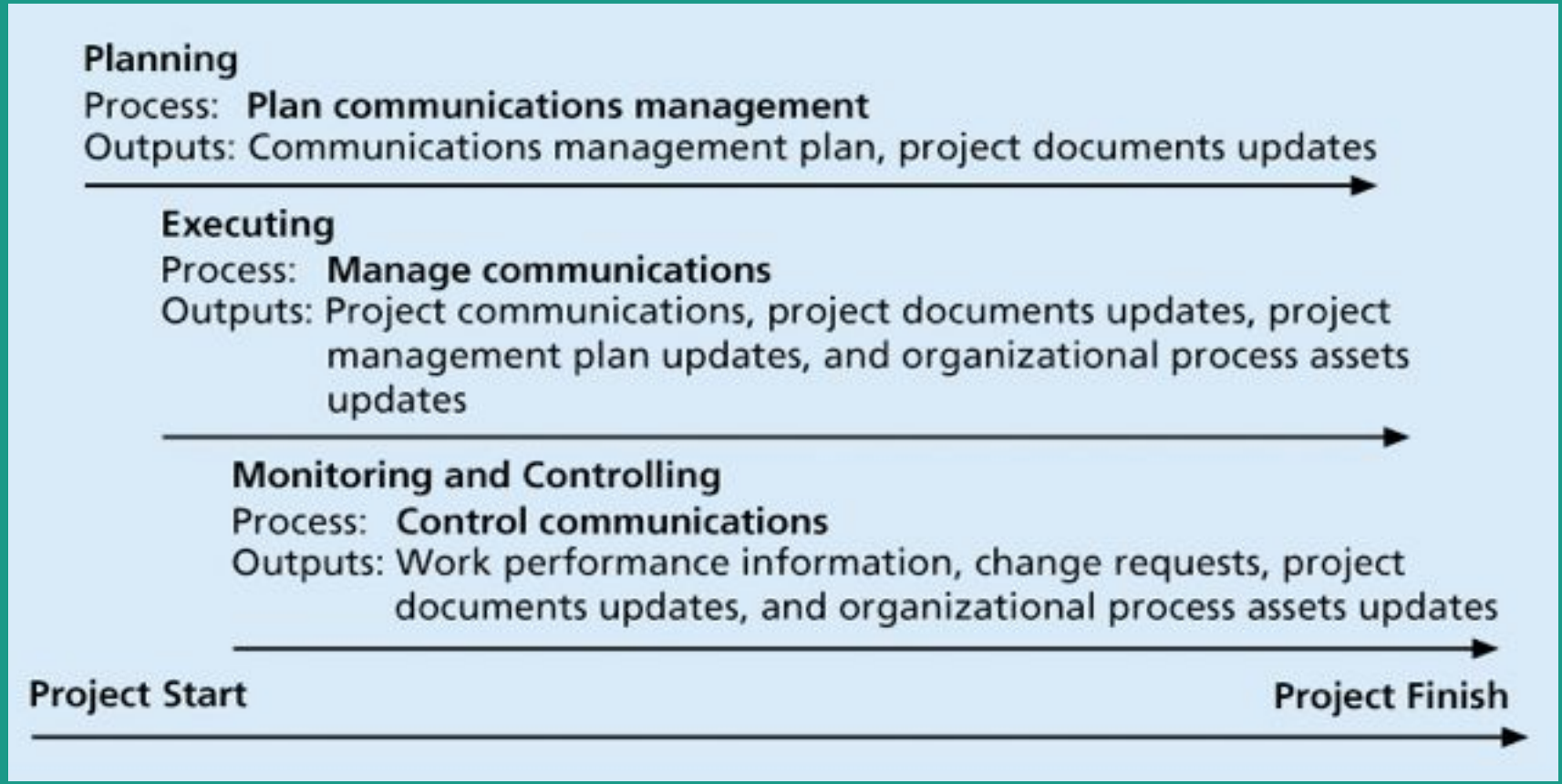
- Tools & Techniques: Conflict Management, interpersonal skills, observation & conversation.



7. Communication

Name: Heba Alaa Ahmed

Communication



Planning

- Communications management plan that guides the information and communications needs of the students & teachers, as well as the communication within the project teams.

Planning

- **Contents:**
  a. Communication requirements and frequency.
  b. Level of detail & Format of the information.
  c. Technologies: Chat bot, Q&A, & emails.
  d. Receiver & producer of information.

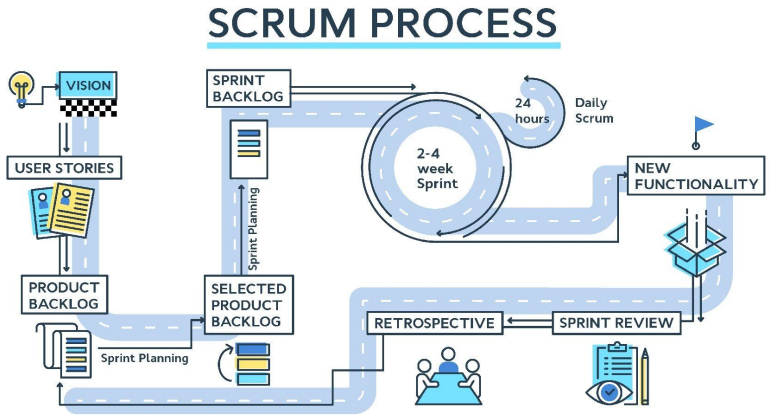
Managing

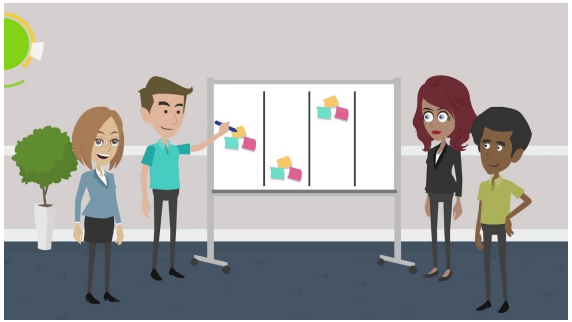
- Creating, distributing, storing, retrieving, & disposing of project communications based on the communications management plan.

- Important to select the right method to guarantee fast & delivery of information & efficient communication

Managing

- **Communication Methods:**
  a. Interactive: Weekly scrum meetings and standup meetings.
  b. Push: Announcements via email and notifications via a chosen chatting application.
  c. Pull: Project code can be accessed via shared repos on Github.





Controlling

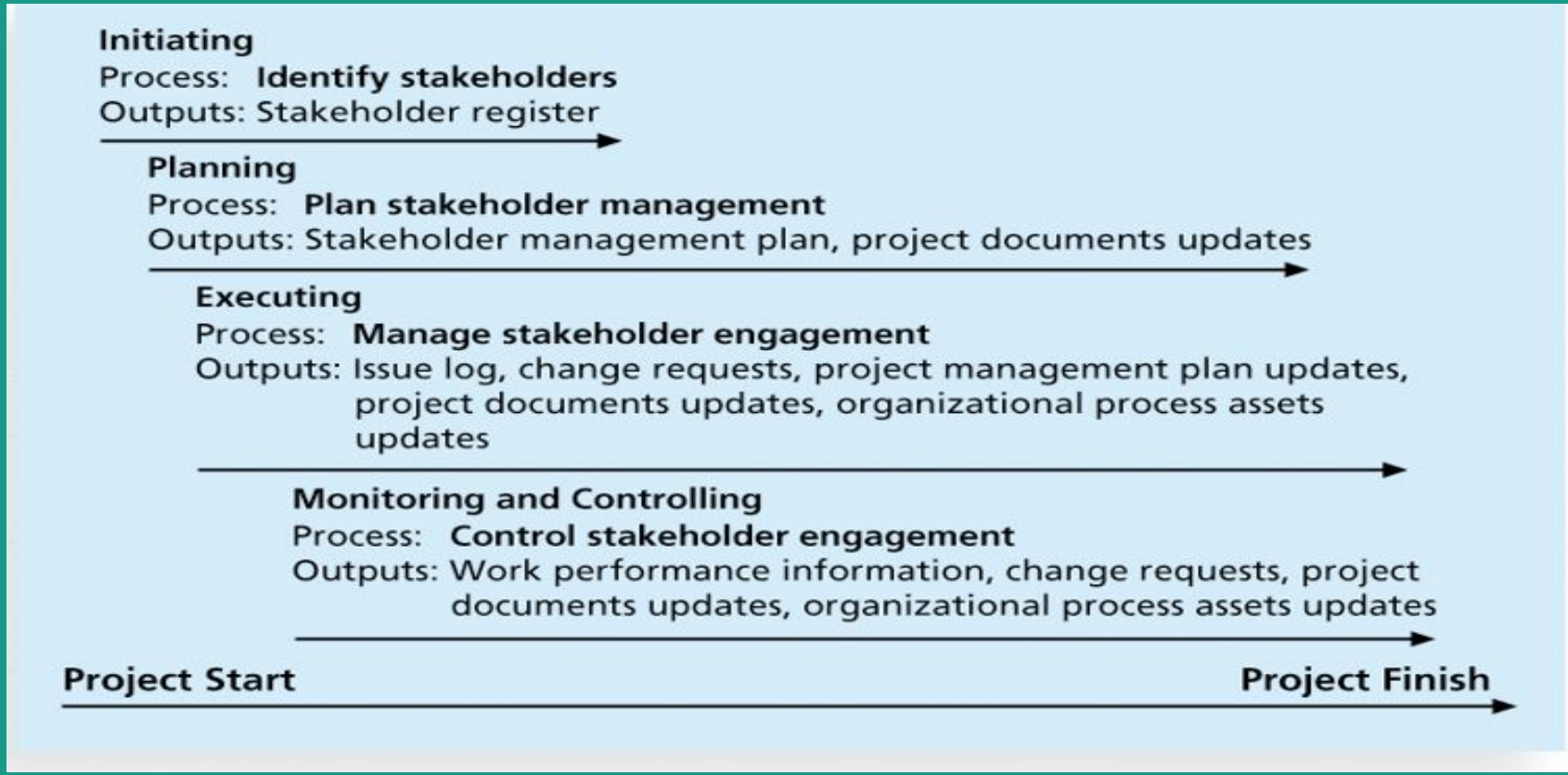
- Monitoring and controlling project communications to ensure that all team members communication needs are met.

- Feedback reports from all team members about communication methods & reports about the progress of working on the platform.

8. Stakeholder Management

Name: Aya Waleed

Stakeholder Management



Initiating

- Identify stakeholders.
- Internal project stakeholders and External project stakeholders.
- Stakeholder Register is a template containing basic information of the external and internal stakeholders, names, positions, roles, requirements and contact information.

Planning and Executing

- Analyze the needs.
- Prioritize the needs considering their impact on the project.

Managing and Controlling

- Github will be used as a productivity software by the internal stakeholders which provides collaboration features.
- Providing updates, meetings and news through emails.
- For the external stakeholders, our project provides instant chat platform between tutors and students.

Conclusion

References

- Organizational Charter Templates, https://www.smartdraw.com
- Quality Audit, https://blog.softexpert.com/en/the-4-key-steps-in-quality-audits
- Cause and effect template, https://cloud.smartdraw.com