

# Pic2Model

"3D Models at Your Fingertips"

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Class 22CLC02 – Group 01

# Agenda

**Project Overview**

**Project  
Management**

**Software  
Requirements**

**Analysis and Design**

**Project  
Testing**

**Project  
Demo**

# Problem and Solution

**Education:** Interactive 3D models for education

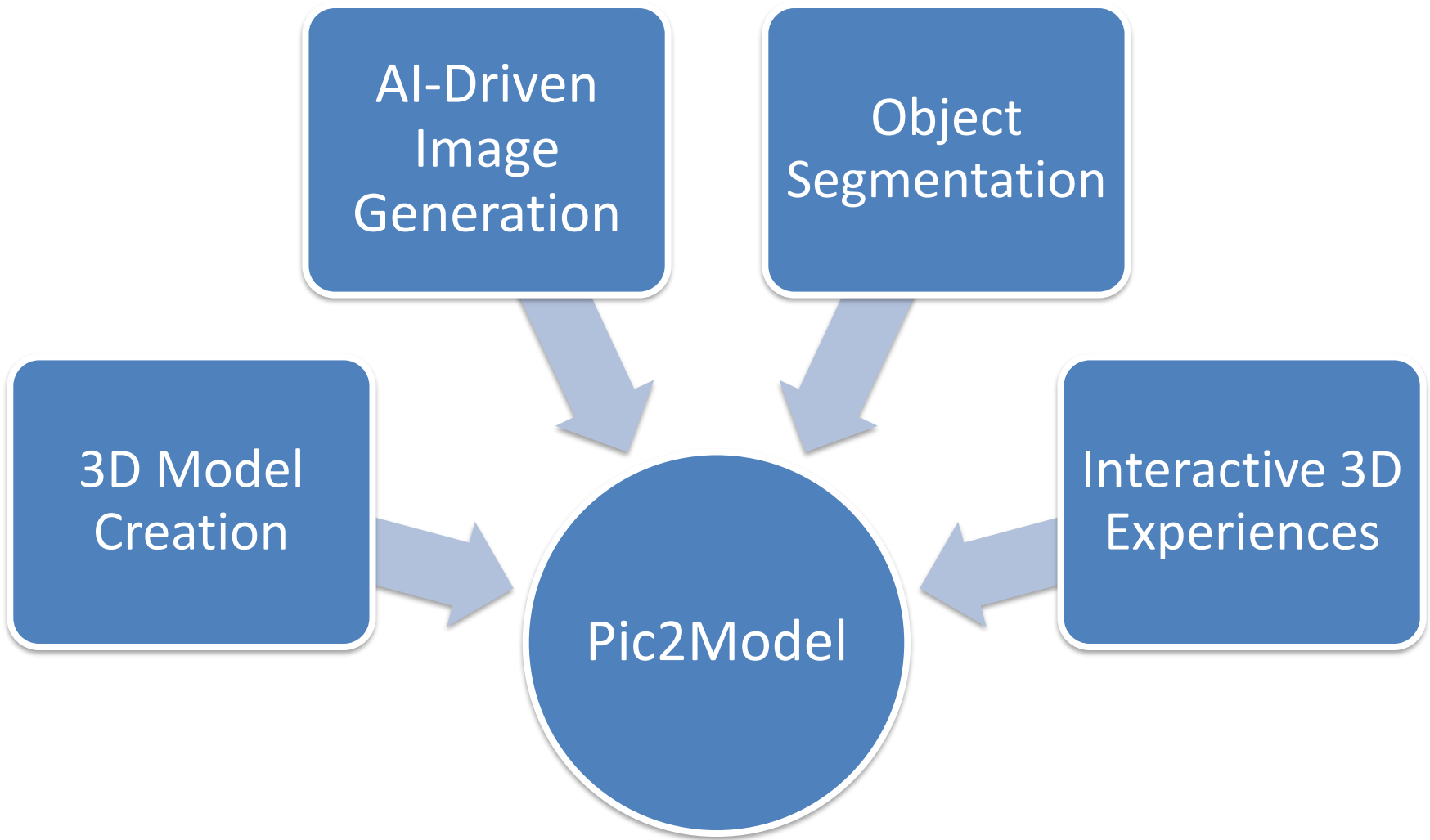
**E-commerce:** Customizable 360-degree product views for e-commerce.

**The lack of  
accessible visual  
tools**

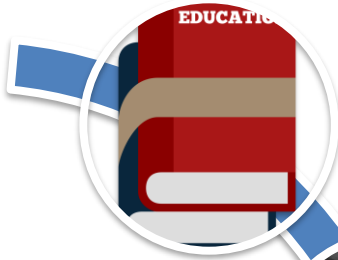
**Travel:** Virtual travel experiences.

**Design:** AI-powered tools for design automation and creativity.

# Product Features



# Users/Market



Education: Teachers and students needing cost-effective visualization tools.



E-commerce: Retailers and shoppers for detailed 3D product views.



Tourism: Virtual travel for immersive and educational experiences.

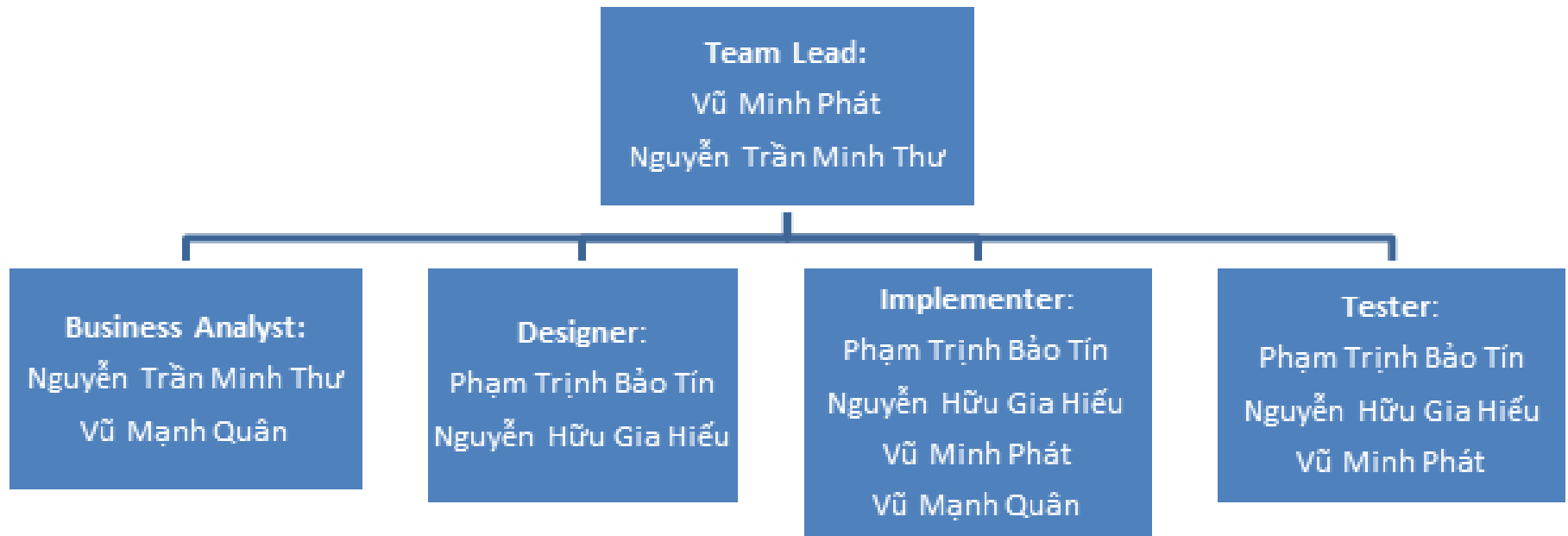


Design and Art: Designers requiring efficient and customizable 3D modeling tools.

# Development Team

- Team Structure:
  - - Team Leaders: Vũ Minh Phát, Nguyễn Trần Minh Thư
  - - Business Analysts: Nguyễn Trần Minh Thư, Vũ Mạnh Quân
  - - Designers: Nguyễn Hữu Gia Hiếu, Phạm Trịnh Bảo Tín
  - - Implementers: All members
  - - Testers: All members
- Responsibilities:
  - - Leaders: Plan, manage, and assign tasks.
  - - Analysts: Gather and document requirements.
  - - Designers: Create UI and system components.
  - - Implementers: Write and review code, perform unit testing.
  - - Testers: Develop and execute test plans.

# Team Structure



# Development Team

Member	Roles	Responsibilities
Vũ Minh Phát	Team Leader	Write Project plan and assign task
	Implementer	Write source code
		Perform unit test
	Tester	Review source code
		Develop test plans and test cases based on software requirements and specifications.
		Execute manual and automated test cases to verify the software's functionality.
		Create Test plan and Test case Document



# Development Team

Member	Roles	Responsibilities
Nguyễn Trần Minh Thư	Team	Monitor and report
	Leader	status (weekly report)
	Business Analyst	Coordinate meetings
		Connect point for the project
		Communicate with team members about the requirements
		Coordinate to review requirements

# Development Team

Member	Roles	Responsibilities
Vũ Mạnh Quân	Business Analyst Implementer	Document requirements (interview customers, etc.)  Coordinate to review requirements  Write source code  Perform unit test  Review source code

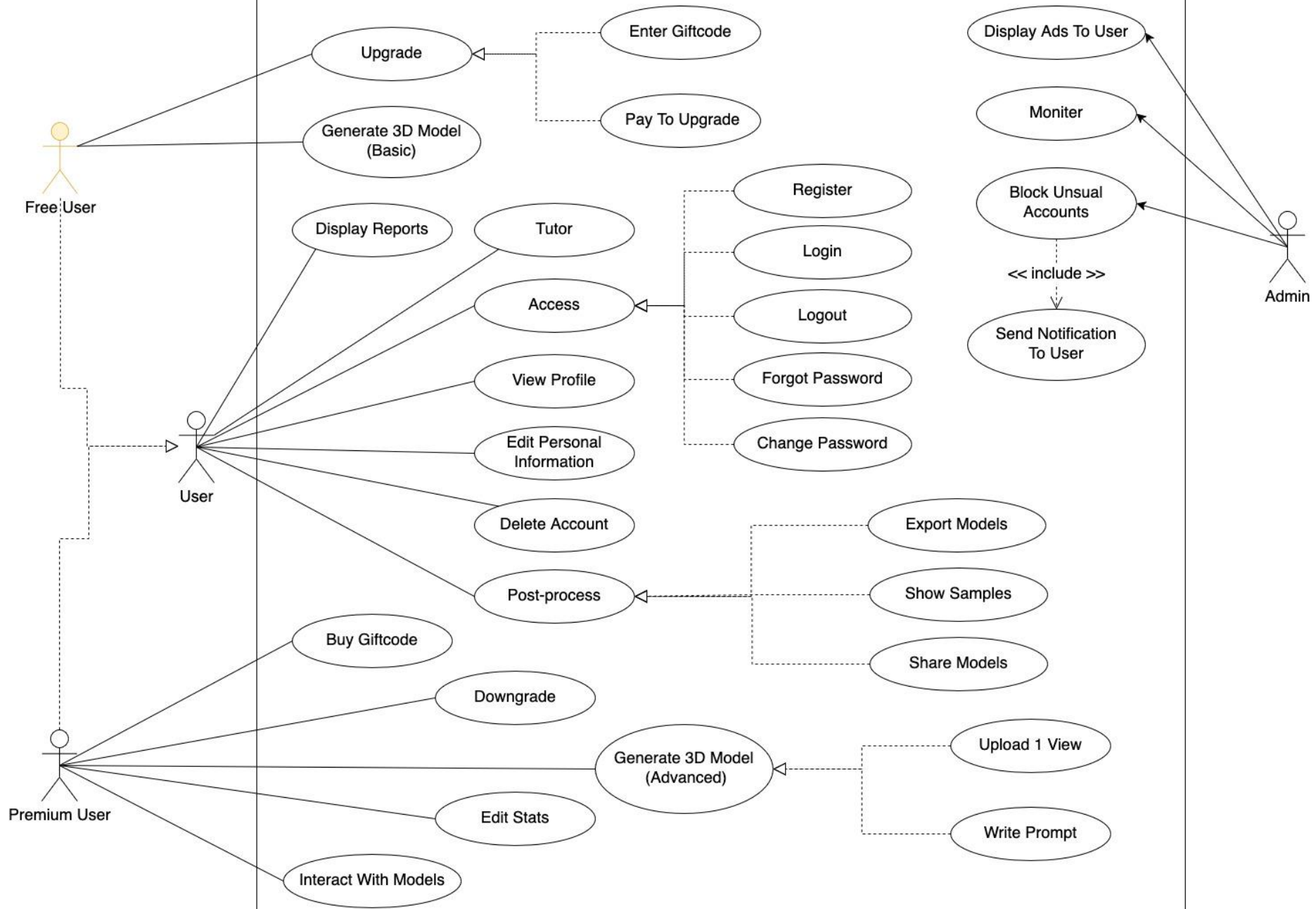
# Development Team

Member	Roles	Responsibilities
Nguyễn Hữu Gia Hiếu	Designer	Design the system
	Implementer	Create Software Architecture Document
	Tester	Write and review source code
		Perform unit test
		Develop test plans and test cases based on software requirements and specifications.
		Execute manual and automated test cases to verify the software's functionality.
		Create Test plan and Test case Document

# Development Team

Member	Roles	Responsibilities
Phạm Trịnh Bảo Tín	Designer	Write source code
	Implementer	Perform unit test
	Tester	Review source code
		Design user interface
		Creating Software Architecture Document
		Develop test plans and test cases
		Execute manual and automated test cases to verify the software's functionality.
		Create Test plan and Test case Document

# Pic2Model



# Non-functional requirements



Scalability: Handle concurrent users efficiently.



Security: Robust encryption for data and user privacy.



Performance: Fast model generation and minimal lag.



Usability: Intuitive interface for easy use.



Compatibility: Support for modern browsers and devices.



Reliability: Minimal downtime and reliable backups.

# Analysis and Design

## Architecture

**MVC  
Pattern**

**Client-  
Server**

**Cross-browser  
and multi-device  
compatibility**

## Technologies

**Frontend:  
TypeScript,  
Tailwind CSS**

**Backend:  
Node.js,  
ExpressJS**

**Database:  
MongoDB**

**Testing and  
Security:  
Automated  
testing, robust  
encryption**

# Hardware Requirements

Component	Specification	Notes
Web Server	AMD EPYC / Intel Core Xeon, 1 TB RAM, 10 Petabyte SSD, NVIDIA A series / AMD MI series	<p>Sufficient for hosting and computing tasks. Avoid older CPUs due to performance limits.</p> <p>Dedicated GPU to accelerate the speed of the model.</p>
Client Desktop (Windows)	AMD Ryzen 5 / Intel Core i5, 8 GB RAM, 256 GB SSD	Balanced performance for general testing and browser tasks with the bare minimum laptop that most user may have.
Client Desktop (macOS)	Apple M1 / Intel Core i5, 8 GB RAM, 256 GB SSD	Supports macOS Big Sur or newer.
Mobile Devices (iOS)	iPhone 8 or newer.	Ensures compatibility with iOS 14 or later. Older models may lack performance and features.
Mobile Devices (Android)	Mid-range devices (e.g., Samsung Galaxy A series or equivalent)	Compatible with Android 9 (Pie) or newer.
Network Requirements	50–100 Mbps internet connection or 4G and higher for mobile device	Stable connection for real-world testing.



# Software in the Test Environment

Software Name	Purpose	Version	Type and Other Notes
Google Chrome	Execute application for web browser	131.0.6778.140	Internet Browser
Firefox	Execute application for web browser	133.0.3	Internet Browser
Microsoft Edge	Execute application for web browser	131.0.2903.86	Internet Browser
Windows 10, 64-bit	Test client OS	22H2	Operating System
Windows 11, 64-bit	Test client OS	24H2	Operating System
Mac OS 13 Ventura	Test client OS	13.5.1	Operating System
Mac OS 14 Sonoma	Test client OS	14.6.2	Operating System
Ubuntu Linux	Execute application for server-side	20.04 LTS	Operating System
Gmail	Test email client functionality	Latest	eMail Client software

# Features name

ID	Feature Name	Description
UC01	Login as admin	A feature that allows users to log in as administrators
UC02	Login as end user	A feature that allows users to log in as an end user
UC03	Sign up	A feature supports user create an new account in a website
UC04	Reset password	A feature that let user to reset the password in case they forget their
UC05	Upload Photo	A feature that allows User to upload photos for model generation
UC06	Generate Model	A feature that allows User to generate 3D models from input

# Test Results

ID	Feature Name	Number of passed test cases	Number of failed test cases	Number of test cases
UC01	Login as admin	6	2	8
UC02	Login as end user	12	0	12
UC03	Sign up	11	1	12
UC04	Logout & Reset password	5	0	5
UC05	Upload Photo	2	4	6
UC06	Generate Model	7	1	8

## Test Report

Number of functions	6
Number of test cases	51
Number of passed test cases	43
Number of failed test cases	8
Number of bugs	7

# Demo

PIC2MODEL

[GENERATE](#) [SAMPLES](#) [TESTIMONIALS](#) [ABOUT](#) [PROFILE](#) ▾

Select a file:  No file chosen

prompt

Describe how you want your 3D object to be

negative prompt

ugly, blurry, pixelated obscure, unnatural colors, poor lighting, dull, unclear, cropped, lowres, low quality, artifacts, duplicate

elevation (0)



inference steps (30)



random seed (0)



Generate



Download your .ply file [here](#)

[Demo video](#)