IPRO 315
LARGE SCALE STRUCTURE

Project Plan

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Team:

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Palladino, Nicholas
Patel, Saagar
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Shen, Jie-Hua
Stine, Elijah
Thomas, Seth
Williams, David
Zaatar, Yousef

Illinois Institute of Technology

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1 Objectives

The IPRO 315 team's objective for this semester is to design a automated car parking structure. However, the team's main objective is to create the most cost efficient and space saving parking lot. This team will also attempt to establish a strong team-working environment based on the knowledge and capabilities of each individual given their different fields of study for the successful completion of the goals presented for the IPRO group, as well as gaining useful experience and knowledge for every member.

During the fall semester, the team has set forth the following objectives:

- Analyze different parking methods based on different building shapes
- Define crucial resources used in these processes and structure them
- Research costs associated with this parking structure

2 Background

There are ways that this structure can be designed. In the transpiration field, many factors come into place that determines what the best option is. In the 21st century transportation will be a key factor in the world. Cars are becoming more and more advanced and consumers are demanding more and more. One way to save a consumer's time was designing an automated parallel parking mechanism in a car. This automated parking lot system builds on that basic idea. That a consumer can park their car on a first floor and the rest is done by machines. This is time saving, and cost saving because there will be less workers. It also reduces lost space in parking structure.

The project will require research of different mechanisms and different designs for the structure.. An analysis of this research and any other practical solutions that we may discover will be conducted. At this time the team will do the following: design the most logical type of structure and what mechanism is used while trying to be as cost-conscious as possible.

3 Methodology/Brainstorming/Work Breakdown Structure

3.1 Defining the problem/Overview

The final product will be an design of an automated parking structure where consumers can leave their cars on the first floor and the rest of the parking process can be automatically done using machines.

This tool will help consumers accomplish the following:

- Save time parking their vehicles
- Cheaper cost because reduced man-power
- Less worries on theft of vehicles damage in parking lot.

3.2 Research Process

To obtain the necessary relationships between local traffic and parking lot traffic. To find out how automated parking structures operate, the team will analyze the following aspects:

- activities that are necessary for parking strucutre
- equipment that is necessary for the parking strucure
- flow of equipment and machinery
- the relationship between the size/type of parking structure and the costs

3.3 Developing Final Deliverables

Phase 1

After dividing into teams according to our sub teams plan, each team will provide the necessary information to put all the research together and come up with a final design.

Phase 2

The team will be testing and modifying a computer model by using sample real data. The output model should get as close as possible to real life sample data.

3.4 Relevant Documents

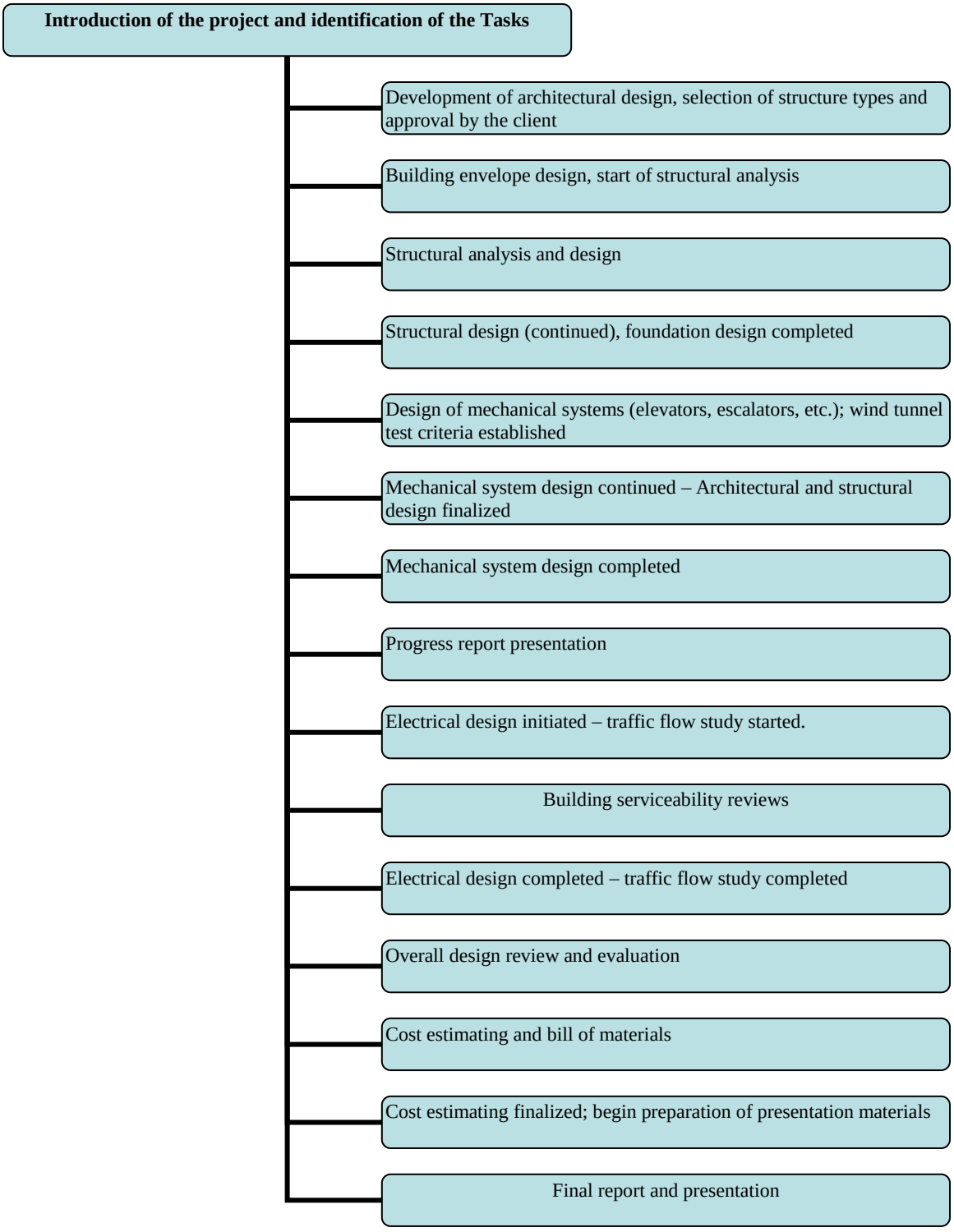
All of the documents created during the project will be compiled in iGroups, including the following:

- MS Project document,
- Reports generated by secretary
- MS Excel sheets
- Autocad drawings
- Photoshop drawing rendering

4 Expected Results

At the end of this semester our team will gain the comprehensive understanding of the automated parking structures and how design vs. cost analysis is important. The team will accomplish the research by looking at existing models that are built world-wide and trying to incorporate that into our campus. We will formulate the mathematical correlations between different variables that are important to the transportation industry.

5 Schedule of Tasks and Milestone Events



6 Individual Teams

6.1 Sub-teams

Name	Major	Responsibility/team
Beltran, Julian J.	MMAE	Mechanical design
Carden, Joe	MMAE	Mechanical design
Dominikowski, Marek	Architect	Architectural drawings
Kapecki, John	Architect	Architectural drawings
Patel, Viral	Architect	Architectural drawings
Stine, Elijah	MMAE	Mechanical design
Thomas, Seth	MMAE	Mechanical design
Khudeira, Mohamad	CAE	Cost estimating
Palladino, Nicholas	CAE	Foundation design
Patel, Saagar	CAE	Foundation design
Sawulski, Piotr	CAE	Structural design
Williams, David	CAE	Structural design
Zaatar, Yousef	CAE	Traffic design
Janulis, Lukas	CAE	Structural design
Shen, Jie-Hua		PROFESSOR/ADVISOR
Mohammadi, Jamshid		PROFESSOR/ADVISOR