Parking Management System

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Team 3

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COLLEGE OF **TECHNOLOGY**
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Presentation Outline

- **Alvaro Balboa – Project Objectives**
- **Lacte Lam – Background & Description**
- **Jack Lin – Cost Analysis & Model Prototype**
- **Ivan Ruiz – Flow Chart & Schedule**
- **All members – Q & A**

Background

- **Driving is the most common transportation method**

- **Parking space is a fundamental part of every transportation system**

- **Parking areas have become very crowded, unfriendly to pedestrians, and time consuming**

Product Description

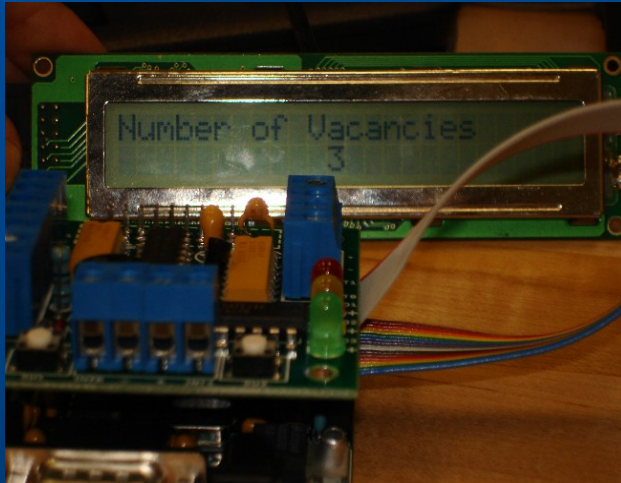**Parking Management System is**

- **a user friendly micro-controlled system**

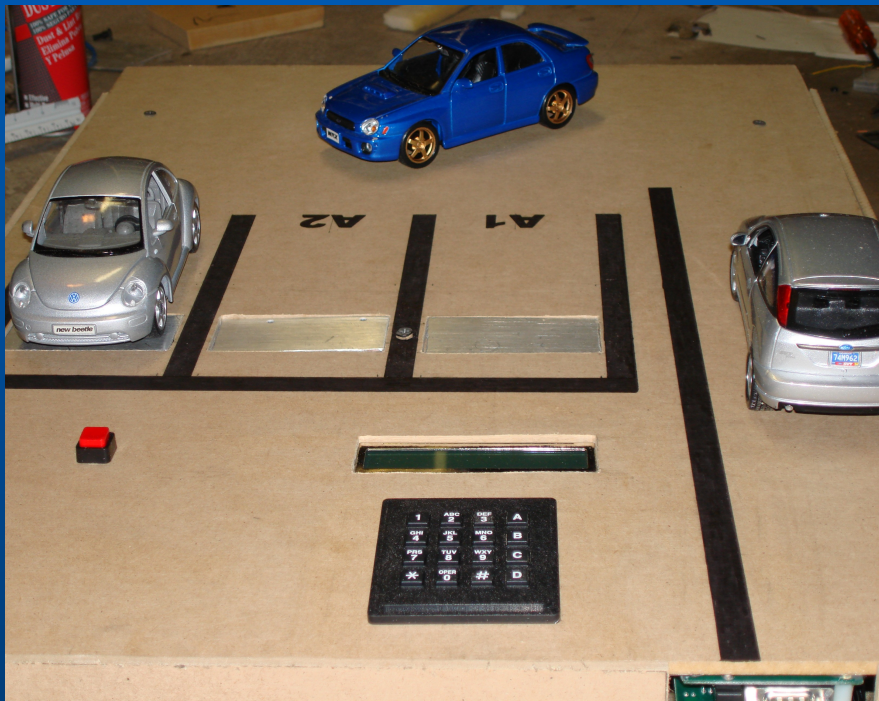- **a system that evaluates available parking spaces using switches**

Motivations

- **Cut the time drivers spend searching for a parking space**
- **Reduce air pollution and gas consumption**
- **Make parking area more pedestrian friendly**

Project Objectives

- **Count the number of vacancies**
- **Display the information to the driver**
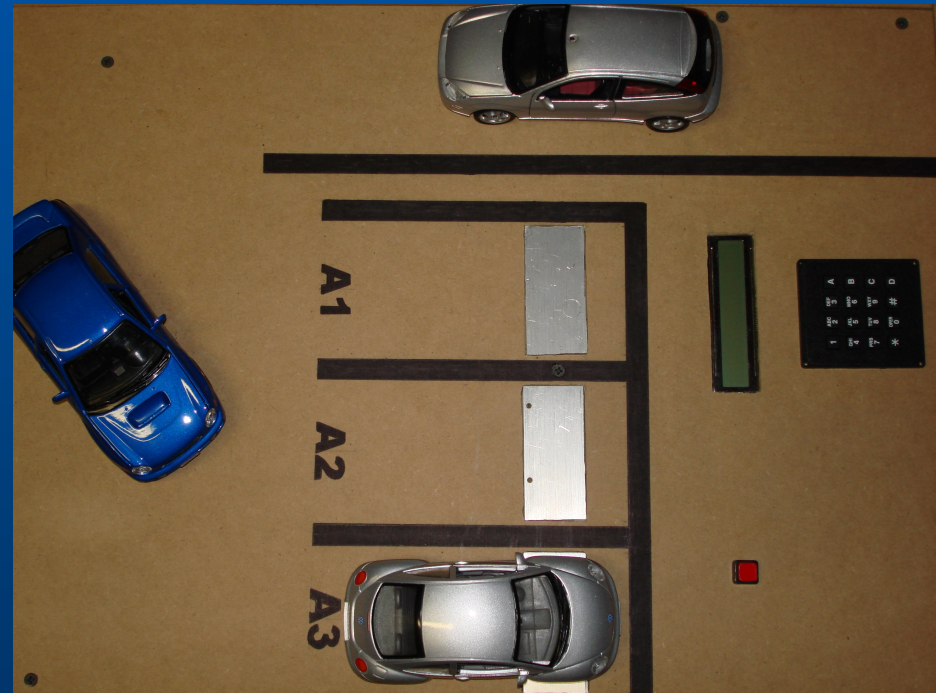- **Create a mechanical device to be placed at every parking space**

Model Prototype

Front View

Top View

7

Flowchart diagram:

Display Number of Vacancies → ENTER?
- ENTER? Yes → Display Closest Parking Space → Decrement Number of Vacancies → Display Number of Vacancies
- ENTER? No → EXIT?
  - EXIT? Yes → "Have a Nice Day" → Increment Number of Vacancies → Display Number of Vacancies
  - EXIT? No → Display Number of Vacancies
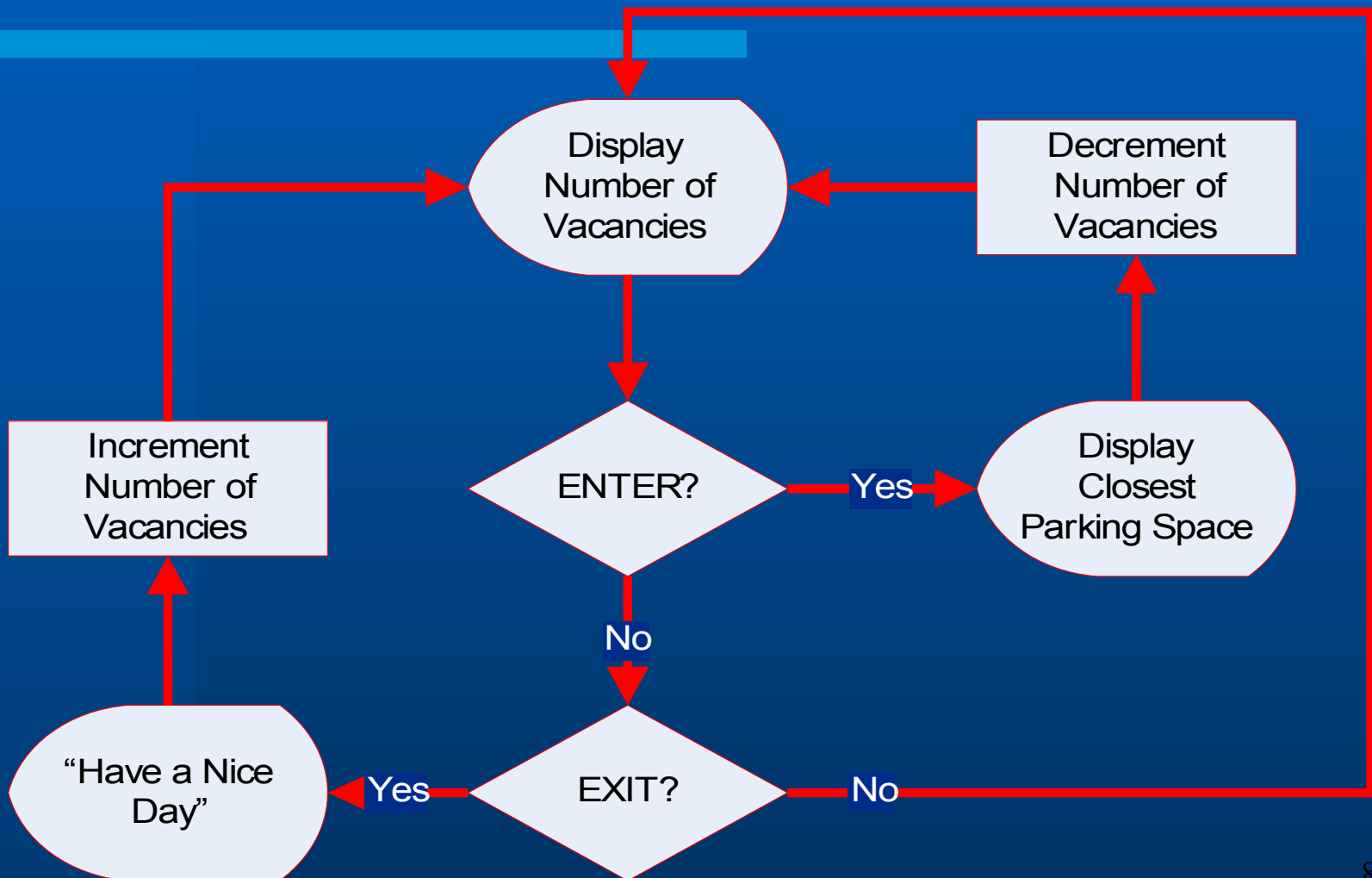
Schedule

		Task Name	Duration	Start
1	✓	⊞ **Introduction**	**0.25 days**	**Tue 8/22/06**
9	✓	⊞ **Research**	**45.25 days**	**Tue 8/22/06**
33	✓	⊟ **Formulating Solutions**	**21 days**	**Fri 10/6/06**
34	✓ 📒	Identify Alternative Designs	0.38 wks	Fri 10/6/06
35	✓	Select Building Process	1.5 wks	Fri 10/6/06
36	✓	Establish Budget	1.5 wks	Fri 10/6/06
37	✓	Shop around for available parts	10.5 days	Tue 10/17/06
38	✓	Identify Suplementary Parts	13.5 days	Tue 10/17/06
39	✓	Purchase Model Parts	1.5 wks	Tue 10/17/06
40	✓	Purchase Backup Parts	2 days	Mon 10/30/06
41	✓	Possible for parts delay	1 wk	Mon 10/30/06
42	✓	⊟ **Developing Models**	**12 days**	**Mon 11/6/06**
43	✓	⊟ **Software Programming**	**9 days**	**Mon 11/6/06**
44	✓	Decide whether to program in C, C++, or Asse	1.5 days	Mon 11/6/06
45	✓	Write Program	1.5 wks	Tue 11/7/06
46	✓	Build Prototype	1.5 wks	Tue 11/7/06
47	✓	Test out prototype	0.25 days	Fri 11/17/06
48	✓	Re-evaluate Design for better appearance	0.25 days	Fri 11/17/06
49	✓	Refine Design	0.5 wks	Fri 11/17/06
50	✓	⊟ **Presentations**	**7.25 days**	**Wed 11/22/06**
51	✓	⊟ **Final Preparations**	**5 days**	**Wed 11/22/06**
52	✓	Gather all support documentation	3 days	Wed 11/22/06
53	✓	Organize and properly document	1 wk	Wed 11/22/06
54	✓	Create slide show using different software to	1 wk	Wed 11/22/06
55	✓	Practice presenting presentation with team membe	1 day	Wed 11/29/06
56	✓	Prepare some answer that might ask by audiences	1 day	Wed 11/29/06
57	✓	Present Final Design	0.25 wks	Thu 11/30/06
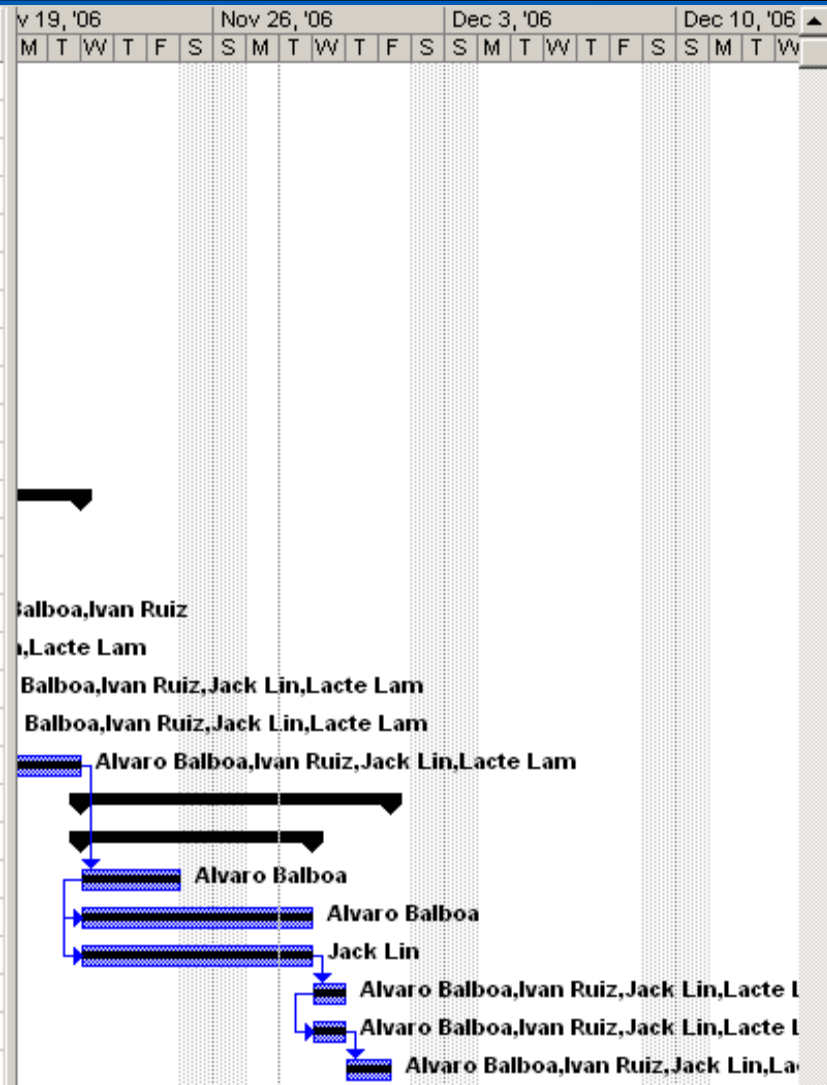
Cost Analysis

Parts	Quantity	Est. Cost	Act. Cost	Final Cost
Stainless Steel Plates	4	$20	$0.95	$3.80
8051 Microcontroller	1	$75	$69	$69
Switch PB	3	$20	$3.25	$9.75
Button	1	$5	3.25	3.25
LCD Cable	2	$10	$0.80/ft.	$1.60
LCD Cable Connector	3	$10	$1.00	$3.00
Nuts and Bolts	Numerous	$15	$15	$15
MDF Board	2	$10	$3	$6
Model Cars	3	$10	$7	$21
LCD	2	$25	$24	$24
Keypad	2	$20	$24	$24
Resistor IC Chips	4	$2	$0.25	$1
Circuit Board	1	$5	$4.95	$4.95
Spare parts	Numerous	$40	$29.26	$29.26
Donation to Team 11	Numerous	$5		$5.00
Total		$413		$220.61

Cost Analysis cont…
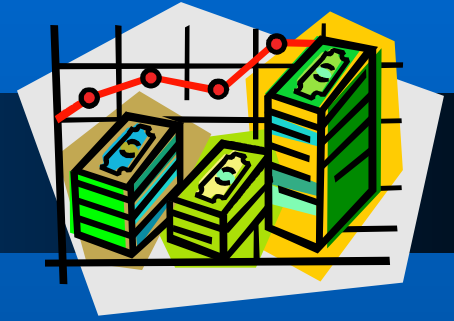
	Est. Cost	Act. Cost	Difference
Parts	$413	$220.61	$192.31
Labor Usage	$24,625.00	$24,625.00	0
Total	$25,038.00	$24,845.61	$24,845.61

References

- **Alberto Bull, ed., <u>Traffic Congestion: The problem and how to deal with it</u> (Santiago, Chile: United Nations, January 2004), 13-18, 85-99.**

- **United States Patent Office. <www.uspto.gov>**

- **BiPOM <http://www.bipom.com/minimax51c2.shtm>**

Questions ??? or Comments !!!

Thank you !