GoKart Racer IT Business Analysis for Improvement

GoKart Racer Timing System

B.C.E.G. Business IT Consulting Firm, LLC.

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Business Case

Project Name

Go Kart Racer IT Business Analysis for Improvement

Project Team

BCEG Business IT Consulting Firm LLC.

See Project Charter document for team members.

Executive Summary

GoKart Racer is a go kart racing facility in the San Francisco Bay Area. GoKart Racer is in the business of providing casual and competitive racing for individuals, various groups and corporate events. The scope of the business deals with a large amount of customers, which depends on Information Technology systems to be continuously active and tracking new continuous data.

A main part of GoKart Racer's competitive advantage is the customer and lap time tracking system used on site, since GoKart Racer is a facility that provides a racing experience for drivers using custom designed race tracks and bio-fuel performance go karts that are precisely tracked by the computer system. Each racer's lap times are tracked and synchronized with a central race management system that tracks long-term race results, awards points based on experience and lap times, and makes all the race information available online to the customer.

Recently, GoKart Racer has opened up a second facility in Sacramento in addition to the original Burlingame location, thus having recently had to go through the setup planning and implementation process of their Information Technology systems at the new Sacramento site.

Project Goal

The goal of this project is to both understand what goes into GoKart Racer's (GKR hereafter) information systems. Specifically, we will look into the the two main components namely lap timing and the company's customer retention management (CRM) system. We will also be looking at how the systems in place help in generating profit for the business and also how these systems help to edge out new entrants and current competitors.

K1 Racing, a new competitor, has opened up new branches that are close to GKR's locations. With its resource sustainable model of using electric motors (wherein GKR uses faster bio-fuel models), K1 is

able to generate more profit by being both a price leader and having a geographical advantages. This case is also going to answer strategies to edge out, what the owner of K1 states its goal is to become the "the McDonald's of racing".

The project process includes interviewing the owner of GKR and obtaining information about questions that need to be asked for this project. By analyzing the IT systems of the company, we hope as a group to come up with strategies to get more people to believe in GKR's ability to provide a superior racing experience.

Introduction

GoKart Racer is a locally owned and operated go-kart racing facility. Known for the Greenest Indoor GoKart Track in America, the independent business attracts thousands of customers each month. The GoKart Racer Timing System was needed to be implicated to keep records and track every single valuable customer that steps into a go-kart since the launch of the company in 2004.

GoKart Racer Timing System

How it Works

The go-kart timing system at GoKart Racer tracks each go-kart and its driver. The kart itself is part of a lap timing system that provides very precise lap time results after each race. Each lap is recorded and matched to the customer racing that kart. The race data is then stored in the customer's racer profile, and the customer is able to compare their race results with their previous race results, as well as their overall standings and lap times compared to other racers during that race session, as well as previous race sessions. Each racer is given a printed results sheet after each race that doubles as a coupon to help build customer loyalty.

Does it Work?

The timing system works very well and provides accurate results to each racer. This system is what enables customers to feel as if they are competing and not just racing laps for fun. Customers are more likely to return if they feel they are accomplishing something. This timing system lets customers see their progress and improvement in lap times, as well as their overall ranking among all racers, and their points that are based on time and experience. When customers see that they are getting faster lap times and might soon be able to beat their friends at a race, that keeps the customer coming back. With and without a full house roster, each individual will have the same feeling of satisfaction racing against a fellow competitor as they do racing against the clock.

Desired Areas of Impact

Organizational Impact	Value	Metric	Time Frame to Completion
Strategic	Stay ahead and up with competitors	Help with the future build of the company	3 months
Customer	Create an atmosphere that is seamless to customers Generate a genuine atmosphere of competition	Customer retention rate How often existing customers are repeat customers Study consumer reviews: Yelp, internal email surveys, one on one interaction	3 months
Financial	Automation of business process free up employees thus requiring less manpower to operate facilities Less stressed employees can be more productive and focus on customer satisfaction activities -genuine conversation -racing advise -only simple monitoring of system is needed Less turnover of employees result in long run savings	Daily up-cost and maintenance required to start and keep up with system Migration of any existing data and information used previously Adaption of tracking system and familiarity with employees	3 months
Operational	Automation of business process free up employees thus requiring less manpower to operate facilities	Migration of any existing data and information used previously Data sharing amongst both facility locations	3 months
Social	Monthly customer marketing emails can increase customer	Improvements based on	3 months

	return rate	customer feedback	

Alternatives

Based on the research conducted by BCEG, the following three alternatives for the **Go Kart Racer IT Business Analysis for Improvement** system have been identified:

1. Continue using no IT Systems for business operations. This will be referred to as ALT 1.
    a. No customer management recording
    b. No lap time monitoring, racing results are based solely on place finishing
    c. No marketing strategy to reach out to existing and potential customers. Completely dependent on walk in traffic
    d. No automated scheduling for employees
2. Utilize a packaged solution provided by Club Speed for timing and venue management needs. This will be referred to as ALT 2.
    a. Track timing
    b. Go-kart garage system
    c. Individual kart monitoring
    d. Social media management / marketing
    e. Point of sale system
    f. Inventory Management (parts and hospitality)
3. SMS-Timing Management Package is offering a similar package than that of ALT 2. Prices vary. Will be referred to as ALT 3.
    a. Mobile device software
    b. LED Board Software
    c. Garage system
    d. Emailings
    e. Vouchers
    f. Office system

Analysis of Alternatives

The following section will analyze ALT 1, ALT 2 and ALT 3 on the basis of Total Cost of Ownership (TCO) and Total Benefit of Ownership (TBO)

Total Cost of Ownership

GoKart Racer Timing and Venue System **Total Cost of Ownership (Set-Up Standpoint)**				
Resource	Description	ALT 1	ALT 2	ALT 3
Software Package	Easy-to-install software package	N/A	$12,000	$25,000
Network Hardware	Comprised of enterprise switches, routers, cables, etc.	N/A	$5,000	$5,000
Internet Service Provider	T1 Connection	N/A	$325	$325
Technical Support	Remote and On-site support	N/A	$,1500	N/A
Training	Require employee training	N/A	N/A	$15,000
Client Systems	POS systems, back office systems (6)	N/A	$3,000	$3,000
Personnel	Staff set up compensation	N/A	$7,000[1]	$7,000[1]
Total		**N/A**	**$28,825**	**$55,325**

ALT 2 is the most optimal choice cost-wise, even though a grassroots approach (ALT 1) costs nothing financially. From a long-term perspective, implementing a software package that handles venue and timing system attracts and retains more customers. The high cost of ALT 3 comes mainly from the

[1] Assuming that owner Dave is earning $84,000 a year, his expertise allows him set up hardware and software on his own for a month's time.

software package price and the mandatory personnel training. Both alternatives essentially provide the same features except for its individual service packages included that are not deemed necessary with a technically inclined owner and manager.

Total Benefit of Ownership

Benefits		Weights	ALT 1	ALT 2	ALT 3
Organizational	Strategic Objectives	10%	2	10	10
	MOV	10%	0	10	5
Project	Availability of skilled members	10%	10	5	3
	Maintainability	20%	3	5	5
	Time to develop	10%	0	8	8
	Risk	10%	0	8	8
External	Customer satisfaction	15%	5	10	9
	Increased market share	15%	3	5	5
Total Score		**100%**	**3.00**	**7.35**	**6.50**

After TBO analysis, ALT 2 still wins out of all other alternatives mainly for the long term value of the package and its positive externalities.

Recommendation by BCEG Consultants

After a thorough analysis of the business needs of GKR, the potential increase in benefits to various aspects of GKR's business operation processes, we highly recommend that Dave Robison, owner of GKR consider ALT 2 as it will optimize both financial savings and overall service benefit.

Project Infrastructure

Resources

People

- **Project Manager**
  - Sets the pace of the project and the completion of each deliverable part of system to ensure a successful on time delivery of Information Technology. Also ensures the function of IT serves the original purpose the project set out to accomplish
- **Systems Architect**
  - Responsible for the design of the Information Systems and ensures that all sub-sections of the system work in sync with one another
- **Systems Analyst and Trainer (For Business Employees)**
  - Assures that the system is maintained on and after deployment
  - Provides staff training and monitors that IT system serves the needs of the business based on original proposed objective

Technology

- **Reception Terminals**
  - Communication data transmission system for sending on-time data
- **Trackside Timing Equipment**
  - Hardware needed to track the individual karts, customers and perform a recording of time data and position placement
- **Kart Dash Displays**
  - Communicative system for drivers kart-on-track information
- **Scoreboard / Speed Screens**
  - Gives customers on-site real time data of participating racers on the track regarding time data and position placement
- **On Site Backend Server Database**
  - Stores all relevant business data from customer data management to real time racing information
- **Off Site Backup**
  - Business assurance in the event of data loss on primary server containing important business information, customer information and operational data

Technology (Continued)

- **Computer Workstations**
  - Customer input and management
  - Promotions management
  - POS transactions
  - Business communications
  - Sharing of information amongst both locations
- **Laser Printer**
  - Physical print readout of race results
  - Day to day business operation documents
- **ISP Modem and Router**
  - Allows IT system to interconnect sharing acquired data from day to day operations

Facilities

- Project team will meet at BCEG Business IT Consulting offices to discuss analysis, development, implementation and maintenance of project
- Project will also meet off site at the Burlingame and Sacramento GKR locations for analysis, fitment, implementation maintenance and training of information system technology

Others

- **Travel**
  - Project manager and other team members will visit off site locations, primarily GKR Burlingame and Sacramento locations on an as-needed basis. Project members will be allocated any allowance needed based on a driving mileage basis which is a standard part of business benefits
- **Training**
  - The team members are highly experienced in their respective field and they don't need any training. However, the team members can provide training to the employees on using the application developed. In addition, Club Speed offers free training for its systems as part of the Club Speed package
- **Implementation**
  - The entire team will be present on-site during the implementation week. Accommodation and other related costs have to be considered

- **Maintenance**
  - Club Speed Timing will provide monthly support of the system. Service is provided on an as-needed basis charging the client monthly within the scope and nature of the technical assistance previously agreed upon

Cost of Resources

People Costs

Resource	Cost	Source
Project Manager	$61,000/yr. - $123,000/yr.	Indeed.com
Systems Architect	$67,000/yr. - $153,000/yr.	Indeed.com
Systems Analyst	$57,000/yr. - $86,000/yr.	Indeed.com

Technology Costs

Resource	Cost	Source
Club Speed Package	$12,000/yr + $1500/mo	GoKart Racer
Computer Workstations	$839/ea	Dell Small Business
Onsite Server Plus UPS / Accessories	$2500	Dell Small Business
Network Connection	$325/mo.	Go Kart Racer – Sonic & AT&T
Routers / Switches / Other Network Gear	$1000	Newegg.com
Printers	$649/ea	Newegg.com

Offsite Cloud Data Backup - Workstations	$5/user	OneDrive Business
Offsite Cloud Data Backup - Servers	$0.011/GB	Amazon Glacier
LCD HDTV's (Scoreboard / Speed Screens)	$449/ea	Newegg.com

Facilities Costs

Resource	Cost	Source
Building Lease	$55,000/mo.	GoKart Racer
Race Track Setup / Build	$500	GoKart Racer
Race Track Maintenance	No Maintenance Required	GoKart Racer
Utilities	$1500/mo	coned.com

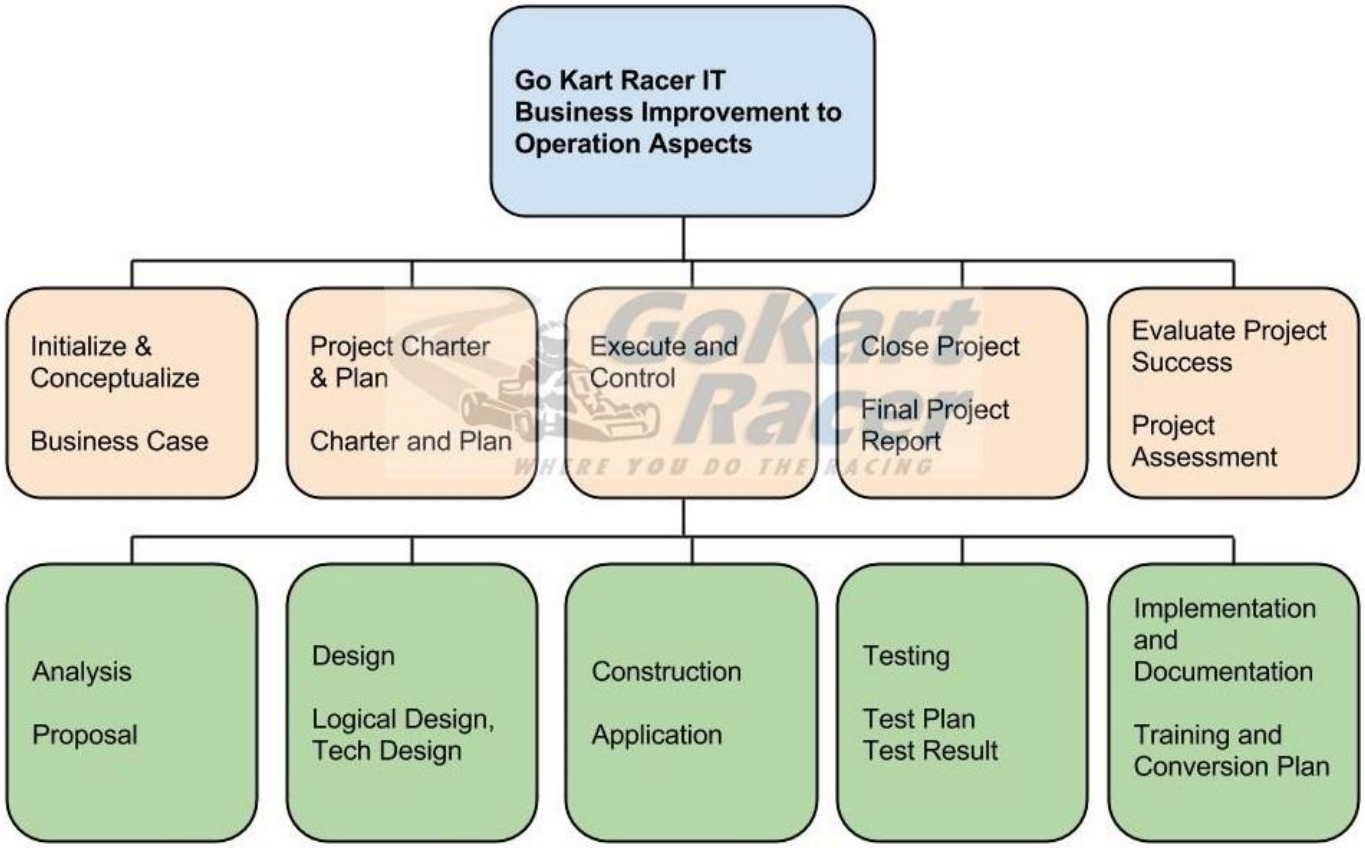
Others Costs

Resource	Cost	Source
Business Tax	$100/yr	City of Burlingame
Business License	$35	City of Burlingame
Travel	$1/mile reimbursement for private vehicle travel	Reimbursement benefits from other companies

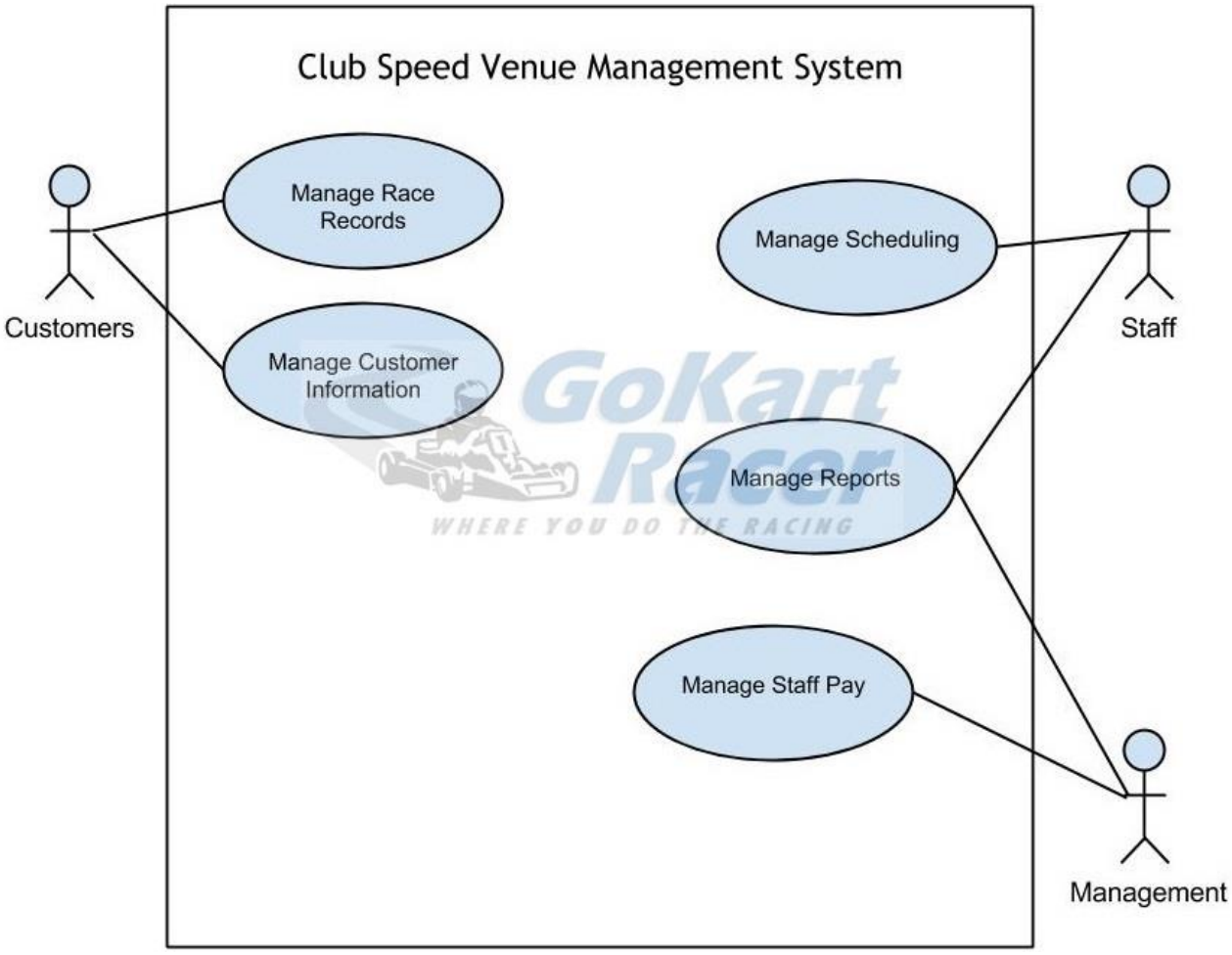
Scope Management Plan

GKR SCOPE

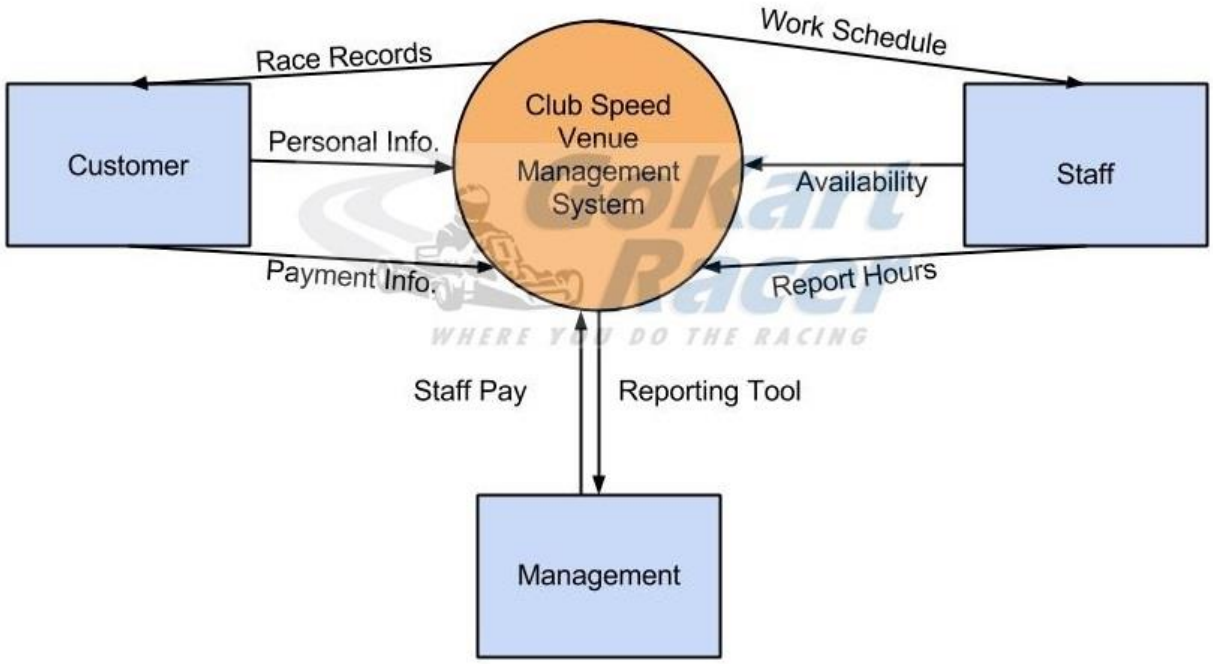
- **Deliverable Structures Chart**



➢ Use Case Diagram



➢ Context Level Diagram



Scope Change Process

BCEG Business IT Consulting group aims to deliver a professional experience to its clients with laser focus and precision on its deliverable. To do this BCEG Partners take the time to understand its client's specific needs and/or objectives with a newly developed system. BCEG does this by implementing structure throughout the project management process.

A critical component of this process is the Scope Change Process Document (See Appendix). Any alteration requests made by the client mid-project must go through the formal process of submitting a scope change request to the project manager. These changes to the original agreed upon scope will be first taken into consideration by the planning committee. If the changes are agreed upon by the committee, necessary changes to the work operations, finances and resources will be made first to cover the necessary adjustments to scope. The newly altered plan will be represented to the entire project team and work will resume as normal.

Scope Change Request Form

(Please See Appendix)

Work Breakdown Structure

Work Breakdown Structure:

GoKart Racing's Life Cycle and System Development Life Cycle Phases and Deliverables were outlined in the Deliverable Structure Chart of the Scope Management Plan. The Phase Milestones, Deliverables, Deliverable Milestones and the Activities / Tasks that need to be performed to achieve the milestones are illustrated below.

Project Phases – Tasks, Deliverables and Milestones:

The tables illustrate an estimated summary of major phases, their deliverables, milestones and tasks for the GoKart Racer Timing System project. The table also lists the identified resource assignments and the estimated time to complete the task. A Gantt chart is shown for visual presentation of the given task.

Estimation Techniques:

B.C.E.G. Business IT Consulting Firm, LLC used a previous project layout as a guideline to help each time box estimate done in the past at GoKart Racer's first facility located in Burlingame. The activities and tasks in the Work Breakdown Structure use these tasks and implement them into a Time Boxing technique for the set up and planning for the upcoming facility in Sacramento.

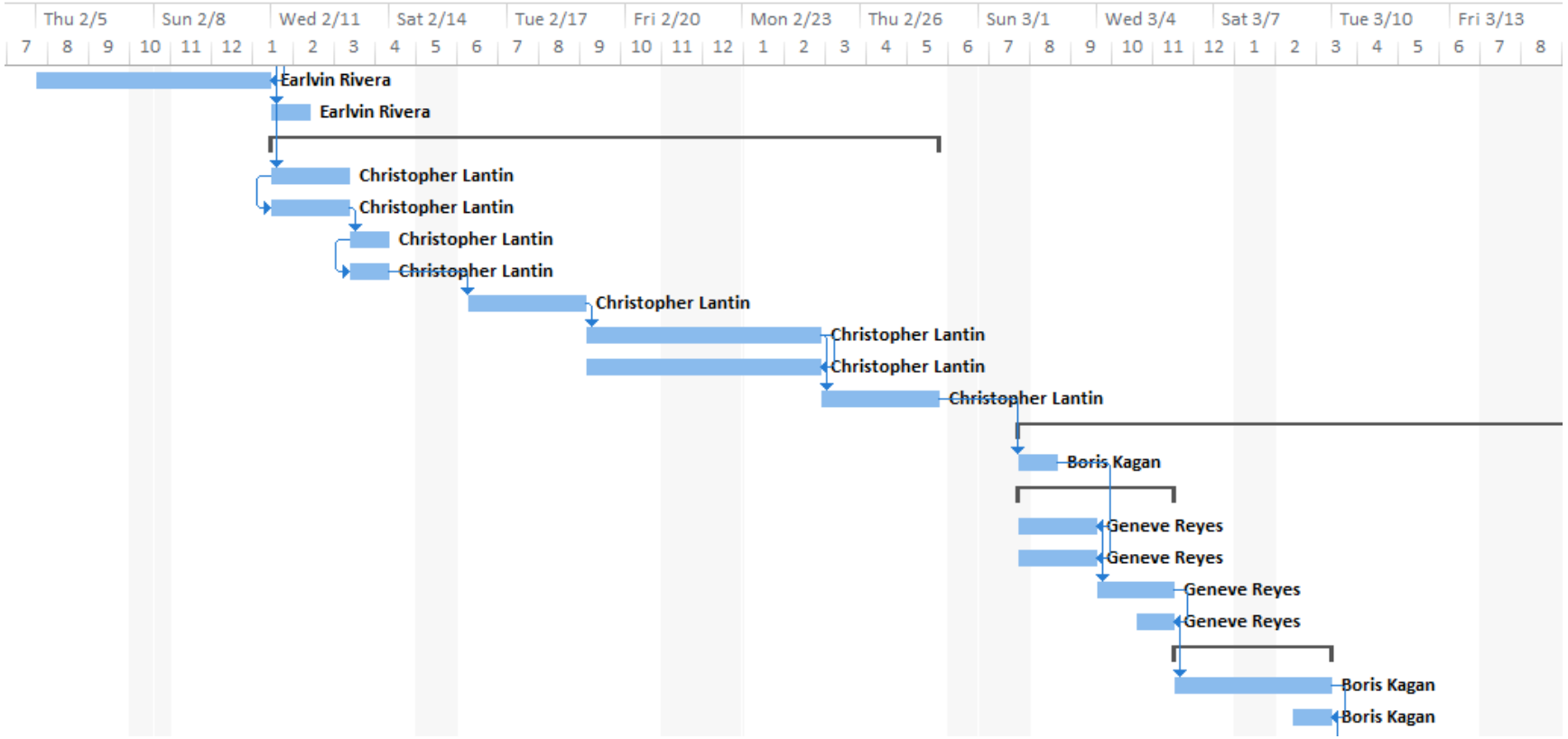
BCEG had a week and a half (8 days) which the Business case was to be prepared and presented to its client GoKart Racing for approval. BCEG time boxed the Initialize and Conceptualize Project phase for 8 business days. Plan Project Scope followed the same format used at the Burlingame location on work times and the Estimate Budget and Schedule used a Bottom-Up approach in order to assure the scaling of the facilities were accurate to allocate Sacramento location size difference.

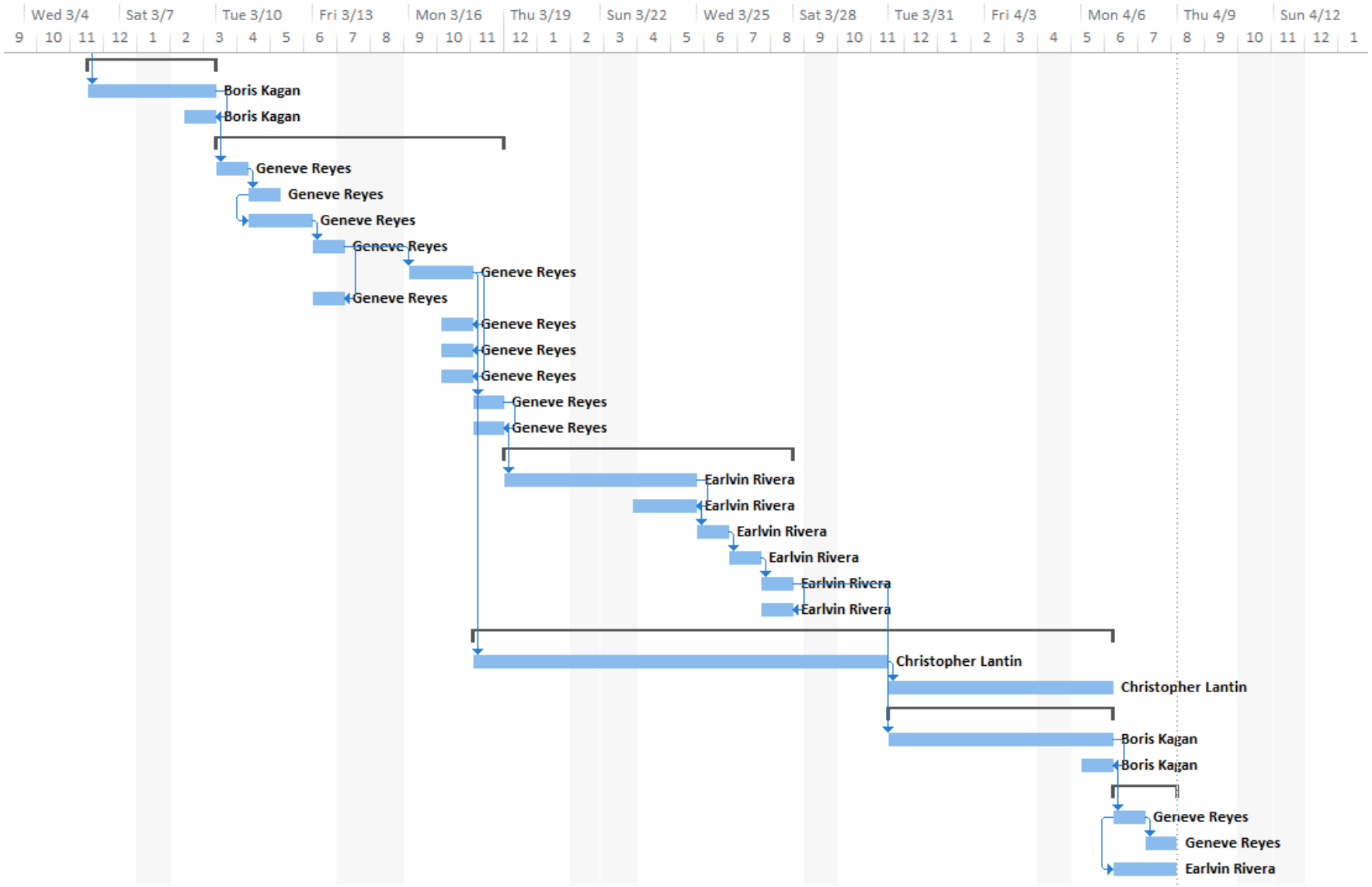
A bottom-up approach was used in the remainder of the projects and implemented in each time box. The bottom-up approach gave the project a more aggregate of detailed activities and greater control over the delivery allowing few tasks to be performed simultaneously. The preparation of the Project Schedule and Budget is shown below using Microsoft Project 2013.

WBS	Task Name	Duration	Start	Finish	Resource Names
1	**Initialize and Conceptualize Project**	**8 days**	**Mon 2/2/15**	**Wed 2/11/15**	**Earlvin Rivera**
1.1	Identify project team members	3 days	Mon 2/2/15	Wed 2/4/15	Earlvin Rivera
1.2	Develop Measurable Organizational Value	2 days	Thu 2/5/15	Fri 2/6/15	Earlvin Rivera
1.3	Assess Alternative Solutions	4 days	Thu 2/5/15	Tue 2/10/15	Earlvin Rivera
1.4	Deliverable: Business Case	4 days	Thu 2/5/15	Tue 2/10/15	Earlvin Rivera
1.5	Client Approval of Business Case	1 day	Wed 2/11/15	Wed 2/11/15	Earlvin Rivera
2	**Plan Project**	**13 days?**	**Wed 2/11/15**	**Fri 2/27/15**	**Christopher Lantin**
2.1	Define Project Scope	2 days	Wed 2/11/15	Thu 2/12/15	Christopher Lantin
2.2	Deliverable: Create Scope Management Plan	2 days	Wed 2/11/15	Thu 2/12/15	Christopher Lantin
2.3	Deliverable: Create Communication Plan	1 day?	Fri 2/13/15	Fri 2/13/15	Christopher Lantin
2.4	Define Project Phases	1 day?	Fri 2/13/15	Fri 2/13/15	Christopher Lantin
2.5	Define Tasks	3 days	Mon 2/16/15	Wed 2/18/15	Christopher Lantin
2.6	Estimate Budget and Schedule	4 days	Thu 2/19/15	Tue 2/24/15	Christopher Lantin
2.7	Deliverable: Create Baseline Project Plan	4 days	Thu 2/19/15	Tue 2/24/15	Christopher Lantin
2.8	Client Approval of Project	3 days	Wed 2/25/15	Fri 2/27/15	Christopher Lantin
3	**Execute Project**	**26 days?**	**Mon 3/2/15**	**Mon 4/6/15**	**Boris Kagan**
3.1	Kick off Project Debriefing	1 day?	Mon 3/2/15	Mon 3/2/15	Boris Kagan
3.2	**Analysis**	**4 days**	**Mon 3/2/15**	**Thu 3/5/15**	**Geneve Reyes**
3.2.1	Analyze Requirements	2 days	Mon 3/2/15	Tue 3/3/15	Geneve Reyes
3.2.2	Assess Physical Location (Warehouse)	2 days	Mon 3/2/15	Tue 3/3/15	Geneve Reyes
3.2.3	Deliverable: Use Case Scenario	2 days	Wed 3/4/15	Thu 3/5/15	Geneve Reyes
3.2.4	Client Sign Off	1 day	Thu 3/5/15	Thu 3/5/15	Geneve Reyes
3.3	**Design**	**2 days?**	**Fri 3/6/15**	**Mon 3/9/15**	**Boris Kagan**
3.3.1	Deliverable: Context and DFD Diagram	2 days	Fri 3/6/15	Mon 3/9/15	Boris Kagan
3.3.2	Client Sign Off	1 day?	Mon 3/9/15	Mon 3/9/15	Boris Kagan

WBS	Task Name	Duration	Start	Finish	Resource Names
3.3.2	Client Sign Off	1 day?	Mon 3/9/15	Mon 3/9/15	Boris Kagan
3.4	**Construction**	**7 days?**	**Tue 3/10/15**	**Wed 3/18/15**	**Geneve Reyes**
3.4.1	Contact Software Vendor	1 day?	Tue 3/10/15	Tue 3/10/15	Geneve Reyes
3.4.2	Finalize Software Order	1 day?	Wed 3/11/15	Wed 3/11/15	Geneve Reyes
3.4.3	Purchase Hardware	2 days	Wed 3/11/15	Thu 3/12/15	Geneve Reyes
3.4.4	Setup Hardware	1 day?	Fri 3/13/15	Fri 3/13/15	Geneve Reyes
3.4.5	Install/Setup System Software	2 days	Mon 3/16/15	Tue 3/17/15	Geneve Reyes
3.4.6	Setup Network at Warehouse Facility	1 day?	Fri 3/13/15	Fri 3/13/15	Geneve Reyes
3.4.7	Setup Timing Sensors	1 day?	Tue 3/17/15	Tue 3/17/15	Geneve Reyes
3.4.8	Setup Database and CRM	1 day?	Tue 3/17/15	Tue 3/17/15	Geneve Reyes
3.4.9	Setup POS and Inventory System	1 day?	Tue 3/17/15	Tue 3/17/15	Geneve Reyes
3.4.10	Verify Adherance to MOV	1 day?	Wed 3/18/15	Wed 3/18/15	Geneve Reyes
3.4.11	Client Sign Off	1 day?	Wed 3/18/15	Wed 3/18/15	Geneve Reyes
3.5	**Testing**	**7 days?**	**Thu 3/19/15**	**Fri 3/27/15**	**Earlvin Rivera**
3.5.1	Test, Finalize and Tune Entire System	4 days	Thu 3/19/15	Tue 3/24/15	Earlvin Rivera
3.5.2	Perform Dry Run of System	2 days	Mon 3/23/15	Tue 3/24/15	Earlvin Rivera
3.5.3	Analyze Dry Run and System Results	1 day?	Wed 3/25/15	Wed 3/25/15	Earlvin Rivera
3.5.4	Verify Adherance to MOV	1 day?	Thu 3/26/15	Thu 3/26/15	Earlvin Rivera
3.5.5	Client Sign Off	1 day?	Fri 3/27/15	Fri 3/27/15	Earlvin Rivera
3.5.6	Release System	1 day?	Fri 3/27/15	Fri 3/27/15	Earlvin Rivera
3.6	**Implementation**	**14 days**	**Wed 3/18/15**	**Mon 4/6/15**	**Christopher Lantin**
3.6.1	Prepare Employee Training Programs	9 days	Wed 3/18/15	Mon 3/30/15	Christopher Lantin
3.6.2	Conduct Employee Training	5 days	Tue 3/31/15	Mon 4/6/15	Christopher Lantin
4	**Close Project**	**5 days?**	**Tue 3/31/15**	**Mon 4/6/15**	**Boris Kagan**
4.1	Prepare Final Report	5 days	Tue 3/31/15	Mon 4/6/15	Boris Kagan
4.2	Final Presentation of System to Client	1 day?	Mon 4/6/15	Mon 4/6/15	Boris Kagan
5	**Evaluate Project**	**2 days?**	**Tue 4/7/15**	**Wed 4/8/15**	**Geneve Reyes**
5.1	Post Project Review (of Project)	1 day?	Tue 4/7/15	Tue 4/7/15	Geneve Reyes
5.2	Perform Lessons Learned	1 day?	Wed 4/8/15	Wed 4/8/15	Geneve Reyes
6	Evaluate MOV Final	2 days	Tue 4/7/15	Wed 4/8/15	Earlvin Rivera

GoKart Racer Gnatt Chart

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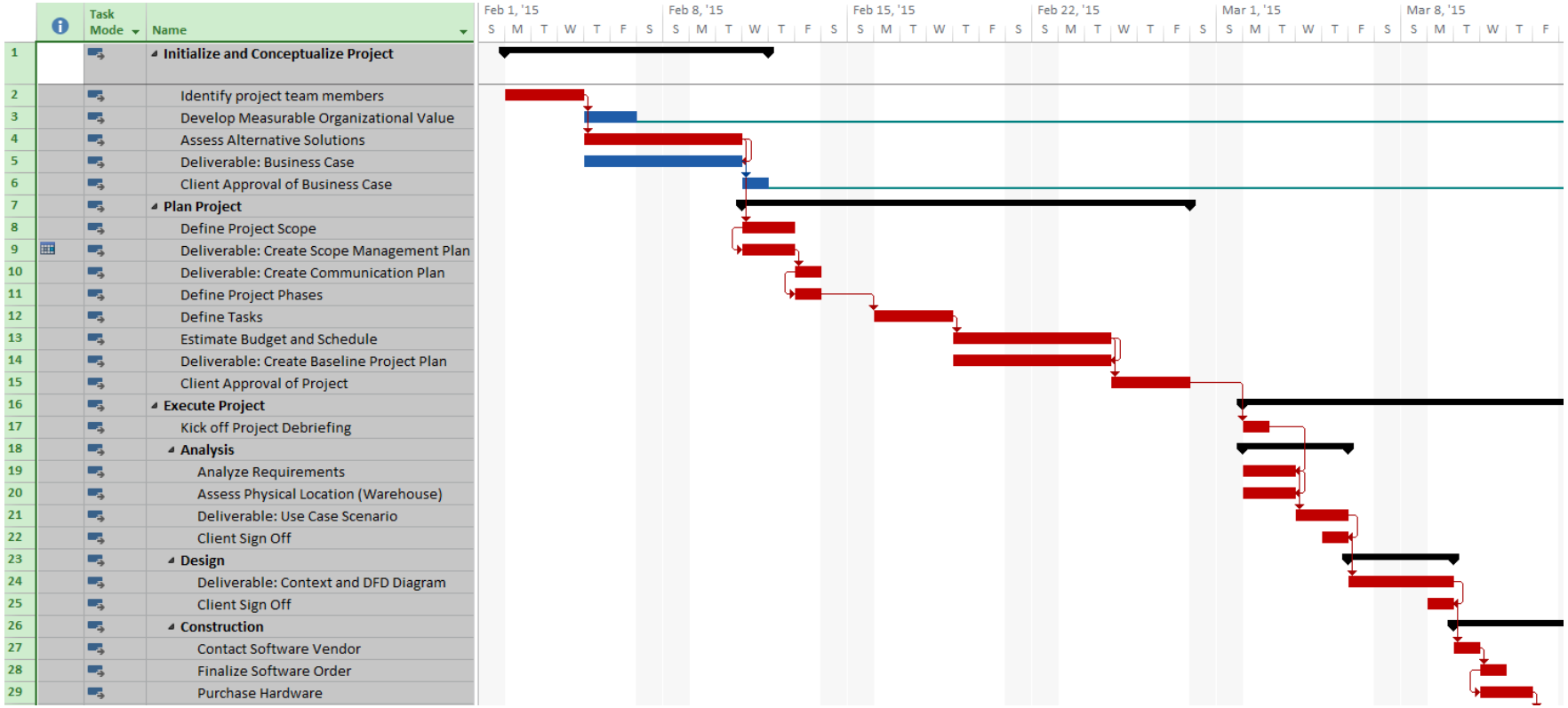
Project Schedule and Budget

Project Schedule

Project Schedule and Budget has been prepared using Microsoft Project



Project Schedule

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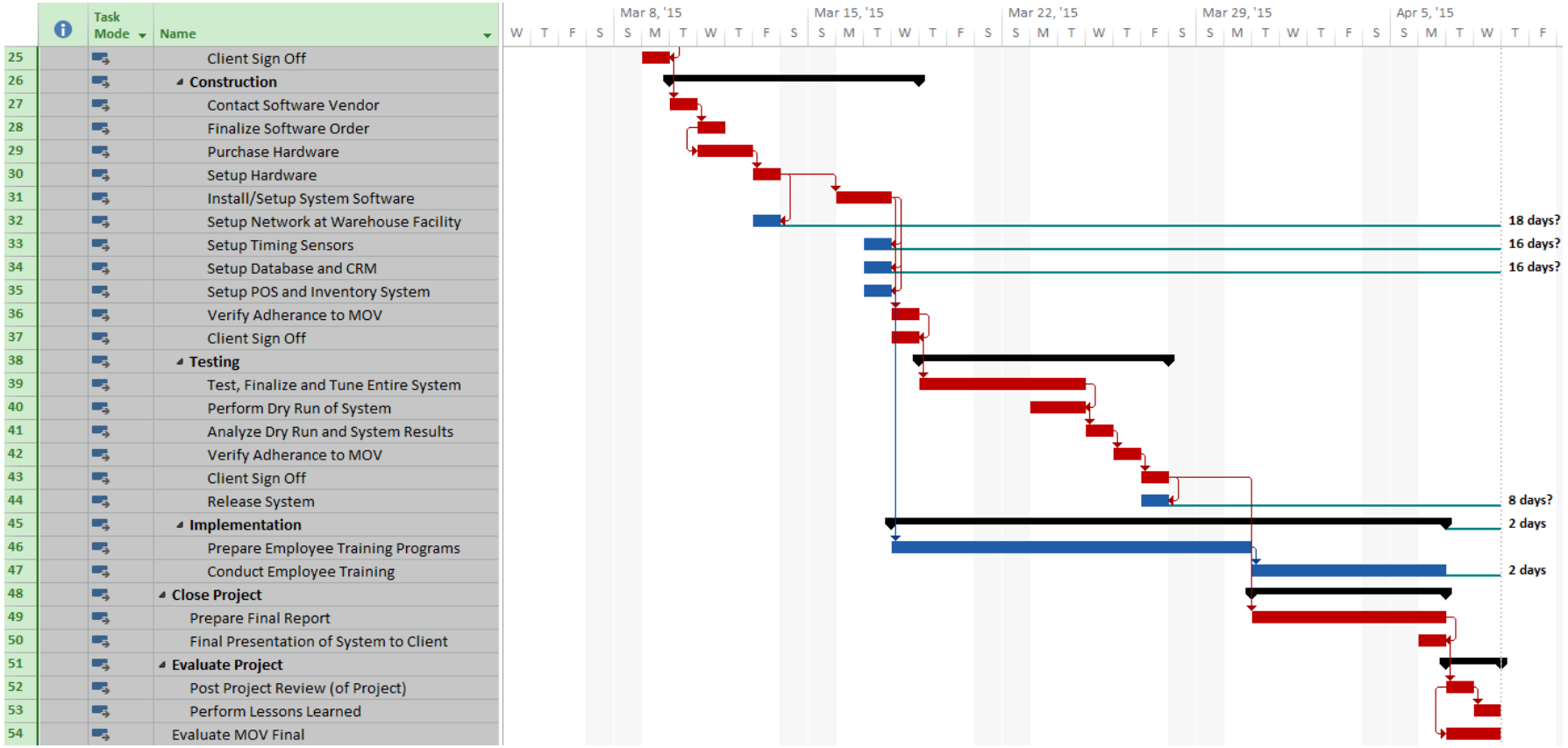


	Task Mode	Name
25		Client Sign Off
26		**Construction**
27		Contact Software Vendor
28		Finalize Software Order
29		Purchase Hardware
30		Setup Hardware
31		Install/Setup System Software
32		Setup Network at Warehouse Facility
33		Setup Timing Sensors
34		Setup Database and CRM
35		Setup POS and Inventory System
36		Verify Adherance to MOV
37		Client Sign Off
38		**Testing**
39		Test, Finalize and Tune Entire System
40		Perform Dry Run of System
41		Analyze Dry Run and System Results
42		Verify Adherance to MOV
43		Client Sign Off
44		Release System
45		**Implementation**
46		Prepare Employee Training Programs
47		Conduct Employee Training
48		**Close Project**
49		Prepare Final Report
50		Final Presentation of System to Client
51		**Evaluate Project**
52		Post Project Review (of Project)
53		Perform Lessons Learned
54		Evaluate MOV Final

Project Time Frame

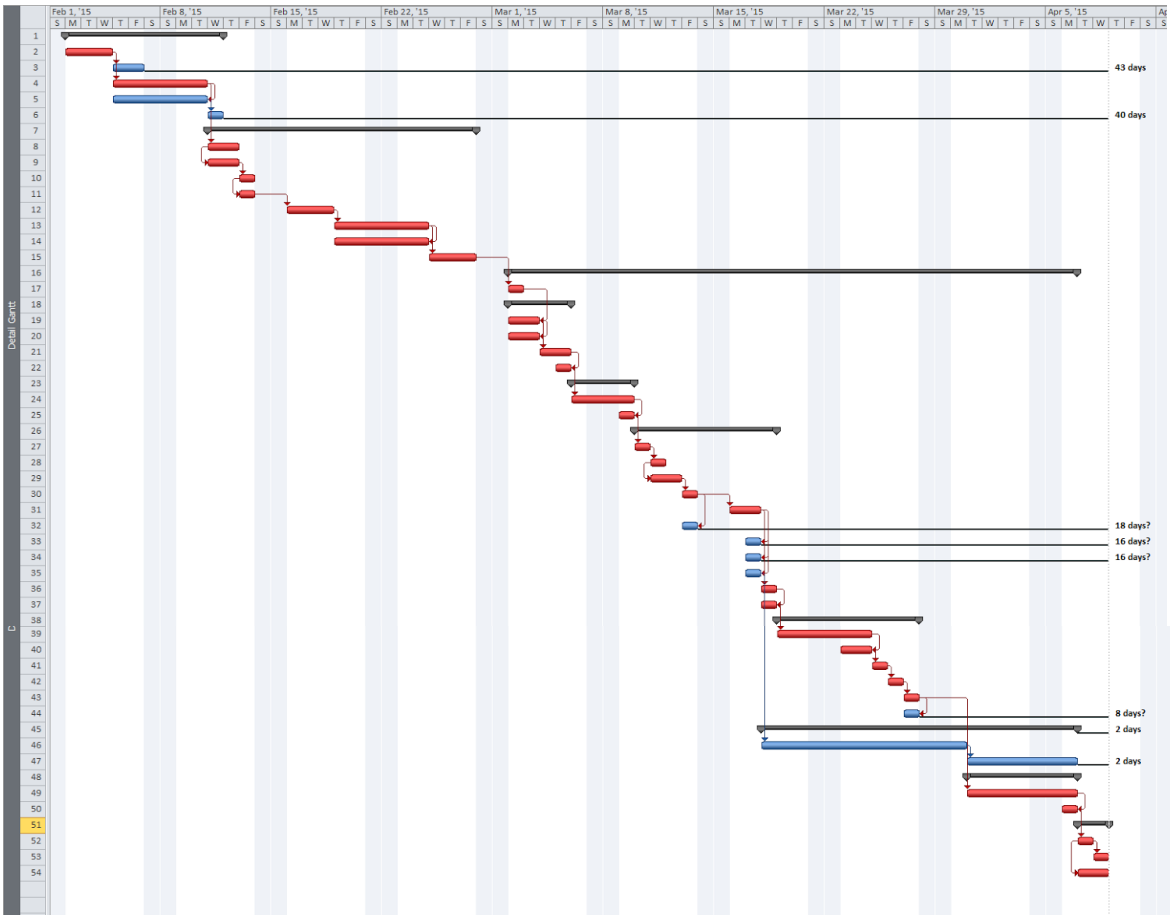
Beginning and End dates for BCEG Business Analysis for Improvement of GoKart Racer's IT System are as follows:

Sunday February 1, 2015 thru April 8, 2015 - Total of (48 Days)

Critical Path

The importance of this critical path sets the pace of the project total work time. The events on the critical path do not have built in buffers for delay, thus these events must be completed on time. Any delay in these critical path events increases the total time spent this project.

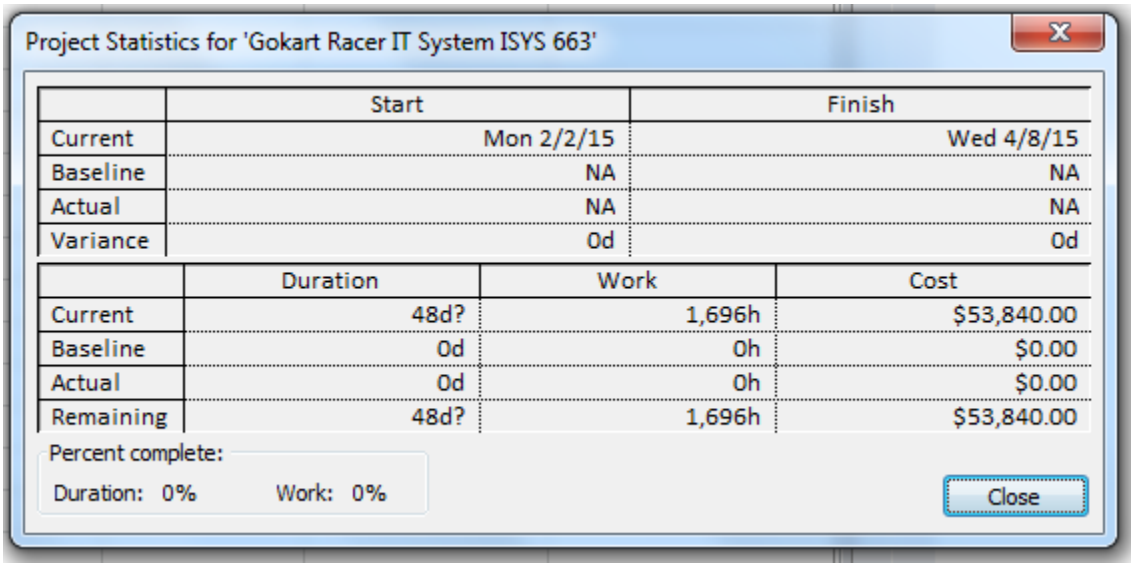
This particular project has 1 primary critical path as shown below



Project Budget

The budget for this project as shown is estimated at $53,840.00 with a total of 1,696 work hours.

Project Statistics



Appendix

BCEG Business IT Consulting Firm LLC

Scope Change Request Form

Ver - 1.01

November XX, 2014

Scope Change Request Form

Project Name: **Request Date:**

Client Name: **Requestor Name:**

Problem Description:

Recommend Alternative:

Justification:

Other Alternatives	Reason for Rejection

Authorized by: **Date:**

Work Breakdown Structure

Acceptance and Approval:

The signature below indicate acceptance and approval of the Work Breakdown Structure of the GoKart Racing Timing System project and its estimated schedule.

Name	Title/Role	Company	Signature
_____	**Project Manager**	B.C.E.G. Business IT Consulting Firm, LLC.	_____
_____	**System Architect**	B.C.E.G. Business IT Consulting Firm, LLC.	_____

Project Schedule and Budget

Acceptance and Approval:

The signature below indicate acceptance and approval of the Project Schedule and Budget Structure of the GoKart Racing Timing System project and its estimated schedule.

Name	Title/Role	Company	Signature
_____	**Project Manager**	B.C.E.G. Business IT Consulting Firm, LLC.	_____
_____	**System Architect**	B.C.E.G. Business IT Consulting Firm, LLC.	_____