Transforming Air Traffic within the US National Airspace System

Allan Lee, Paul Mickey, Keith Vest, Joey Niedzwiedz

Arkansas Tech University

Table of Contents

Business Case for Transforming Air Traffic	
Project Charter	6
Team Roster	
Stakeholder Register	9
Stakeholder Management Strategy	
Scope Statement	
Work Breakdown Structure (WBS)	
WBS Dictionary Entry 1	
WBS Dictionary Entry 2	
WBS Dictionary Entry 3	
WBS Dictionary Entry 4	
WBS Dictionary Entry 5	
Cost Estimate	
Project Schedule	
Gantt chart	
PERT chart	
Critical path identification	
Quality Assurance Plan	
Quality Management Plan	

Quality Metrics
Human Resource Plan
Staffing Management Plan 32
Communication Management Plan
Risk Management Plan
Procurement Management Plan 39
Progress Report Weekly
Progress Report Monthly
Progress Report Daily
Project Closing
Lessons Learned Report
Lessons Learned Register 49
References
Appendix

Business Case for Transforming Air Traffic

Date: 2/26/2020

Project Name: Transforming Air Traffic within the US National Airspace System

1.0 Introduction/ Background: The purpose of this project is for the U.S. Department of Transportation, Federal Aviation Administration (FAA), and Air Traffic Organization (FTO) is overhauling their air traffic control system. This is also known as the Next Generation Air Transportation System (or simply called NextGen).

2.0 Business Objective: The business objective is for the U.S. Department of Transportation, Federal Aviation Administration (FAA), and Air Traffic Organization (FTO), to better manage how to use the Automatic Dependent Surveillance-Broadcast (ADS-B). It is a program that is supposed to help and achieve better management for the FAA and any other agencies that is involve with the air traffic. The system is also supposed to help with the reduction of traffic delays, it saves up time and fuel, permit controllers to monitor and manage aircraft, making it to where it is more efficient and increase capacity

3.0 Current Situation and Problem/Opportunity Statement: The problem with the current U.S. Air Traffic Control System is increasing traffic delays, an inefficiently with monitoring aircrafts, and the ever-increasing degree of aircrafts being implemented into the system.

4.0 Critical Assumption and Constraints: Started in 2007 and want to get it done by 2020. The budget is US\$1.7 billion. Other country has a different requirement. If the budget for the aircraft manufacture gets cut, then it would affect the future of the project as the program begins to develop.

5.0 Analysis of Options and Recommendation:

5.1 Analysis of Option:

There are a few options in implementing this project:

- 1. Do the rollout if Congress approves funding
 - a. Document work that has been done
 - b. Have airlines document changes made in the context of trips and submit

their findings

- 2. Cancel Project if there is no funding
- 3. Consider other options if the project is too big to do.
- 5.2 Recommendation:

Our recommendation would be the first option.

6.0 Preliminary Project Requirements:

There are a few preliminary requirements, as follows:

- 1. Determine the Airports' Needs
- 2. Determine the Airlines' Needs
- 3. Determine the Aircraft Manufactures' Needs
- 4. Determine other needs by region.

7.0 Budget Estimate and Financial Analysis:

The budget was granted US \$1.7 billion as a baseline for 2007-2014.

8.0 Schedule Estimate:

Based on our analysis this project will take around 13 amounts of years.

9.0 Potential Risks

The system could be worse than before we started.

Could run into many errors after implementing it.

Not finishing the project on time.

Going over the planned budget.

Project Charter

Date: 2/19/2020

1	Project Title : Transforming Air Tr	affic within the US National Airspace System
	roject nuc. mansforming All II	and while the OS National Mispace System
]	Project Start Date: 2007	Projected Finish Date: 2020
	Budget Information: \$1.7 Billion	baseline as approved by the US Congress
]]	REVISIT	
]	Project Manager:	
I	Paul Mickey	
(000-666-5555	
Ī	pmickey@nextgen.faa.gov	
]	Project Objectives:	
I	Lessen the traffic delay and increas	e the efficiently with monitoring aircrafts and make
it easy to	to implement the increasing number	rs of aircrafts into the system
5	Success Criteria:	
I	Project on time	
1	Airline/Airport report improvement	t in security
	Airline/Airport report improvement	t in traffic handling

Approach:

- Improve security and traffic handling
- General project description and products or services provided by the project
- High level project schedule using project milestones
- Project approval requirements

Roles and Responsibilities									
Name and Signature	Role	Position	Contact Information						
Congress	Sponsor	Congress							
Irving Strong	Stakeholder/Customer	Management Advisor	Irving@gmail.com						
Hugo Key	Stakeholder	Congressman	Hugo@outlook.com						
Ayra Contreras	Stakeholder	Congress Woman	Arya@outlook.com						
Bob Iger	Stakeholder/Customer	Management Advisor	Bob@hotmail.com						
Paul Mickey	Project Manager	Team Lead	pmickey@nextgen.faa.gov						
Allan Lee	Information Security	Information Security	alee@nextgen.faa.gov						
Keith Vest	System Analyst	System Analyst	kvest@nextgen.faa.gov						
Joey Niedzwiedz	Assistant Lead	СІО	jniedzwiedz@nextgen.faa.gov						

Team Roster

Date: 2/19/2020

Project Name: Transforming Air Traffic within the US National Airspace System

Name	Role on Project	Position	Email	Phone	Location
Paul Mickey	Project Manager	Team Lead	pmickey@nextgen.faa.gov	(000) 666-5555	Arkansas, USA
Keith Vest	System Analyst	System Analyst	kvest@nextgen.faa.gov	(501) 555-7891	Arkansas, USA
Allan Lee	Informatio n Security	Information Security	alee@nextgen.faa.gov	(501) 555-4567	Arkansas, USA
Joey Niedzwiedz	Assistant Lead	CIO	jniedzwiedz@nextgen.faa.gov	(501) 555-1234	Arkansas, USA

Stakeholder Register

Prepared by Paul, Allan, and Keith Date: 2/26/2020

Name	Position	Internal/	Project Role	Contact Information
		External		
Irving Strong	Management	External	Project Advisor	Irving@gmail.com
	Advisor			
Hugo Key	Congressman	Internal	Sponsor	Hugo@outlook.com
Arya Contreras	Congresswoman	Internal	Sponsor	Arya@outlook.com
Bob Iger	Management	External	Project Advisor	Bob@hotmail.com
	Advisor			

Stakeholder Management Strategy

Prepared by Allan and Paul Date: 2/26/20

Name	Level of	Level of	Potential Management Strategies
	Interest	Influence	
Irving Strong	High	High	Irving is really passionate and excited
			about having a safer air space and would
			like to have it to be implemented soon.
			He hopes that one day that people would
			always feel safe when flying on an
			airplane.
Hugo Key	Medium	Medium	Is just there because he is heard about it.
			He's not super hype nor is he super bum
			that this is a thing. He looks
Ayra Contreras	High	Medium	She is very happy about this project and
			hope it will succeed. She hopes that this
			would
Bob Iger	Low	High	He doesn't have much time to overlook
			this project, would like to get involve.
			But too much of his time is already to
			help manage Disney.

Scope Statement

(Version 1.0)

Project Title: Transforming Air Traffic within the US National Airspace System Date: 3/4/2020

Prepared by: Paul Mickey

Project Justification:

Make life easier and get more planes in the air so more people can travel to their needed destination. Also, it is to make air travel safer.

Product Characteristics and Requirements:

- 1. Airports
- 2. Planes
- 3. People to buy tickets
- 4. Computers to run the programs
- 5. Other Sensor and Security Tools

Product User Acceptance Criteria:

- 1. Airlines and Pilots see improvements from the airline side
 - a. Saving money in fuel and other costs.
 - b. Saving time.
- 2. Air Traffic Controllers see improvements from the airport side.
 - a. If they can manage more flights in the airport more efficiently
- 3. Customers see improvements
 - a. Ask frequent flyers if they see time improvements

Summary of Project Deliverables

Project management-related deliverables: business case, charter, team contract, scope statement, WBS, schedule, cost baseline, status reports, final project presentation, final project report, lessons-learned report, and any other documents required to manage the project.

Product-related deliverables:

research reports, design documents, software code, hardware, etc.

- 1. Research needed to run the new software
- 2. Up to date hardware to run the new security software
- 3. New key cards and IDs to help with security

Work Breakdown Structure (WBS)

Date: 4/1/2020

Project Name: Transforming Air Traffic within the US National Airspace System

1. Initiating

- 1.1. Prepare stakeholder analysis
- 1.2.Prepare business case
- 1.3.Create project charter
- 1.4.Hold project kickoff meeting
- 1.5.Develop preliminary scope statement
- 2. Planning
 - 2.1.Project integration management
 - 2.1.1. Create team contract
 - 2.1.2. Develop project management plan
 - 2.2. Project scope management
 - 2.2.1. Develop Scope Statement
 - 2.2.2. Create WBS and WBS Dictionary
 - 2.3. Project time management
 - 2.4. Project cost management
 - 2.5. Project quality management
 - 2.6. Project human resource management
 - 2.7. Project communications management
 - 2.8. Project risk management

- 2.9. Project risk management
- 2.10. Project procurement management
- 3. Execution
 - 3.1. Installation
 - 3.1.1. Install Equipment
 - 3.1.2. Testing
 - 3.1.3. Documentation
 - 3.1.4. Switch to new System
 - 3.2. Stakeholder Communication
 - 3.2.1. Communications regarding project and changes to training
 - 3.2.1.1. Prepare emails, posters, memos, and other information
 - 3.2.1.2. Plan and hold meetings
 - 3.2.1.3. Prepare information for the corporate intranet
 - 3.2.2. Communications regarding productivity improvements
- 4. Monitoring and Controlling
- 5. Closing

Date: 4/1/2020

Project Name: Transforming Air Traffic within the US National Airspace System

WBS Item Number: 1

WBS Item Name: Initiating

Description:

In the Initiating part of the WBS, we will be working on preparing the stakeholder analysis, preparing the business case, creating the project charter, holding the project kickoff meeting, and developing the preliminary scope statement. This will take 8 days to complete and will require Allan, Joey, Paul, and Keith. This part is critical to the project in order to set the tone of the team and get an idea of what needs to be done. This will start on Feb 19th, 2020 and will end on Feb 28th, 2020.

Date: 4/1/2020

Project Name: Transforming Air Traffic within the US National Airspace System

WBS Item Number: 2

WBS Item Name: Planning

Description:

In the Planning part of the WBS, we will be working on project integration management (which involves creating the team contract and developing the project management plan), project scope management (involves developing the scope statement and creating the WBS and WBD dictionary entries), project time management, project cost management, project quality management, project human resource management, project communications management, project risk management, and project procurement management. This part will take 17 working days to complete from March 2nd, 2020 till March 24th, 2020. This might also require some of 6 non-working days to complete. This will be the most critical part of process to make sure everything is in order so everything can be done without delay on the Executing stage.

4/1/2020

Project Name: Transforming Air Traffic within the US National Airspace System

WBS Item Number: 3

WBS Item Name: Executing

Description:

In the Executing portion of the WBS, we will have to two main portions on Installation and Stakeholder communications, and both will take a total of 13 days. In the Installation portion includes the install of equipment, testing, documentation, and the switch to the new System. The Stakeholder Communication section consists of Communications regarding project and changes to training, which consists of three tasks, and Communications regarding productivity improvements. The Communications regarding project and changes to training consists of the three separate tasks of prepare emails, posters, memos, and other information, Plan and hold meetings, and Prepare information for the corporate intranet. These events will take 3 days, 9 days, and 4 days respectively. The communications regrading productivity improvements will consist of a total of 13 days.

4/1/2020

Project Name: Transforming Air Traffic within the US National Airspace System WBS Item Number: 4

WBS Item Name: Monitoring and Controlling

Description:

In the Monitoring and Controlling part of the WBS, we will be making sure that all the tasks and metrics are falling within the time, budget, and scope of the project. This will have to be managed throughout the whole project (start to finish) in order to make sure the project is successful. Ideally Monitoring and Controlling should be happening on a regular basis (at least one or two times a week, if not more) to keep us on track. Ideally the Project Manager will be overseeing this.

4/1/2020

Project Name: Transforming Air Traffic within the US National Airspace System

WBS Item Number: 5

WBS Item Name: Closing

Description:

The closing section of the WBS will consist of 18 days, in which time we will ensure that the project is completed and implemented making any changes that are requested from the client.

Cost Estimate

Cost Estimate

Project Name: Transforming Air Traffic within the US National Airspace System Date: Note: Enter your WBS, hours, labor rates, etc. Add/delete rows and columns as needed and check all formulas (bolded below).

	Internal	\$/hour	Internal	External	\$/hour		External		Total	N	ion-labor \$		Total Cost
WBS Categories	Labor		\$ Total	Labor			\$ Total		Labor				
1. Initiating	260	\$ 7,597	\$ 1,975,220	400	\$ 7,545	\$3	,018,000	\$	4,993,220	\$	13,000	\$	5,006,220
1.1 Create project charter	250	\$ 7,058	\$ 1,764,500	200	\$ 9,054	\$1	,810,800	\$	3,575,300	\$	40,000	\$	3,615,300
1.2 Develop preliminary scope statement	544	\$ 6,557	\$ 3,567,008	600	\$ 95	\$	57,000	\$	3,624,008	\$	33,500	\$	3,657,508
1.3 Create project charter	240	\$ 5,535	\$ 1,328,400	300	\$ 54	\$	16,200	\$	1,344,600	\$	33,000	\$	1,377,600
2. Planning	600	\$ 7,047	\$ 4,228,200	700	\$ 40	\$	28,000	\$	4,256,200	\$	15,770	\$	4,271,970
2.1 Project integration managment	440	\$ 7,542	\$ 3,318,480	350	\$ 33	\$	11,550	\$	3,330,030	\$	54,653	\$	3,384,683
2.1.1 Create team contract	560	\$ 5,581	\$ 3,125,360	575	\$ 86	\$	49,450	\$	3,174,810	\$	68,456	\$	3,243,266
2.1.2 Develop project management plan	740	\$ 8,548	\$ 6,325,520	500	\$ 46	\$	23,000	\$	6,348,520	\$	65,468	\$	6,413,988
3. Executing	450	\$ 4,098	\$ 1,844,100	525	\$ 45	\$	23,625	\$	1,867,725	\$	542,982	\$	2,410,707
3.1 Installation	330	\$ 322,989	\$ 106,586,370	340	\$ 250	\$	85,000	\$	106,671,370	\$	300,000	\$	106,971,370
3.1.1 Install Equipment	600	\$ 234,094	\$ 140,456,400	800	\$ 1,577	\$1	,261,600	\$	141,718,000	\$	154,800	\$	141,872,800
3.1.2 Negotiating skills training	550	\$ 212,565	\$ 116,910,750	400	\$ 150	\$	60,000	\$	116,970,750	\$	188,990	\$	117,159,740
3.1.3 Testing	500	\$ 650,382	\$ 325,191,000	450	\$ 150	\$	67,500	\$	325,258,500	\$	264,806	\$	325,523,306
3.1.4 Software applications training	680	\$ 458,548	\$ 311,812,640	400	\$ 150	\$	60,000	\$	311,872,640	\$	266,542	\$	312,139,182
3.1.5 Documentation	690	\$ 23,351	\$ 16,112,190	200	\$ 175	\$	35,000	\$	16,147,190	\$	326,259	\$	16,473,449
3.2 Course administration	400	\$ 23,982	\$ 9,592,800	300	\$ 250	\$	75,000	\$	9,667,800	\$	80,000	\$	9,747,800
3.3.Course evaluation	300	\$ 13,055	\$ 3,916,500	300	\$ 90	\$	27,000	\$	3,943,500	\$	32,105	\$	3,975,605
3.4 Stakeholder communications	300	\$ 2,402	\$ 720,600	250	\$ 320	\$	80,000	\$	800,600	\$	80,506	\$	881,106
3.4.1 Prepare email, poster, memo and other informatioo	420	\$ 1,680	\$ 705,600	320	\$ 80	\$	25,600	\$	731,200	\$	74,500	\$	805,700
3.4.2 Plan and hold meeting	550	\$ 4,208	\$ 2,314,400	400	\$ 320	\$	128,000	\$	2,442,400	\$	65,820	\$	2,508,220
3.4.3 Prepare infromation for the corporate	250	\$ 1,501	\$ 375,250	200	\$ 225	\$	45,000	\$	420,250	\$	87,653	\$	507,903
4. Monitoring and Controlling	500	\$ 5,503	\$ 2,751,500	400	\$ 350	\$	140,000	\$	2,891,500	\$	23,360	\$	2,914,860
5. Closing	200	\$ 6,508	\$ 1,301,600	200	\$ 125	\$	25,000	\$	1,326,600	\$	44,205	\$	1,370,805
Subtotal			\$ -			\$	-	\$	-			\$	1,076,233,088
Reserves			\$ -			\$	-	\$	-			\$1	07,623,308.80
Total	10,354		1,066,224,388	9,110	21,210	7	,152,325	1	,073,376,713		2,856,375	\$	1,183,856,397

Project Schedule

ID	8	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names
1	V		Initiating	8 days	Wed 2/19/20	Fri 2/28/20		Allanson Lee, Thomas Niedzwiedz, Paul Mickey, Keith Vest
2	\checkmark		Prepare stakeholder analysis	1 day	Mon 2/24/20	Mon 2/24/20		Allanson Lee
3	 Image: A start of the start of		Prepare business case	1 day	Wed 2/26/20	Wed 2/26/20	2	Keith Vest
4	 Image: A start of the start of	-5	Create project charter	1 day	Wed 2/19/20	Wed 2/19/20		Paul Mickey
5	\checkmark	-5	Hold project kickoff meeting	1 day	Wed 2/26/20	Wed 2/26/20		Paul Mickey,Allanson Lee
6	\checkmark	-5	Develop preliminary scope statement	1 day	Fri 2/28/20	Fri 2/28/20		Thomas Niedzwiedz
7	\checkmark	*	Planning	17 days	Mon 3/2/20	Tue 3/24/20		Allanson Lee, Thomas Niedzwiedz, Paul Mickey, Keith Vest
8	\checkmark	*	Project integration management	1 day	Mon 3/2/20	Mon 3/2/20		Keith Vest, Allanson Lee
9	\checkmark		Create team contract	1 day	Mon 3/2/20	Mon 3/2/20		Keith Vest
10	\checkmark	-5	Develop project management plan	1 day	Mon 3/2/20	Mon 3/2/20		Allanson Lee
11	\checkmark	*	Project scope management	3 days	Tue 3/3/20	Thu 3/5/20	8	Paul Mickey, Thomas Niedzwiedz
12	\checkmark		Develop scope statement	1 day	Tue 3/3/20	Tue 3/3/20	6	Paul Mickey
13	\checkmark		Create WBS and WBS dictionary	2 days	Wed 3/4/20	Thu 3/5/20	12	Thomas Niedzwiedz
14	\checkmark	-5	Project time management	5 days	Fri 3/6/20	Thu 3/12/20		Paul Mickey
15	\checkmark		Project cost management	5 days	Thu 3/12/20	Wed 3/18/20	14	Paul Mickey
16	\checkmark		Project quality management	3 days	Fri 3/6/20	Tue 3/10/20		Thomas Niedzwiedz
17	\checkmark		Project human resource management	3 days	Wed 3/11/20	Fri 3/13/20		Thomas Niedzwiedz
18	\checkmark	-5	Project communications management	2 days	Fri 3/13/20	Mon 3/16/20		Paul Mickey
19	\checkmark	-5	Project risk management	9 days	Mon 3/2/20	Thu 3/12/20		Allanson Lee
20	\checkmark		Project procurement management	7 days	Mon 3/16/20	Tue 3/24/20		Thomas Niedzwiedz
21	\checkmark		Executing	13 days	Wed 3/25/20	Fri 4/10/20	7	Allanson Lee, Thomas Niedzwiedz, Paul Mickey, Keith Vest
22	\checkmark		Installation	13 days	Wed 3/25/20	Fri 4/10/20		Keith Vest, Allanson Lee
23	\checkmark		Install Equipment	8 days	Wed 3/25/20	Fri 4/3/20	20	Keith Vest
24	\checkmark		Testing	3 days	Sat 4/4/20	Tue 4/7/20	23	Keith Vest
25	\checkmark		Documentation	3 days	Wed 4/1/20	Fri 4/3/20	23SF,24SF	Allanson Lee
26	\checkmark		Switch to new System	3 days	Wed 4/8/20	Fri 4/10/20	24	Keith Vest,Allanson Lee
27	\checkmark		Stakeholder Communications	13 days	Wed 3/25/20	Fri 4/10/20		Paul Mickey
28	×	-\$	Communications regarding project and changes to training	13 days	Wed 3/25/20	Fri 4/10/20	2255	Paul Mickey
29	~		Prepare emails, posters, memos, and other information	3 days	Wed 3/25/20	Fri 3/27/20		Paul Mickey
30	\checkmark	-5	Plan and hold meetings	9 days	Wed 3/25/20	Mon 4/6/20		Paul Mickey
31	\checkmark	-5	Prepare Information for the corporate Intranet	4 days	Tue 4/7/20	Fri 4/10/20		Paul Mickey
32	~	-9	Communications regarding productivity improvements	13 days	Wed 3/25/20	Fri 4/10/20		Paul Mickey
	_							
ID	0	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names
33	~		Monitoring and Controlling	6 days	Wed 3/25/20	Wed 4/1/20	2155	Thomas Niedzwiedz
34	\checkmark		Closing	18 days	Thu 4/2/20	Sat 4/25/20	33	Allanson Lee, Thomas Niedzwiedz, Paul Mickey, Keith Vest
35	✓	*	Project must be completed by date	4 days	Mon 4/27/20	Thu 4/30/20	34	Allanson Lee,Keith Vest,Paul Mickey,Thomas Niedzwiedz



Gantt chart

PERT chart







Critical path identification

Quality Assurance Plan

Plan:

The plan is to make we see some improvements in time, costs, fuel, traffic, and overall security.

Do:

To accomplish this, we will measure this by having aircraft/airlines report their time, costs, fuel, and traffic. We will also have employees give report on their metrics like costs, time, and security and surveys to passengers.

Check:

In order to make sure the reports and surveys are filled there will be punishments for the employees that don't do the reports and rewards for passengers. If an employee fails to file a report, they will first be given a warning, second time will result and them being written up and repeated offences can result in no pay time off or firing. For passengers the survey will be optional and since it will look bad on the airport to punish customers and will instead be rewarded for completing the survey. The reward can be a gift card to a store or restaurant or a discount on their next flight.

Act:

The reports will be done by an online form where attachments can be added as needed. As for the survey, we will have an employee survey people as they leave the plane.

Quality Management Plan

4/1/2020

Project Name: Transforming Air Traffic within the US National Airspace System

Introduction:

In order to be able to track if this project is a success and the quality is up to par to where it needs to be, we will need to implement a few things in this project. Peoples' safety and security are ultimately in our hands. The following standards below will need to be followed.

Quality Standards:

The standards we are going to follow is that we want to see some improvements in time, costs, fuel, traffic, and overall security.

Metrics:

We will measure this by having aircraft/airlines report their time (notably delays), costs, fuel, and traffic before, during, and after an aircraft(s) join this new system. Then we would have the airport report on their metrics like costs, time, and security. We can also survey random passengers about their experience based on things like costs, time, and security. These reports will be done by an online reporting form where attachments can be added by the proper persons. As for the survey, we could have someone survey people in the airport like when they exit the plane/airport by an airport/airline employee. We might even put an incentive (ex. A gift card) if someone takes the survey.

Problem Reporting and Corrective Action Process:

If problems are reported with the other metrics from above, then we will need to then contact the person that reported it and then actively seek feedback on what can be done to make things better and to get rid of problems. To correct the issues then we would actively work with the people involved to fix the problems as needed (ex. If an Air traffic controller is having issues connecting to a system then we would need to reevaluate how the computer(s) are connected and then apply the right fix where needed). For correcting of problems, we will sit aside 10-20% amount of our budget to fix problems. If we exceed that amount, we will then reevaluate our budget and request more as needed (so long as the justification is good).

Supplier Quality and Control:

In order to keep the quality of the goods/services we receive/use we will need to do internal testing to ensure quality. If the quality is good, then we will test it in the field and if all goes well then goods/services will be deployed in the field.

The moment a good/service is not up to par then we will work with the supplier to determine an alternative and if the supplier cannot provide a reasonable alternative then we will use another supplier.

If a supplier's good/service makes it into deployment in the field and there are issues, then the supplier is expected to work out the issues and make it right. If we end up having to go to another supplier for a good/service for any circumstance, then the previous supplier will be expected to help with and/or refund costs for failure to deliver goods/services as stated by the contract that they will sign.

Quality Metrics

4/1/2020

Project Name: Transforming Air Traffic within the US National Airspace System

The following quality metrics apply to this project:

- 1. Time
 - a. Is an aircraft more delayed, on time, or early?
 - b. Do staff have to wait longer to complete a task or is it shorter?
 - c. Do Customers have to wait longer in the airport?
- 2. Costs
 - a. How are ticket costs for a flight?
 - b. What are the staffing costs?
 - c. Fuel Costs?
 - d. Other Aircraft Costs?

3. Fuel

- a. Are the aircrafts using more fuel or less fuel?
- 4. Security
 - a. Are airports more secure or are we less secure?
 - i. Have there been more security incidents or have there been less?

Human Resource Plan

- Making the right decision on hiring appropriate people for the best position fill that would best fit for them.
- Have people with the right skills to help achieve its aim and objective of the organization.
- The need to understand the important of some jobs to be
- Make sure harassment is on an all-time low or nonexistence
- This is to help encourage an individual to try to apply for a higher position
- Make sure to not have a lot of labor turnover
- Have a way to make the work schedule be flexible.
- Make sure to have emergency planning in case of a pandemic
- Have frequent meeting, whether it be weekly, bi-weekly, or monthly to asset any situations

Staffing Management Plan

4/1/2020

Project Name: Transforming Air Traffic within the US National Airspace System Introduction

To complete the project fast and efferently we will distribute the tasks that need to be completed to individuals that have the required skills to complete the task. For tasks that a member does not have the required skills for that task we will have them take a fast training course to ensure that they have the know how to get the task done.

Staffing Requirements

This project will require the following internal staff:

Allan Lee

Skills: HTML, SQL, Documentation

Paul Mickey

Skills: Planning, Documentation, Troubleshooting/Repairs, Computer

Administration, HTML/CSS, Python, JavaScript, SQL

Keith Vest

Skills: Diagraming, C++, Java, Documentation, SQL

Joey Niedzwiedz

Skills: C++, Java, SQL, HTML

Staff Assignments

Paul Mickey: Project Lead

Allan Lee: Information Security

Joey Niedzwiedz: Assistant Lead

Keith Vest: System Analyst

Training, Rewards, and Reassignment

<u>Training</u>: If there is a task that no one has the correct skill set for we will receive training needed to complete the task.

<u>Rewards</u>: Members that complete their work in a above expected result will receive a bonus to their salary.

<u>Reassignment</u>: If someone is not fulfilling their task in a timely manner than their task will be reassigned to another member of the group and the member that was reassigned will have a reduction to their group score

Communication Management Plan

Version 1.0

Date: 4/8/2020

Project Name: Transforming Air Traffic within the US National Airspace System

1. Stakeholder communications requirements:

In order to be able to have a stable project, good communication with the stakeholders and the project team will be necessary for a completed project. Ideally the project team should be communicating between the team then the team should be communicating with the stakeholders on a regular basis (via meetings, phone, and/or email). The stakeholders should then be communicating together to then provide any important information and/or feedback back to the project team, so there can be changes made to the project as seen fit.

2. Communications summary:

Stakeholders	Communications	Delivery Mothod/Format	Producer	Due/Frequency
Irving Strong	Weekly Status Report	Hard/Electronic Copy and Short Meeting	Allen Lee	Wed. Mornings At 9 AM
Hugo Key	Monthly Status Report	Hard/Electronic Copy and Short Meeting	Paul Mickey	1 st of every month
Ayra Contreras	Monthly Status Report	Hard/Electronic Copy and Short Meeting	Paul Mickey	1 st of every month
Bob Iger	Weekly Status Report	Short Meeting	Keith Vest and Joey Niedzwiedz	Monday Afternoons at 12:00pm

3. Comments/Guidelines:

The guidelines will be to meet due dates (ideally each responsible person should put the dates in their online calendar and then send out invites as needed). Document submitted should be sent via email and should also uploaded on a shared folder on cloud storage and/or a network share so that relevant people have access for reference.

* Note: Each document should have a standardized template that can be accessed by both the project team and the stakeholders.

4. Escalation procedures for resolving issues:

The guidelines for escalation will be that when issues arise, they will be documented in either in an issue tracking document (like excel with conditional formatting), in issue tracking software like Jira or Trillo, and/or a phone call/email. Then the project team will then resolve the issue as soon as they can. We will identify the priories as urgent (typically used for major security/safety issues as identified by the stakeholders) and normal (typically used for minor issues like delays and certain extra costs).

5. Revision procedures for this document:

The revision procedures for this document will be that we will use the track changes feature in word, along with the comments function and if something needs revised it will then need to be suggested by either a team member and/or stakeholder and then the change will need to be approved by both the project team and relevant stakeholders.

If an agreement for a revision cannot be decided, a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis should be performed weighing the pros and cons of the revision. This should give a better understanding of the change and help make an informed decision. If an agreement still cannot be made, then the project management along with the project advisors should make the decision for the time being and then revisit later on to make sure that there is not any issues (this should then be noted in the issue tracking document/software to come back and review this decision).

Risk Management Plan

Date: 4/8/2020

Project Name: Transforming Air Traffic within the US National Airspace System

1. Methodology:

Plan for risk before starting the project. List them out and label them from worst to minor. Have frequent meeting to discuss what is in progress and what is up and coming. Once a task is complete, it should be tested or review to make sure everything should be working. Once that is done, go to the next task.

2. Roles and Responsibilities:

Project Manager are to make sure that everyone has a role to do. IT workers should always try to be available.

3. Budget and Schedule:

The full budget is \$1.7 Billion. The schedule is that we start in 2007 and should roughly end in 2020.

4. Risk Categories: Catastrophe, major, minor, nonexistence, neutral:

- Catastrophe Something important that needs to be looked at as soon as possible and find a way to fix the problem
- Major The second most important thing that needs to be looked at or the first depending if there is no catastrophe
- Minor Something to eventually look at and it isn't a big issue at the moment
- Neutral nothing of importance to look at
- Nonexistence everything is going smoothly

5. Risk Probability and Impact:

They best way for it to be assessed is to first identify the problem. Plan on way to find a solution for the problem.

6. Risk Documentation:

If there is a problem that needs to be addressed then it should be written in a report and filed to the manger, HR department, or to the IT head.

Procurement Management Plan

Date: 4/8/2020

Project Name: Transforming Air Traffic within the US National Airspace System

Guidelines on Types of Contracts:

There will be a few different guidelines on the types on contracts used in this project.

They will be based on different categories:

- 1) Time How long the good/service going to take to complete.
- 2) Cost How much is the good/service going to cost.
- 3) Difficulty How difficult is this good/service.

Contracts will be decided by these factors based on what fits appropriately. If a contract

fits into two categories, then the one that is more acceptable will be assigned to it.

Standard procurement documents or templates:

See Appendix for Purchase Order template and tracker.

Guidelines for creating procurement documents:

- We will use a document that can be given to the vendor known as a Purchase Order
- We will use a tracker to keep track of the Purchase Orders and the budget
- If either are inadequate at any time, then a new document can be made once approved by the project team and stakeholders

Roles and responsibilities:

- Each Purchase Order (PO) should be filled out completely before the vendor and the project team signs off. This will show that the PO is approved.
 - o The vendor will need an authorized person to sign off to agree on price
 - If prices are going to vary (especially if it raises) then it should be noted in the PO along with a margin built in as a percentage.
 - If the price raises, then the project manager will review the purchase order and may decide to terminate the relationship.
 - The project team will use the project manager as the authorized person to sign off.
 - The project manager will need to review it and make sure the purchase is needed before approving it. If the PO is not approved, then the project manager will need to deny the PO and send it back to the person involved (ex. Vendor(s) and team member(s)).
 - The Notes/Special Conditions area in both the PO and the PO Tracker should be utilized so that conditions like refund and replacement costs along with any other special terms are covered which should be done for most POs. If there are no special terms, then it should be stated in the Notes/Special Conditions area that there are no special conditions (this area SHOULD NOT be left blank)
 - Note: Failure to fill out a PO completely will make the PO invalid even if it is authorized. The project manager will be held accountable if the PO is incomplete and approved as seen fit by the stakeholders.
- Then after the PO is approved it needs to be entered in the tracker file in order to keep track of the budget and the POs.

- The project manager will be held accountable on the budget and should give an update to the stakeholders on the budget as needed.
- If a PO is found to contain an error, then a new one should be issued with the same PO but with a letter A along with revision # at the end. Notes should be added to the new PO explaining the change. Then the old PO should be highlighted in red and the price removed in the tracker. Alongside the new PO entry there needs to be a note explaining why a revised PO was issued (can be copied from the PO document itself).
 - \circ Ex. PO # 003-A02, this shows that PO# 003 had a second revision done.
- If too many errors are found in a PO (and has been revised more than two times) then the project manager should reach out to the stakeholders for guidance as soon as possible.
- Once a procurement is completed the project manager will need to reach out to the vendor to make sure everything is good and then mark it complete in the tracker.
- If a vendor relationship needs to be terminated, then the project manager will draft a document explaining why the relationship is terminated and any other info covered as needed (example refunds and covering replacement costs).
- The Special Comments/Instructions/Issues section of the PO tracker should be used to keep track of issues found in POs and should be documented there along with the date and the issue bolded. Once resolved unbold the issue and put "resolved" next to it along with the date that it was resolved. The resolution should be noted in the regular Notes/Special Conditions area.
 - Ex. **3-3-20: PO # 003 has a suppler issue**
 - This is an ongoing issue with PO # 003, and it occurred on 3-3-20 and is ongoing.

- Ex. 3-6-20: PO # 004 costs have gone up resolved 3-8-20
 - There was an issue with PO # 004 on 3-6-20 and it was resolved on 3-8-20
- In order to close out a project a contract closure notice (Appendix #) will need to be issued to the vendor and the marked in the PO tracker.

Progress Report Weekly

Date:4/16/2020

Project Name: Delta Upgrade

Reporting Period: 2/3/2020 - 2/10/2020

Work completed this reporting period:

We have finished going over what upgrades they want and the schedule the software can be implemented. We decided to use agile model on how we will handle the process. We started working, testing, and tried implementing the software as we went. Got 10% of the functions done.

Work to complete next reporting period:

Continue working on and finishing the functions for the software. Implement the either the modified software or start upgrading the hardware and transferring the data.

What's going well and why:

The software is coming along as planned and with little delay that is quickly made up. We have had little problem dealing with the client has been pleasant and have been able to work together smoothly.

What's not going well and why:

We run into a that their hardware was out of date and could not run the new software without problems.

Suggestions/Issues:

The easiest solution would be to get new hardware but having them transfer data and installing it would cost more time and money.

OR

We modify the upgrade to be able to on their outdated hardware, but it will still be a problem for future upgrades.

Project changes:

The changes that were made are the way the design of the interface looks, how the navigation bar is ordered, the color of the interface. Possible changes to how we on about following the plan dealing with the older hardware.

Progress Report Monthly

Date:4/16/2020

Project Name: Delta Upgrade

Reporting Period: 2/3/2020 - 3/3/2020

Work completed this reporting period:

We have concluded on how to handle the out of date hardware. We continued working on and testing the software and continue to check with client and make sure everything is to their

liking.

Work to complete next reporting period:

We are on schedule to complete the software testing, implementing, and getting the approval by the client before the end of next month.

What's going well and why:

Now that we have decided on how we will handle the old hardware problem that we faced in an earlier report, we can move forward and without much problem.

What's not going well and why:

We still have some minor problems because we are using the older hardware but that is to be expected and we still think it was the best choice for the upgrade.

Suggestions/Issues:

We just need to continue to modify the software to work with the hardware.

Project changes:

We have not had any real big changes but as we are getting closer to finishing the upgrade, we continue gradually implement the software.

Progress Report Daily

Date:4/16/2020

Project Name: Delta Upgrade

Reporting Period: 2/3/2020 - 2/4/2020

Work completed this reporting period:

People are assigned their specific rolls

Work to complete next reporting period:

We will start the planning phase of what are the project that needs to be made

What's going well and why:

Getting the resources that is needed for the projects.

What's not going well and why:

So far nothing yet, as we are still assessing what we need to work on. Trying to set up a schedule with Delta.

Suggestions/Issues:

We might have work around their schedule if both of our schedules cannot line up an opening. Doing this could hurt us on other projects that we are working on, so we the weight the pros and cons.

Project changes:

The changes that needs to be made are finding out ways to replace some of the old hardware and software.

Project Closing

In order to close out the project we will need to complete these tasks:

- Review work to ensure everything is complete.
 - (Finish incomplete work as needed)
- Review documentation and train the appropriate personnel.
- Do final walkthroughs with the stakeholders to ensure the work is complete.
- Issue a contract closure notice (Appendix # 2-1) to vendors (see Procurement Plan on page # 39).
- Issue a Customer Acceptance/Project Completion Form (Appendix # 3-1).

Lessons Learned Report

Date:4/16/2020

Project Name: Transforming Air Traffic within the US National Airspace System Project Sponsor: FAA Project Manager: Paul Mickey Project Dates: 2/3/2020 - 4/28/2020 Final Budget: \$1 Billion

- 1. Did the project meet scope, time, and cost goals?
 - a. Yes, this project was able to meet the scope
 - i. The clients were happy with the product
 - b. managed the time to where we finish a little before schedule
 - i. The problem of them having old hardware cost us time but we were able to make up for it
 - c. we went a little over the cost goals by 3%.
 - i. The problem of them having old hardware cost us time and money
- 2. What was the success criteria listed in the project scope statement?
 - a. Airlines and Pilots see improvements from the airline side
 - i. Saving money in fuel and other costs.
 - ii. Saving time.
 - b. Air Traffic Controllers see improvements from the airport side.
 - i. If they can manage more flights in the airport more efficiently
 - c. Customers see improvements
 - i. Ask frequent flyers if they see time improvements
- 3. Reflect on whether or not you met the project success criteria.
 - a. Yes, we were able to hit our success criteria of it being on time and it was reported that there was an improvement of security and air traffic handling
- 4. What were the main lessons your team learned from this project?
 - a. We learned that we need to check client's equipment and we learn that we need to give ourselves a bigger safety margin on the budget
- 5. Describe one example of what went right on this project.
 - a. We had consistent meetings just about every week which made planning go easier.
- 6. Describe one example of what went wrong on this project.
 - a. Having to backtrack and make the software work with the older hardware. It was a mistake on our part on not seeing if their hardware was up to date
- 7. What will you do differently on the next project based on your experience working on this project?
 - a. Implement a bigger budget and have a "prepare period" where we would see how the client's equipment needs to be installed for the best efficiency.

Lessons Learned Register

Lessons Learned Register

ID Date Identified Owner

- 2/26/2020 Paul Mickey, Allanson Lee 5
- 14 3/17/2020 Paul Mickey
- 15 3/17/2020 Paul Mickey
- 18 3/18/2020 Thomas Niedzwiedz
- 19 3/18/2020 Paul Mickey
- 24 4/4/2020 Keith Vest 24
 - 4/4/2020 Keith Vest
- Hold Project Kickoff Meeting Project Time Management Project Cost Management
- **Project Communications Management** Project Risk Management

Name

- Testing
- Testing

- Category Situation Initiating Having a hard time scheduling a meeting with the client
- Planning Did not have big enough error margin to cover old hardware problem
- Planning We needed up going over budget
- Planning Client did not inform of us that their hardware was out of date
- Did not count for the risk of old hardware Planning
- Executing The client's hardware is too run the software without problems
- Executing Got behind schedule due to problem with hardware being outdated

Recommendation

We work a little bit more around their schedules Have bigger error margin for time and to always risk check Give a bigger margin for error Need to ask Client of any possible compilations Constantly looking for new risks and make plans to avoid risks Either update the hardware or modify the software Plan for set backs and do better job looking for risks

References

Brotherton, S. A., Fried, R. T., & Norman, E. S. (2008, October 19). Applying work

breakdown structure to project lifecycle. Retrieved from

https://www.pmi.org/learning/library/applying-work-breakdown-structure-project-lifecycle-6979

Marker, A., & SmartSheet. (n.d.). Free Purchase Order Templates. Retrieved from

https://www.smartsheet.com/purchase-order-templates

Purchase Order Template for Excel. (n.d.). Retrieved from

https://www.vertex42.com/ExcelTemplates/excel-purchase-order.html

Schwalbe, K. (2019). Information Technology Project Management. Australia: Cengage.

State of California. (n.d.). Monitoring & Control. Retrieved April 15, 2020, from

http://www.bestpractices.ca.gov/project_management/monitoring.shtml

Appendix

Item 1-1 Purchase Order Tracker:

	PURCHASE ORDER TRACKER									
PO#	Date	Vendor	Reason	Location	Notes/Special Conditions	Approved By	Closed?		Total	
1	3/24/2020	Cables to Go	Communication Cables	Various	Bulk order, this will be spread across airports	Paul Mickey	Yes		\$2,900	
								-		
								-		
								-		
								_		
							TOTAL	\$	2,900.00	

Item 1-2 Purchase Order Form:

PURCHASE ORDER

FAA – NextGen 800 Independence Ave.				DATE: 3/24/2020
SW Washington, DC 20591				PURCHASE ORDER NO. 1
(407) 939-5277 Example@nextgen.faa.gov Point of Contact: John Doe				VENDOR NO. 20
Needer			11-11T-	
Vendor ATTN: Dill Seaith				
Cables to Go			FAA- NextGen	
123 Main Street			800 Independence Ave, SW	
Hamilton, OH 44416			Washington, DC 20591	
(321) 456-7890	Email: bsmith@c2go.com		(321) 456-7890	Email: alee@nextgen.faa.gov
SHIPPING METHOD	SHIPPING TERMS	SHIP VIA	PAYMENT	DELIVERY DATE
FEDEX		Freight	Included	4/5/2020
TTH NO	DESCRIPTION	072		TOTAL
IIEM NO.	20.000 ft Ethernet	GIT	UNITPRICE	IOIAL
34405	Cable	1		\$1,000.00
35505	20,000 Ft Coax Cable	1		\$1,000.00
36604	1,000 Ethernet Connectors	1		\$200.00
36605	1,000 Coax Connectors	1		\$200.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
Notes/Special Conditions:				φ0.00
One-time purchase			SUBTOTAL	\$2,400.00
			DISCOUNT	0.00
			SUBTOTAL LESS DISCOUNT	0.00
			TAX RATE	0.000%
			TOTAL TAX	0.00
			SHIPPING/HANDLING	\$500.00
			OTHER	0.00
			TOTAL	\$ 2,900.00

Item 2-1: Closing Contract Form:

Contract Closure Notice Date: 4/4/2020

Hello Cables to Go,

As described in **PO # 001**, this letter provides formal notice that the work you were contracted to perform for <u>Bulk Cable Order</u> has been completed. Payment is being processed based on <u>shipment arriving</u>.

By: Paul Mickey, Project Manager, FAA-NextGen
Date 4/4/2020

Item 3-1: Customer Acceptance/Project Completion Form:

Customer Acceptance/Project Completion Form Date

Project Name: ______ Project Manager: ______

I (We), the undersigned, acknowledge and accept delivery of the work completed for this project on behalf of our organization. My (Our) signature(s) attest(s) to my (our) agreement that this project has been completed. No further work should be done on this project.

Name	Title	Signature	Date

Was this project completed to your satisfaction? ____ Yes ____ No

2. Please provide the main reasons for your satisfaction or dissatisfaction with this project ...

3. Please provide suggestions on how our organization could improve its project delivery capability in the future.

Thank you for your inputs.