APPENDIX B **Matriculation Number:**

(Note: this document was issued to all students prior to the examination as pre-reading material)

FlyWorld Budget Airline Case Study

1. Company Overview

FlyWorld is a budget airline company, that is 12 years young, operating a fleet of forty A320-100 aircrafts that serves 15 cities, within a 5-hour (flight time) range. The company employs 800 people and is highly profitable as all the cities the company serves are favorite destinations for visitors and tourists. ***FlyWorld*** expects explosive growth of air travel, facilitated by open skies agreements and spurred by competition. At the same time, it targets to add 15 more destinations while doubling its fleet and doubling its revenue within three years.

A short term objective is to reduce its operating expenses by enabling air ticket purchases over the Internet. Today, the majority of its tickets are sold either through travel agencies or through its branch offices located in these 15 cities. This strategy to handle ticketing activities on the Internet is expected to lower annual overall operational costs at ***FlyWorld*** by 30%. By the first year of operation, ***FlyWorld*** expects to handle 40% of ticketing sales over the Internet using credit or debit cards or direct debit via eNETS. It targets to complete 90% of all consumer sales in this manner within 2 years. The branch offices will be completely phased out in this timeframe with all queries handled, over the phone, by Customer Care service representatives.

An important mid-term strategy is to build alliances with world-wide tour operators to service the transportation component of their travel packages, particularly those targeting the cities that ***FlyWorld*** already operates in. High-level discussions with these operators are already in progress.

Mr ITD, IT director at ***FlyWorld***, has been with the company since its founding. He was employee number 10 when he joined the company. Mr ITD, now, has a total of 40 staff in his department. Although there has been a high turnover of staff in the recent months, he is fortunate to have a handful of staff that are dedicated and loyal to the company.

2. Background

Six months ago, Mr ITD commissioned a small team in his organization to study what it would take to transform their suite of IT application systems into one that aligns with the new business directive slated for ***FlyWorld***. The results of this investigation are summarized in three reports as follows:

a. The team studied the internal make-up of the current **Ticketing** application. In this exercise, the team determined the functional structure of the system that had grown unwieldy over time. In their report, the System Assessment Report, they indicated that less than 10% of the existing system can be salvaged; the rest has to be rebuilt. In fact, the existing architecture in its current state will severely limit ***FlyWorld's*** ability to meet the expected growth of the business.

b. This team, together with the help of external consultants, also produced a 18-month Architectural Blueprint of the next generation **e-Ticketing** capability using a Service Oriented Architecture approach that supports multi-channel (C2B, B2B, etc…) and multi-modal (internet, phone, web services etc…) activities. It will service consumers and businesses, including hotels, travel agencies and tour operators, to interact with ***FlyWorld***. Two phases of implementation has been identified for the **e-Ticketing** initiative:

- **Phase 1: Passenger Ticketing**. This phase creates the architectural basis for the next phase of implementation. Passenger Ticketing comprises of three capabilities or work packages: Book Ticket, Process Payment and Issue Ticket. Further, this phase will involve migration of a large segment of data from the current **Ticketing** application to the new SOA-based system.
- **Phase 2: Commercial Ticketing**. This phase handles transactions with various distribution channels including hotels, travel agencies and tour operators. This phase will be engineered and delivered by ***FlyWorld's*** in-house development team based on the architecture established in Phase 1. Phase 2 is expected to be operationally ready 6 months following the deployment of Phase 1. It is expected that the majority of the service components engineered by ***EasyWork*** in Phase 1 will be orchestrated for reuse in the Phase 2 development. The current **Ticketing** Application will be fully migrated to the new SOA-based system, and retired, when Phase 2 is complete. Work on Phase 2 will start when the design for Phase 1 has been baselined.

c. The team produced a Vendor Evaluation Report that summarized the responses to an RFP issued by ***FlyWorld*** for the project. A major criteria for selecting the outsource service provider is that the company must be reputable and have extensive experience in eCommerce and SOA implementation, preferably for similar applications in the Airline industry.

Following an elaborate evaluation of the candidate solution providers, ***FlyWorld*** signed a 2-year outsourcing agreement with ***EasyWork***, for an undisclosed sum. ***EasyWork's*** Statement of Work comprises three parts:

i. Assume application maintenance responsibility over 2 years for the existing **Ticketing** application and the two phases of the new **e-Ticketing** system: Passenger and Commercial Ticketing. Mr ITD has already stipulated that all Change Requests of substantial impact on the existing **Ticketing** application are to be averted unless these are mandated by new policies or regulatory requirements. In either case, Mr ITD must approve them for implementation.

ii. Undertake to develop, deliver, deploy and operationalize Phase 1, **Passenger Ticketing** within 9 months from the contract date.

iii. Provide advisory services for the implementation of Phase 2, **Commercial Ticketing**.

Mr ITD made the recommendation to the Management Board to outsource this first phase (Phase 1) after his 6-month study. The basis for this recommendation is:

- The current design of the **Ticketing** application is clearly unable to meet the future growth of the company. It is formed of patchwork revisions representing years of *features-building-on-features* against time-to-market pressures; thus bypassing the consideration for a sound architecture.
- Except for a few staff members, the current IT department is not experienced in the SOA approach proposed for constructing the next generation **Ticketing** application.

Mr ITD envisions strong potential for diversification of the ***FlyWorld*** business once Phase 1 is implemented. He urged his team to look beyond the outsourcing phase and into the commercial phases of the project. Through the outsourcing project, he hopes his staff can acquire the relevant technical skills, complemented by relevant training that will adequately prepare them to successfully execute the second phase and subsequent releases of the project on their own.

Following a series of tender reviews and negotiation, Mr ITD's management team, decided that ***EasyWork*** was the most suitable of the bidders. Hence, ***EasyWork*** was awarded the contract.

3. The Project Team

EasyWork's past record for on-time delivery and within budget has been impressive. Mr ITD, however, believes that ***EasyWork's*** attention to quality will be a key ingredient for success in the **e-Ticketing** initiative. As such, certain quality parameters have been incorporated into the contract between ***FlyWorld*** and ***EasyWork***. ***EasyWork*** is a CMMI appraised, Maturity Level 3 Company.

3.1 FlyWorld Project Team

A project team has been structured within ***FlyWorld*** to be responsible for the successful delivery of this **e-Ticketing** initiative:

a. A **Project Steering Committee** (PSC) has been formed. It comprises of the IT Director, (ITD), Chief Operating Officer (COO) and the Director of Finance (DOF).

b. A **Process Owner** (PO) has been named by ***FlyWorld's*** executive management team to champion the **e-Ticketing** initiative and to realize its business case.

c. A **Project Director** (PD) has been appointed to oversee the entire **e-Ticketing** initiative. Reporting to the PD are a Quality Assurance Specialist (QA) and a Release Manager (RM).

d. A **Technical Lead** (TL) has been promoted to a Software Architect. He will oversee all aspects of the technical feasibility and implementation compliance to the **Architectural Blueprint Report**.

e. A **Project Manager Phase 1** (PM1) has been assigned to manage ***EasyWork***'s delivery of Phase 1, **Passenger Ticketing**.

f. A **Project Manager Phase 2** (PM2) has been assigned to manage the delivery of Phase 2, **Commercial Ticketing**. PM2 has 20 members in his project team. Members of this team include analysts, developers, testers, technical writers and a CM Specialist.

g. A **Project Lead** (PL) has been assigned to chair the Change Control Board. Both boards have been established and run by ***FlyWorld***. PL reports to PM1.

3.2 EasyWork Project Team

The ***EasyWork*** Project Team is structured as follows:

a. The **Project Director** (R-PD) is responsible for oversight in the three-part Statement of Work:

- Operations and Maintenance of the Ticketing application. This includes Systems Management, Operations and Application Support.
- Delivery of the Phase 1, **Passenger Ticketing** (project code 'eticket1') system.
- Provide advisory services to ***FlyWorld*** for their implementation of Phase 2, **Commercial Ticketing**.

b. A **Systems Manager** (SM) who is assigned to run the operations of the existing, legacy **Ticketing** application. He is supported by a network specialist and a systems administrator.

c. A **Project Manager** (R-PM) who has been allocated between 20-30 members in his team.

d. Three **Team Leads** report to the R-PM:

i. **Requirements Team Lead** (R-RTL), who also has responsibility for Requirements, Testing and Technical Documentation. There are ten members in this team.

ii. **Development Team Lead** (R-DTL). There are ten members in this team.

iii. **Application Support Team Lead** (R-STL), who is responsible for maintaining and eventually retiring the legacy, **Ticketing** application. There are two members in this team.

iv. A **CM Specialist** (R-CM) reporting to the R-PM.

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4. The Project Context

Figure 1 shows the SDLC planned for Phase 1, **Passenger Ticketing**. The milestones depicted in the network diagram represent the **end** of that particular stage of the development lifecycle. Further, the lifecycle is planned with three iterations of implementation and testing. Each successive iteration integrates new capabilities from the previous. The iterations focus on the delivery of the work packages Book Ticket (0.1 Feature), Process Payment (0.2 Feature) and Issue Ticket (0.3 Feature) respectively. Phase 2, **Commercial Ticketing** will use an almost identical SDLC.

Figure 1: Phase 1 e-Ticketing (eTicket1) – Passenger Ticketing

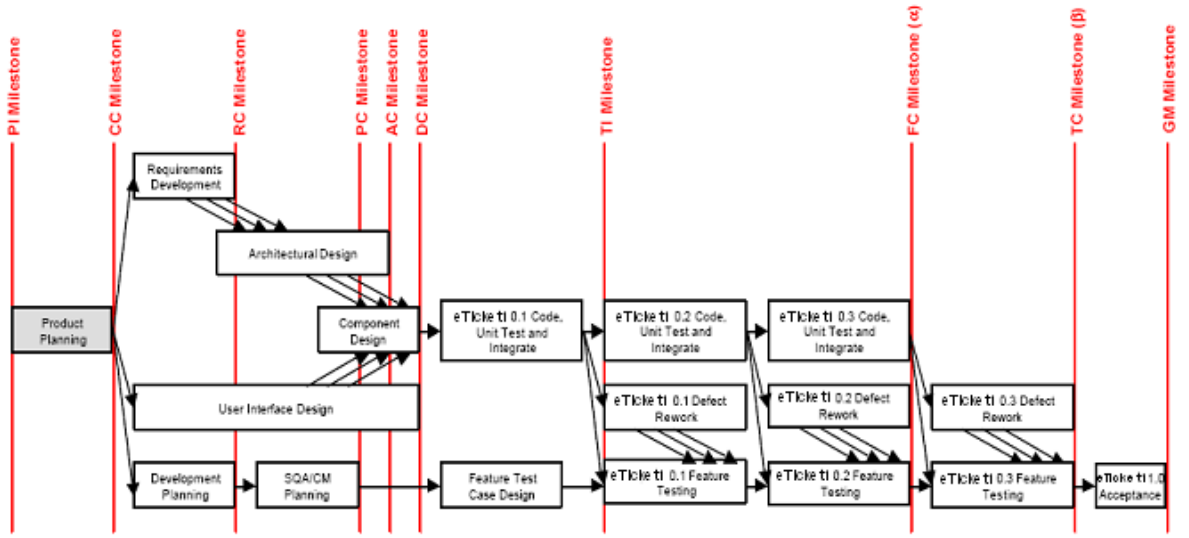

Figure 2 shows the high level planned schedule for each of the 2 phases, including the targeted milestones.

Figure 2: Planning Phasing for R1.0 (Passenger Ticketing) and R2.0 (Commercial Ticketing)

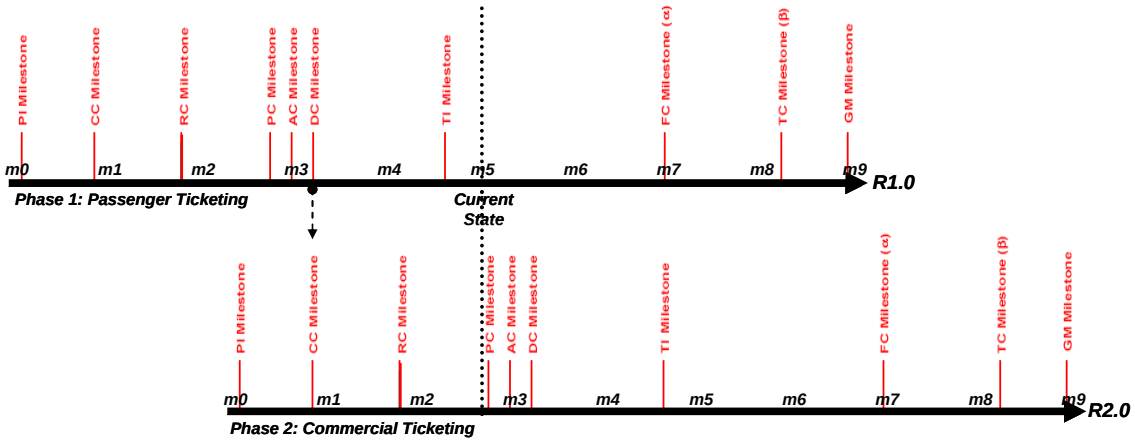

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Figure 3 shows the deliverables and key activities of within each stage of each phase of the project.

Figure 3: FlyWorld eTicketing Project

Expected Milestone Deliverables Passenger Ticketing (eTicket1) produced by ***EasyWork***

ID	Milestone	Criterion
1	Project Initiated	OnTheFly & RunIt Agreement reviewed and approved
2		Project Sponsor identified
3		Project Steering Committee established
4		Process Owner appointed
5		Project Director and Project Manager Named
6		Budget Allocated
7	Concept Complete	System Concept Specification reviewed and approved
8		Project Approved for funding by Project Sponsor
9		Quality Assurance assigned
10		Project Team established
11	Req'ts Complete	Project Team Kick-Off Meeting
12		Functional Requirements reviewed and approved
13		Non Functional Requirements reviewed and approved
14		User Interface Specification reviewed and approved
15	Plans Complete	Software Development Plan reviewed and approved
16		SQA Plan reviewed and approved
17		CM Plan reviewed and approved
18	Arch. Complete	Architecture Document reviewed and approved
19		System Design Specification reviewed and approved
20		User Interface Design reviewed and approved
21		Integration Test Plan
22	Design Complete	All Component Designs reviewed and approved
23		All Component Test Plans reviewed and approved
24	Testing Initiated	Feature Test Cases reviewed and approved
29	Features Complete	All Code Reviews Completed
30		All Component Test plans passed
31		All Feature Test cases passed
32		Integration Test plan passed
34		Alpha Release Candidate
35	Testing Complete	Usability Testing passed
36		Operational Scenario Testing passed
37		Performance Testing passed
38		Beta Release Candidate
40	Product Release	Final Release Candidate provided to Release Manager
41		All remaining open defects fixed or waived
42		All waived defects documented in release notes
43		User manual, Operations manual reviewed and approved
44		Product Release approved
45		Product Released

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5. The Current Status of the Project

It is now 5 months into the ***EasyWork*** contract:

a. The existing **Ticketing** application is currently running Release 6.7.3.

b. The Phase 1, **Passenger Ticketing** is generally on schedule. The Book Ticket package is presently being Feature Tested by the ***EasyWork*** Testing Team. When released, Phase 1 will be deployed as Release 1.0 of the **e-Ticketing** system.

c. The Phase 2, **Commercial Ticketing** is also generally on schedule, where they have successfully baselined their Requirements Complete and Planning Complete milestones. When released, Phase 2 will be deployed as Release 2.0 of the **e-Ticketing** system.