# STATEMENT OF WORK

## **Theatre Booking System**

Eastern New Mexico University

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#### Members:

- Brian Elder
- Preston Feagan
- Skyler Landess.

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## **Revision History**

Name	Date	Reason For Changes	Version
Gantt	3/27/2022	The Gantt diagram has been updated	2.0
Gantt	4/16/2022	The Gantt diagram has been updated	3.0

#### 1. GENERAL INFORMATION

#### 1.1 <u>Introduction/Background</u>

The theatre "Los Portales," owned by Dr. Edgar Eduardo Ceh Varela, is a theatre in Los Portales that sells tickets in person. They want to modernize their business practices by introducing a website where their customers can see the upcoming plays, select their preferred seats and purchase tickets wherever they are.

#### 1.2 Objectives

The objective is to build a system that will assist the theatre in making sales through the internet by allowing theatre customers to buy a seat or multiple seats through a website using their credit or debit card. The system will help organize the prices for each seat depending on their location and as the owner wishes. Additionally, it will assist in keeping track of which seats are accessible or already sold by giving the admin the option to generate a report about how many seats have been sold for a specific play and date.

#### 1.3 Scope of Work

By May 2022, the development team expects a fully functioning demo of the software to be delivered to the owner of "Los Portales" theatre as a web-based system.

### 2. Breakdown of the Project

### 2.1 **Gantt Chart**

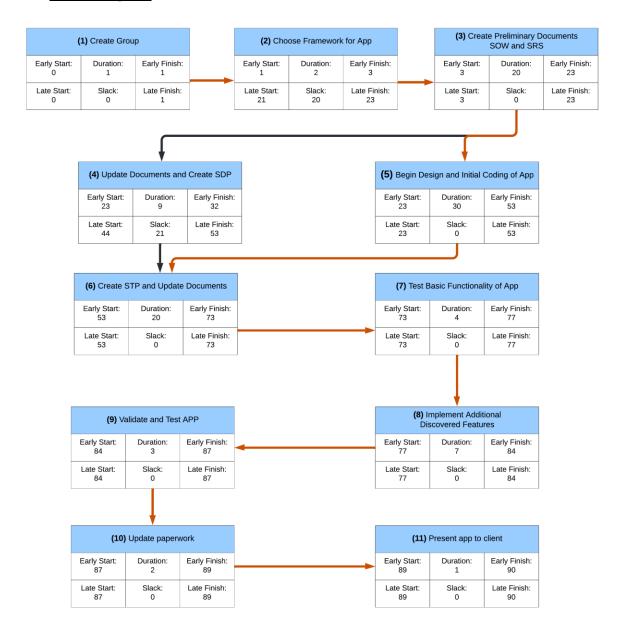
	Dis	olay Week:	1		Feb 7, 2022	Feb 14, 2022	Feb 21, 2022
TASK	ASSIGNED TO	PROGRESS	START	END	7 8 9 10 11 12 13 M T W T F S S		M T W T F S S
Stage 1		100%	2/7/22	2/27/22			
Discuss Program L.	Everybody	100%	2/7/22	2/9/22			
Gantt diagram	Everybody	100%	2/18/22	2/26/22			
Pert Diagram	Everybody	100%	2/26/22	2/27/22			
CPD	Everybody	100%	2/27/22	2/27/22			
Tentative cost	Everybody	100%	2/27/22	2/27/22			
SRS	Everybody	100%	2/9/22	2/26/22			
Use Case Diagrams	Everybody	100%	2/9/22	2/16/22			
Class Diagrams	Everybody	100%	2/25/202	2/26/22			
Sequence Diagrams	Everybody	100%	2/25/22	2/26/22			
Upload PDFs to Github	Brian Elder	100%	2/26/22	2/27/22			

	Dis	play Week:	4		Feb 28, 2022	Mar 7, 2022	Mar 14, 2022	Mar 21, 2022
		,		J	28 1 2 3 4 5 6 7	7 8 9 10 11 12 13	14 15 16 17 18 19 20	21 22 23 24 25 26 27
TASK	ASSIGNED TO	PROGRESS	START	END	M T W T F S S N	A T W T F S S	M T W T F S S	M T W T F S S
Stage 2		100%	2/28/22	3/27/22				
SDP	Everybody	100%	2/28/22	3/27/22				
Setting up hosting	Damian	100%	2/28/22	2/28/22				
Design Homepage	Damian	100%	3/2/22	3/9/22				
Customers Authentification	Damian	100%	3/9/22	3/16/22				
Component Diagrams	Everybody	100%	3/16/22	3/27/22				
Update Diagrams	Everybody	100%	3/16/22	3/27/22				
Upload PDF to Github	Preston	100%	3/27/22	3/27/22				

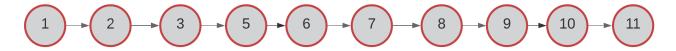
	Pro	oject Start:	Mon, 2	2/7/2022																
	Disg	olay Week:	8			Mar	28,	2022	!		Ар	r 4,	202	2		4	pr 1	1, 20	022	
					2	8 29	30 3	1 1	2	3	4 5	6	7	8	9 10	11	12 1	3 14	15	16
TASK	ASSIGNED TO	PROGRESS	START	END	N	1 T	w	F	S	s	M 1	гw	<u> </u>	F	s s	М	т ,	ν т	F	S
Stage 3			3/27/22	4/17/22																
System Test Plan	Everybody	100%	3/28/22	4/17/22																
Updated Diagrams	Everybody	100%	3/28/22	4/17/22																
Design Management Area	Everybody	100%	3/28/22	3/30/22																
Admin Authentification	Everybody	100%	3/30/22	4/1/22																
Code add play	Damian	100%	4/1/22	4/15/22																
Upload PDF to Github	Damian	100%	4/15/22	4/15/22																
	Mon, 2/7	7/2022																		
	Project Start: 8 Display Week: 8		ar 28, 2022 A	Apr 4, 2022	Apr 11,	, 2022		Apr 18	3, 202	2	Ap	r 25,	2022		May	2, 202	2	Ma	y 9, 20	)22

		Project Start:	Mon, 2	/7/2022							
		isplay Week:	8		Mar 28, 2022	Apr 4, 2022	Apr 11, 2022	Apr 18, 2022	Apr 25, 2022	May 2, 2022	May 9, 2022
TASK	ASSIGNED TO	PROGRESS	START	END	## ## ## 1 2 3 M T W T F S S	4 5 6 7 8 9 ## M T W T F S S			M T W T F S S	2 3 4 5 6 7 8 M T W T F S S	
Stage 4			4/17/22	5/11/22							
Code modify play	TBA	0%	4/18/22	4/20/22							
Code delete play	TBA	0%	4/20/22	4/22/22							
Code graphical seat plan	TBA	0%	4/22/22	4/24/22							
Code payment system	TBA	0%	4/24/22	4/26/22							
Code shopping cart	TBA	0%	4/26/22	4/28/22							
Code checkout	ТВА	0%	4/28/22	4/30/22							
Code check orders	TBA	0%	4/30/22	5/2/22							
Code Password Recovery	TBA	0%	5/2/22	5/4/22							
Code report function	ТВА	0%	5/4/22	5/6/22							
Source code	TBA	0%	4/17/22	4/19/22							
Execute Code	ТВА	0%	5/6/22	5/7/22							
Brief users manual	TBA	0%	5/7/22	5/9/22							
Final Report	TBA	0%	5/9/22	5/11/22							
Present Project	Skyler	0%	5/11/22	5/11/22							

#### 2.2 PERT Diagram



#### 2.3 Critical Path



#### 2.4 Tentative Cost

Component	Price
Coding	\$41,546.86
Hosting	\$15/month/\$180/year
Total for First Year	\$41,726.86

The functional requirements for this software are:

- 1. The user can register an account on the website; El
- 2. The user can log in to their account; El
- 3. The user can search through plays available; EQ
- 4. The admin can add plays; EI
- 5. The admin can delete plays; EI
- 6. The system must generate a report showing all tickets sold; ILF
- 7. The user can select seats for each play; El
- 8. The user can purchase seats; El
- 9. The user can view previous purchases; EQ
- 10. The website must maintain information for plays, users, seats, and tickets in separate databases; 4 ILF
- 11. The website must show available seats; EO
- 12. The system must verify the user's payment; EIF

6 EI X 4= 24

2 EQ X 4= 8

5 ILF X 10= 50

1 EO X 5 = 5

1 EIF X 7= 7

UFP=94

Adjustment Factor	Points
Data communications	4
Distributed data processing	3
Performance	4
Heavily used configuration	0
Transaction rate	4
Online data entry	5
End-user efficiency	4
Online update	5
Complex processing	1
Reusability	1
Installation ease	1
Operational ease	4
Multiple sites	0
Facilitate change	0

#### VAF=36

Language	QSM SLOC/FP Data								
	Avg	Median	Low	High					
ABAP (SAP) *	28	18	16	60					
ASP*	51	54	15	69					
Assembler *	119	98	25	320					
Brio +	14	14	13	16					
C *	97	99	39	333					
C++ *	50	53	25	80					
C# *	54	59	29	70					
COBOL *	61	55	23	297					
Cognos Impromptu Scripts +	47	42	30	100					
Cross System Products (CSP) +	20	18	10	38					
Cool:Gen/IEF *	32	24	10	82					
Datastage	71	65	31	157					
Excel *	209	191	131	315					
Focus *	43	45	45	45					
FoxPro	36	35	34	38					
HTML*	34	40	14	48					
J2EE *	46	49	15	67					
Java *	53	53	14	134					
JavaScript *	47	53	31	63					

UFP=94

TDI=36

VAF = (TDI \* 0.01) + 0.65;(36\*0.01)+0.65=1.01

AFP=UFP\*VAF; 94\*1.01=94.94

47\* 94.94= **4,462.18 LOC** 

- b) Effort =  $E = a(KLOC)_b$  (person/month); 11.54079379
- c) Time =  $T = c(E)_d$  (months); 6.33270952
- d) Average Staff Size = P = E/T (persons); 1.8224101
- e) Productivity = Pr = LOC / E (LOC/person\_month); 386.6441179
- f) Cost = C = (E x \$\$\_person\_month) + other\_costs; 11.54079379 X \$3600= \$41,546.86