4.0 Software Development Plan ————

4.1 Plan Introduction

This Software Development Plan provides the details of the projected development for CaseX, an interactive web application and scalable database solution optimized for the management of physical case data.

The Los Angeles Police Department Homicide Library Unit seeks a database solution for the management of case records dating back to 1960. Case records are currently stored in physical binders. Detectives need a more efficient system to store metadata about the case records, query data, and generate reports. Through CaseX's three main functions: Upload Data, Explore Data, and Generate Reports, users are enabled to effectively manage and understand case data.

4.1   Project Deliverables

Alpha Beta   Week 14
Per course requirements, the CaseX Alpha Beta release will occur on Week 14.

1.0   Week 16
CaseX v 1.0 will be demoed to the LAPD Homicide Department detectives as a solution for their data management problem.

4.2 Project Resources

Resources involved in project development are organized into hardware and software resources. Within those categories, involvement in the development process and/or application execution is indicated.

4.2.1 Hardware Resources

Resource	Development	Execution
Macbook Computer (2008 or newer)	✓	
2GB RAM	✓	✓
16 GB Storage	✓	✓
Wifi Connection	✓	✓
Ethernet Connection	✓	✓
Windows Computer		✓

4.2.2 Software Resources

Resource	Application	Development	Execution
Atom	Text editor	✓	
MongoDB	Database	✓	✓
Node.js	Programming language	✓	✓
GitHub	Version control	✓	
Postman	HTTP request testing	✓	
Google Chrome	End user web browser	✓	✓
Internet Explorer	End user web browser	✓	✓
macOS	Development operating system	✓	✓
Windows OS	End user operating system	✓	✓

4.3 Project Organization

This section will outline the CaseX project organization, including team member roles, team responsibilities, and coordination between teams.

4.3.1 Organization Structure
We have organized our project members into three teams: front-end, back-end, and database.

Name	Team	Role
Andrea Carver	Front-End	Front-End Designer
Carleen Petrosian	Front-End	Front-End Designer
Eileen Choe	Back-End	Database Development, Back-End Development
Allen Vartanian	Back-End	Back-End Development

4.3.2 Front-End Team
The Front-End team is responsible for developing the interfaces between end users and the CaseX back-end. They will design interface mockups, design web pages, interact with the back-end, and test across several platforms. Refer to 5.3.1 for detailed functional requirements for the front-end.

4.3.3 Back-End Team
The Back-End team is responsible for designing, developing, and testing software components on the server-side. Refer to 5.3.2 for detailed functional requirements for the back-end.

4.3.4 Database Team
The Database team is responsible for designing and implementing the MongoDB database. Refer to 5.3.3 for detailed functional requirements for the database.

4.3.5 Roles and Responsibilities
Weekly development meetings are held on Fridays from 11:00 AM - 3:00 PM, and Scrum meetings are held Tuesday mornings from 10:00 AM - 11:00 AM. Meetings with the LAPD Homicide detectives are held every 2-3 weeks on Tuesday mornings, during the scrum meeting block.

Weekly task for both development teams will be documented, tracked, and updated via the Github Issues system. This allows for all team members to be informed about the project progress, and encourage collaborative development.

4.4 Project Schedule

This section will detail the CaseX project schedule, including the people and resources necessary for each step.

4.4.1 GANTT Chart

The following GANTT Chart visualizes the duration of the subtasks for CaseX in relationship with each other.

					5	6	7	8	9	10	11	12	13	14	15	16
														AlphaBeta		Presentation
Task Name	Duration	Start	Finish	Prereq.	9/25/2017	10/2/2017	10/9/2017	10/16/2017	10/23/2017	10/30/2017	11/6/2017	11/13/2017	11/20/2017	11/27/2017	12/4/2017	12/11/2017
Create Development Architecture	1	5	6													
CaseX API	2	6	8													
Case Database	4	6	10													
User Database	3	8	11													
About, Login UI Pages	1	6	7													
Header, Home Dashboard UI Pages	2	7	9													
Form UI Page	1	9	10													
Case Viewer UI Page	1	10	11													
Data Explorer UI Page	2	11	13	Database												
Admin Console UI Page	1	13	14	User database												
Client Side Testing (Frontend)	3	10	13	User Interface												
Server Side Testing (Backend)	3	13	16	Database												
User Manual Documentation	2	14	16													

4.4.2 Task / Resources

Task	People	Hardware	Software
Create Development Architecture	Eileen Choe	Macbook	Node.js, MongoDB, Github, macOS, Web Browser
CaseX API	Eileen Choe	Macbook	Node.js, Postman, MongoDB
Case Database	Eileen Choe, Allen Vartanian	Macbook	Node.js, Postman, MongoDB, macOS
User Database	Andrea Carver, Carleen Petrosian	Macbook	Node.js, Postman, MongoDB, macOS

Login Authentication	Allen Vartanian	Macbook	Node.js, Postman, MongoDB, macOS
About, Login UI Pages	Andrea Carver, Carleen Petrosian	Macbook, Windows Computer	Node.js, Github, Web Browser, Bootstrap
Header, Home Dashboard UI Pages	Andrea Carver, Carleen Petrosian	Macbook, Windows Computer	Node.js, Github, Web Browser, Bootstrap
Form UI Page	Andrea Carver	Macbook, Windows Computer	Node.js, Github, Web Browser, Postman, Bootstrap
Case Viewer UI Page	Andrea Carver, Carleen Petrosian	Macbook, Windows Computer	Node.js, Github, Web Browser, Postman, Bootstrap
Data Explorer UI Page	Andrea Carver, Carleen Petrosian	Macbook, Windows Computer	Node.js, Github, Web Browser, Postman, Bootstrap
Admin Console UI Page	Andrea Carver, Carleen Petrosian	Macbook, Windows Computer	Node.js, Github, Web Browser, Postman, Bootstrap
Client Side Testing (Front-end)	Andrea Carver, Carleen Petrosian	Windows Computer	Mocha, Node.js, Web Browser
Server Side Testing (Back-end)	Eileen Choe, Allen Vartanian	Macbook	Node.js Assertion Module
User Manual Documentation	Andrea Carver, Carleen Petrosian, Eileen Choe, Allen Vartanian	Macbook	LaTeX