Systems Map

1. Choose a system to study:

- System: Emergency response infrastructure in a city for example or a wildfire.

2. Identify the major components of the system and how they are connected:

- Major components:

- Phone App (with escape route information)

- Drones

- Surveillance cameras

- Emergency Services (police, fire, medical)

- GPS/Mapping Technology (Stellites)

- User (person in need of escape route)

- City Infrastructure (roads, buildings, landmarks)

- Connections:

- The Phone App communicates with the User's device to provide real-time escape route information.

- The Phone App also interacts with the GPS/Mapping Technology to access and display relevant mapping data.

- Drones are integrated with the Phone App to provide aerial views and live updates on escape routes.

- Emergency Services may access the same mapping information through a centralized system.

3. Determine how these components interact with each other and how one component affects another:

- The User interacts with the Phone App to request escape routes during an emergency.

- The Phone App retrieves information from the GPS/Mapping Technology and analyzes it to generate the most efficient escape routes.

- Drones are deployed to provide live video feeds and updates on the ground situation, which are then integrated into the escape route information provided by the Phone App.

- Emergency Services may use the same mapping data to coordinate their response efforts.

4. Create the Systems Map:

- Using a software tool like Kumu or Miro, draw a diagram with nodes representing each component (Phone App, Drones, Emergency Services, GPS/Mapping Technology, User, City Infrastructure) and connect them with arrows to illustrate their interactions.

5. Add details, patterns, connections, and areas for potential improvement or intervention:

- Details:

- Highlight the importance of real-time data exchange between the components for effective emergency response.

- Emphasize the critical role of accurate mapping and GPS data in generating reliable escape routes.

- Patterns:

- Identify patterns in emergency response times and escape route effectiveness based on different scenarios (e.g., natural disasters, accidents, etc.).

- Connections:

- Highlight the need for seamless communication between the Phone App, Drones, and Emergency Services for optimal coordination.

- Areas for improvement/intervention:

- Explore ways to enhance drone capabilities for better situational awareness.

- Consider integrating AI algorithms for dynamic route adjustments based on evolving circumstances.

By creating this Systems Map, we gain a holistic view of the emergency response system, its key components, and their interactions. This helps in identifying areas for optimization and potential enhancements to improve overall effectiveness in emergency situations.