FLOOD MONITORING SYSYTEM USING IOT

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BLOCK DIAGRAM:

FLOOD MONITORING SYSYTEM	ALERTS AND DATA VISUALIZATION	USER INTERFACE
FLOOD DETECTION SENSORS	DATA CENTRE OR CLOUD	
IOT GATEWAY [eg: RAS PI]	COMMUNICATION MODULE [eg:WIFI]	FLOOD MONITORING CONTROL CENTRE AND ANALYTICS
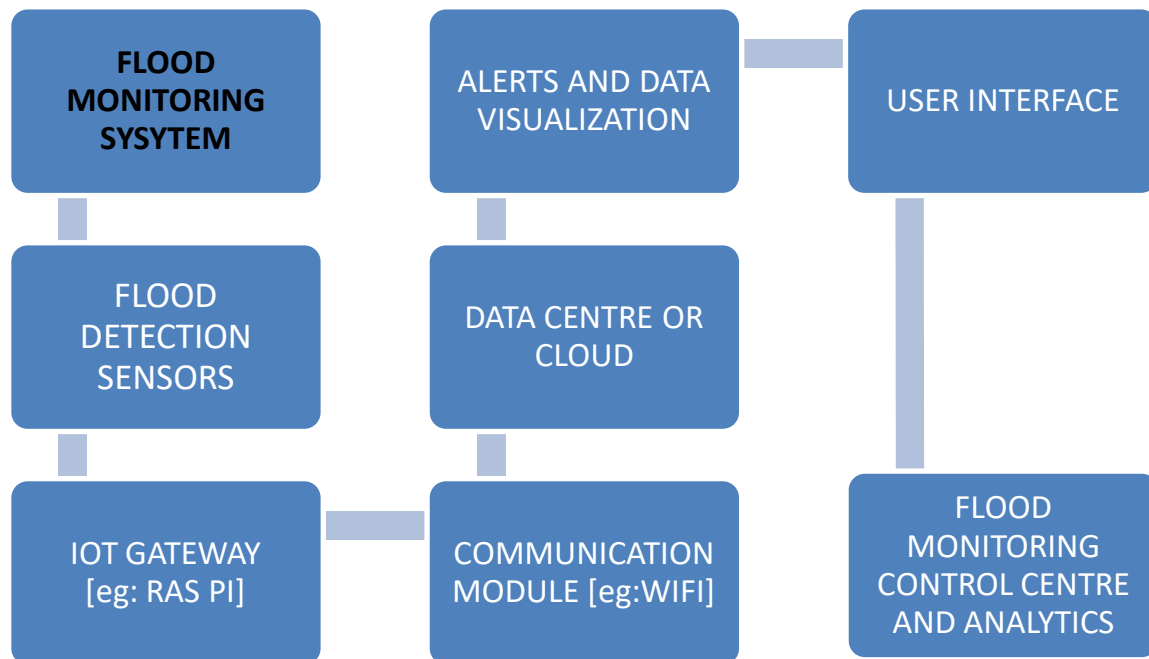
EXPLANATION:

1) **Flood Detection Sensors:** These are physical sensors (e.g., water level sensors, rain gauges) placed in flood-prone areas to monitor environmental conditions. They collect data about water levels, rainfall, and other relevant parameters.

2) **IoT Gateway:** This device, often based on platforms like a Raspberry Pi, collects data from the flood detection sensors. It preprocesses and sends this data to the central system, such as a data center or the cloud, via various communication protocols.

3) **Communication Module:** This component ensures that data from the IoT gateway reaches the central system. It can use various communication technologies like cellular networks, Wi-Fi, or other wireless protocols to transmit data reliably.

4) **Data Center or Cloud:** This is where data from the sensors is stored and analyzed. Advanced data analytics, machine learning, and data visualization tools can be employed to process and analyze the data.

5) **Alerts and Data Visualization:** This component generates alerts and presents data in a user-friendly manner. Users, including emergency responders and the general public, can access the flood status and historical data through web or mobile applications.

6) **User Interface (Dashboard):** This is the interface through which end-users can visualize real-time and historical flood data, receive alerts, and take necessary actions.

7) **Flood Monitoring Control Center:** This is an essential part of the system responsible for monitoring the incoming data and initiating emergency responses when necessary. It can include automated systems or human operators.