1. Vaccination Center Contract:

The smart contract, named "VaccinationCenterContract," serves as the backbone of the blockchain-based child vaccination solution. It facilitates the registration of vaccination centers and allows them to register children in the system. The contract utilizes mappings to associate the details of vaccination centers and children with their respective wallet addresses.

The main functionalities of the VaccinationCenterContract are as follows:

* Vaccination Center Registration: The contract provides a function that enables vaccination centers to register themselves within the system. Once registered, these vaccination centers gain the authorization to perform further actions within the solution.
* Child Registration: Once a vaccination center is registered, it can utilize the contract to register children in the system. This registration process helps in keeping track of the vaccination status and other relevant information for each child.

It is important to note that the current implementation stores basic details of vaccination centers and children. However, for future enhancements, additional attributes can be included within the respective struct to capture more comprehensive information required for the child vaccination process.

1. Child Vaccination Contract:

The ChildVaccinationContract serves as a unique contract for each child within the blockchain-based child vaccination solution. When registering a child, a separate instance of this contract is deployed to manage and store all vaccination details for that particular child.

The main features of the ChildVaccinationContract are as follows:

* Vaccination Details: The contract utilizes a struct named "Vaccination" to store essential information about each vaccination. This struct includes attributes such as the vaccination name, vaccination status, vaccination date, and vaccination expiry date. These details are uploaded and updated within the contract to maintain an accurate record of the child's vaccination history.
* Uploading and Retrieving Vaccination Details: By leveraging this contract, registered vaccination centers can securely upload the vaccination details of a child. This feature enhances the transparency and integrity of the vaccination process, allowing for seamless tracking of each child's immunization history. Both the registered vaccination center and the child can retrieve these details, ensuring accessibility and convenience for all stakeholders.

Moreover, the contract's flexibility allows for future updates and modifications to accommodate additional vaccination-related information.