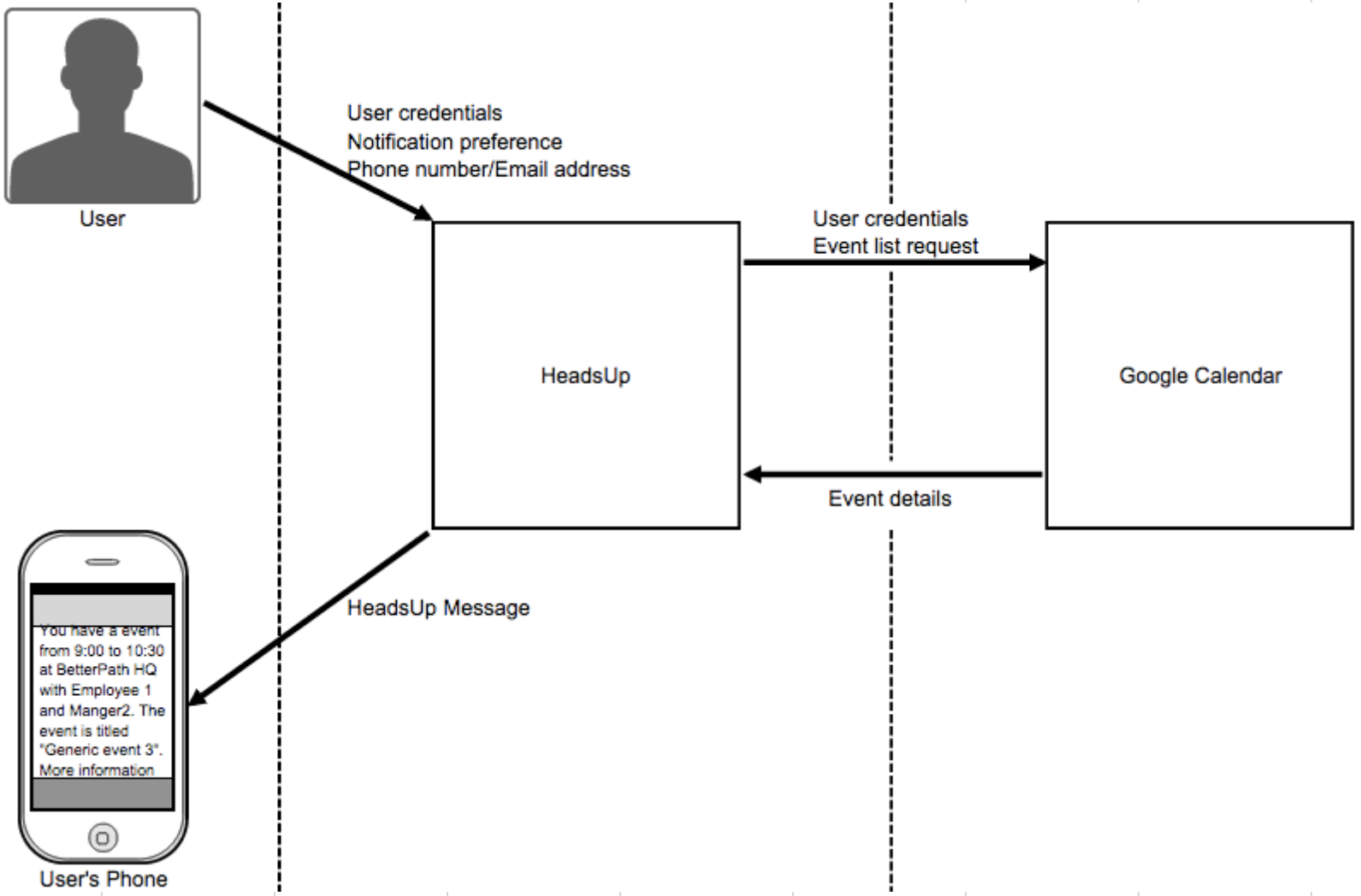
Business Requirement

We're building a simple service/app that is a value add to your calendaring app/system. It's called HeadsUp.
It needs to deliver a well-timed summary to you of what your day's going to look like in terms of important meetings, so you can be well prepared.

A happy HeadsUp user is never slipping on ice as they run to the subway
because they've forgotten the 9am meeting with an important potential investor that went on the calendar 3 weeks ago, for example

Use case diagram

Use Case Diagram



Requirements

Requirement #	Category	Requirement	Rationale
1	User Information	When a user registers for HeadsUp, the service shall require the user's login credentials for google calendar	This is necessary for HeadsUp to retrieve information from the users calendar
2	User Information	When a user inputs their google calendar login, the service shall test the connection to that users calendar	This ensures that a user will not miss notifications due to entering incorrect credentials at login
3	User Information	If during registration the service is unable to connect to the users google calendar, the service shall inform the user that they need to re-enter their credentials	
4	User Information	When a user registers for HeadsUp, the service shall require the user to select how they would like to be messaged. (text, email, or both)	
5	User Information	If a user selects email notifications, then the service shall require the user to enter a valid email address	This is used for emailing the HeadsUp message to the user
6	User Information	If a user selects text message notifications, then the service shall require the user to enter a valid phone number	This is used for text messaging the HeadsUp message to the user
7	User Information	When a user registers for HeadsUp, the service shall require the user to input a typical weekday bedtime.	Based on user research, the time that people go to bed varies widely, even after controlling for the time they start work. Asking the user for their bedtime allows HeadsUp to deliver a perfectly timed message.
8	Message Generation	The system shall normalize the time zone of all events with the user's time zone	This will prevent events in different timezones from appearing at incorrect times in the user's HeadsUp message.
9	Message Generation	When the current time reaches 15 minutes before the User specified bedtime, the service should request the users calendar for all events occurring the following day	Waiting until the message is ready to be sent to pull information from the calendar ensures that the most current information is captured in the message. Sending the message to the user just before they go to bed maximizes the chance that they are home, with their phone, and they will see the notification when they plug in their phone/set their alarm.
10	Message Generation	The service shall read the start time of each event from the calendar application	User research indicates that this detail is important as a part of the HeadsUp summary message.
11	Message Generation	The service shall read the end time of each event from the calendar application	User research indicates that this detail is important as a part of the HeadsUp summary message.
12	Message Generation	The service shall read the location of each event from the calendar application	User research indicates that this detail is important as a part of the HeadsUp summary message.
13	Message Generation	The service shall read the title of each event from the calendar application	User research indicates that this detail is important as a part of the HeadsUp summary message.
14	Message Generation	The service shall read the list of each event's attendees from the calendar application	User research indicates that this detail is important as a part of the HeadsUp summary message.

Requirements

15	Message Generation	The service shall read the URL to the event in the calendar application	The link to the actual event will allow a user to quickly navigate to the event for any additional information that they may need or actions they may need to take.
16	Message Generation	The service shall store the following day's event and event details	
17	Message Generation	The service shall generate a single message that informs the user of all of the following days events	
18	Message Generation	The message shall list the events chronologically	
19	Message Generation	For each event, the message shall list out the Start Time, End Time, Location, Title, Attendees, and a URL to the event	
20	Message Generation	The message shall be in paragraph form	To improve readability. An example of this may be "You have a event from 9:00 to 10:30 at BetterPath HQ with Employee 1 and Manger2. The event is titled "Generic event 3". More information can be found here. Your next event is..."
21	Message Delivery	If a message is ready to be sent, it will be sent via the user's preferred delivery method (email, text, or both)	

Problem

Task 1	Design an architecuture diagram to satisfy the requirements.
Task 2	Enumerate the sofware components that will be built to satisfy requirements. List the major software components and how they would interact with each other. Example apis will be helpful
Task 3	List the work-items based on above design and order them with priority order to build them out.