Contents

1 Goals & Objectives

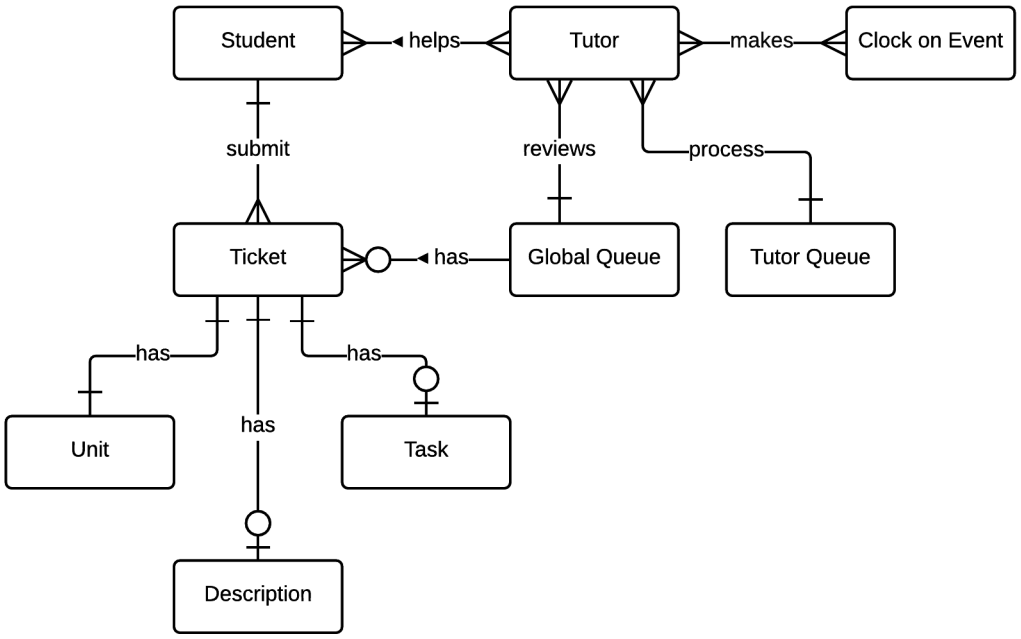
Whilst reading this documentation, it is important to keep the following goals and objectives in mind:

The Doubtfire Helpdesk Ticketing System will provide:

- A way to improve efficiency of helping students
- A way for tutors to track which students need help
- A way to manage tutor clock-on times
- A way for convenors to see how much their students utilise the helpdesk and at what times
- A way for convenors to to see how their tutors are clocking on at the helpdesk

Refer to the requirements documentation for more on this.

2 Entities



There is a distinction between a **tutor's queue** and the **global queue**

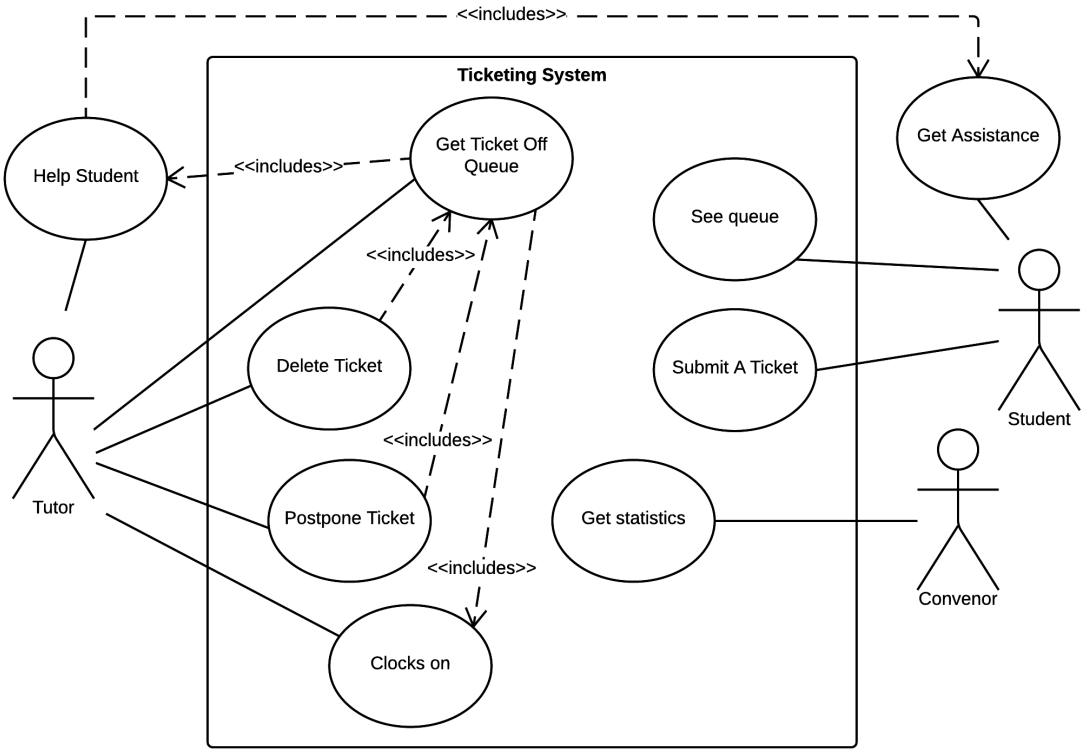
A **tutor's queue** is a group of a number of students that a tutor rotates through as he/she helps those students at the helpdesk. It is sorted by the **inverse** time the ticket was last reviewed by the tutor (i.e., last reviewed a while ago or never reviewed at all first, just reviewed a few seconds ago at the end etc.)

A **global queue** is a list of *all unallocated tickets* that have been submitted at the helpdesk. Tutors working at the helpdesk aim to keep this global queue as minimal as possible; when a new ticket comes to the global queue, tutor's may:

1. accept a new ticket, which will move that ticket to the tutor's own queue or,

2. refer that ticket to another tutor, which will move that ticket to the referral's queue.

3 Use Cases



3.1 Students

3.1.1 Submit a ticket

3.1.1.1 Primary Use Case

Step 1. Student signs into Doubtfire **Step 2.** Student selects Helpdesk from header **Step 3.** Student selects unit they want help with **Step 4.** Student submits the ticket. Doubtfire adds their ticket to the **global queue Step 5.** Student views an estimate of wait time

3.1.1.2 Alternate Use Cases

Student doesn't have a computer

Step 1a. Student goes to instructor PC **Step 1b.** Student enters in their student ID **Step 1c.** Continue from (3)

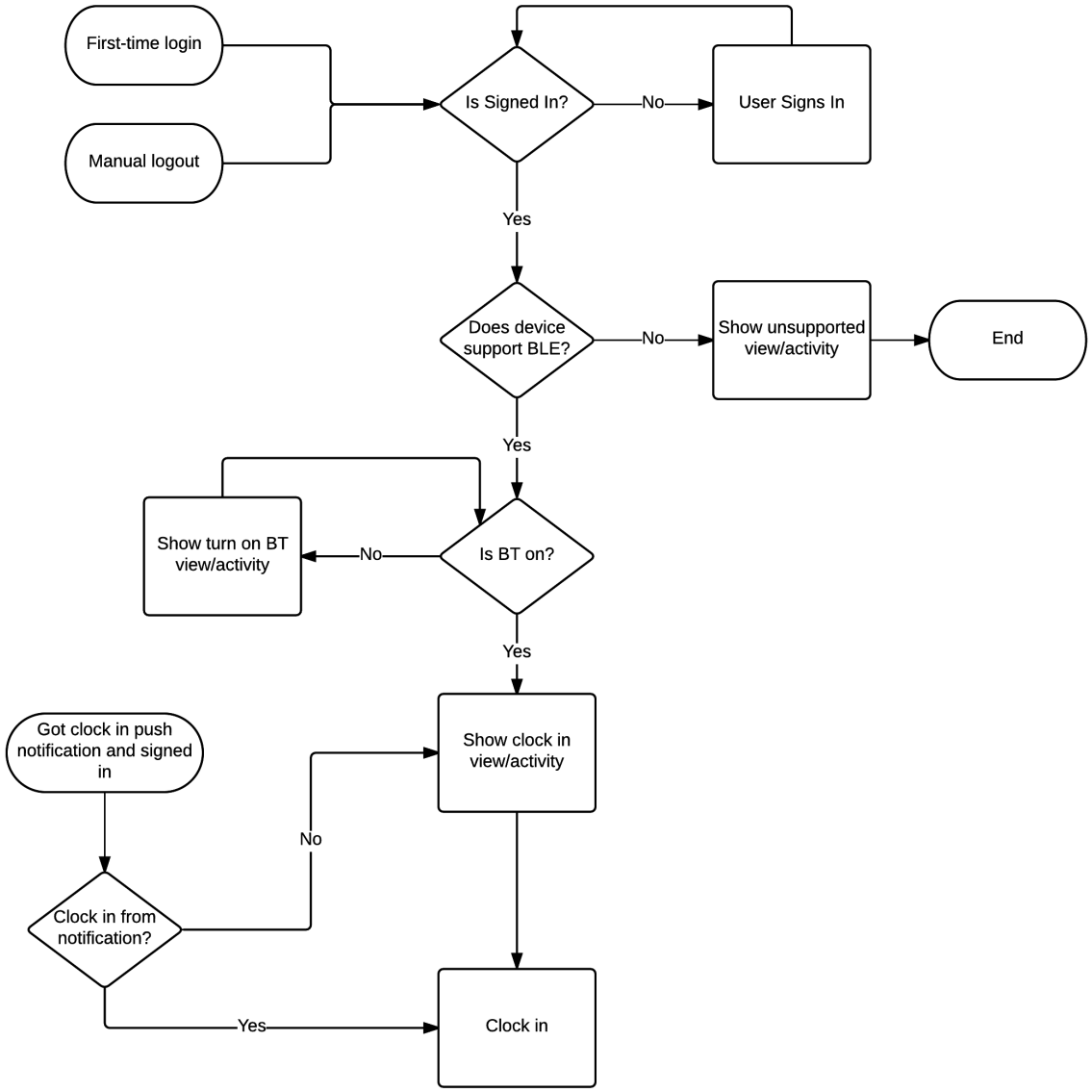
Helpdesk ticket queue is overloaded

Step 2a. Student is given a visual notice that they might have to wait a while to get help **Step 2b.** Student *optionally* cancels the process **Step 2c.** Student *optionally* continues from (3)

3.2 Tutors

3.2.1 Clocking On

3.2.1.1 Workflow Diagram



3.2.1.2 Primary Use Case

Step 1. Tutor approaches the vicinity of the helpdesk **Step 2.** A push notification is received on the

tutor's smartphone:

Step 3. Tutor accepts the push notification and they are clocked on:

3.2.1.3 Alternate Use Cases

Tutor isn't yet signed into the helpdesk app **or** *bluetooth is disabled*

Step 2a. No push notification is sent **Step 2b.** Tutor follows sign in process as indicated in workflow diagram above

Push notifications are disabled **or** *tutor dismisses the notification*

Step 3a. Tutor opens the Helpdesk app on their smartphone and manually clocks on:

3.2.2 Getting the next ticket off the global queue

3.2.2.1 Primary Use Case

Step 1. Tutor taps the name of the student **Step 2.** Tutor accepts the ticket and it is added to the top of their queue

3.2.2.2 Alternate Use Case

Tutor has too many students at the moment and wants someone else to see the student

Step 2a. Tutor refers the ticket to another tutor **Step 2b.** Tutor selects a tutor from a list of tutors currently clocked on at the helpdesk **Step 2c.** Doubtfire adds that ticket to the queue of the selected tutor

3.2.3 Reviewing the topmost ticket from the tutor's queue

3.2.3.1 Primary Use Case

Step 1. Tutor taps the name of the student **Step 2.** App shows details about that ticket **Step 3.** Tutor marks the details about the ticket as resolved **Step 4.** Ticket is removed from their queue and is purged

3.2.3.2 Alternate Use Case

Tutor indicates that they'll come back later and review the student later on

Step 3a. Tutor marks the ticket and says that they'll come back later **Step 3b.** Ticket is pushed down to the end of their queue; time last saw is updated to now.

Student isn't physically present

Step 2a. Tutor postpone's the ticket; run use case above.

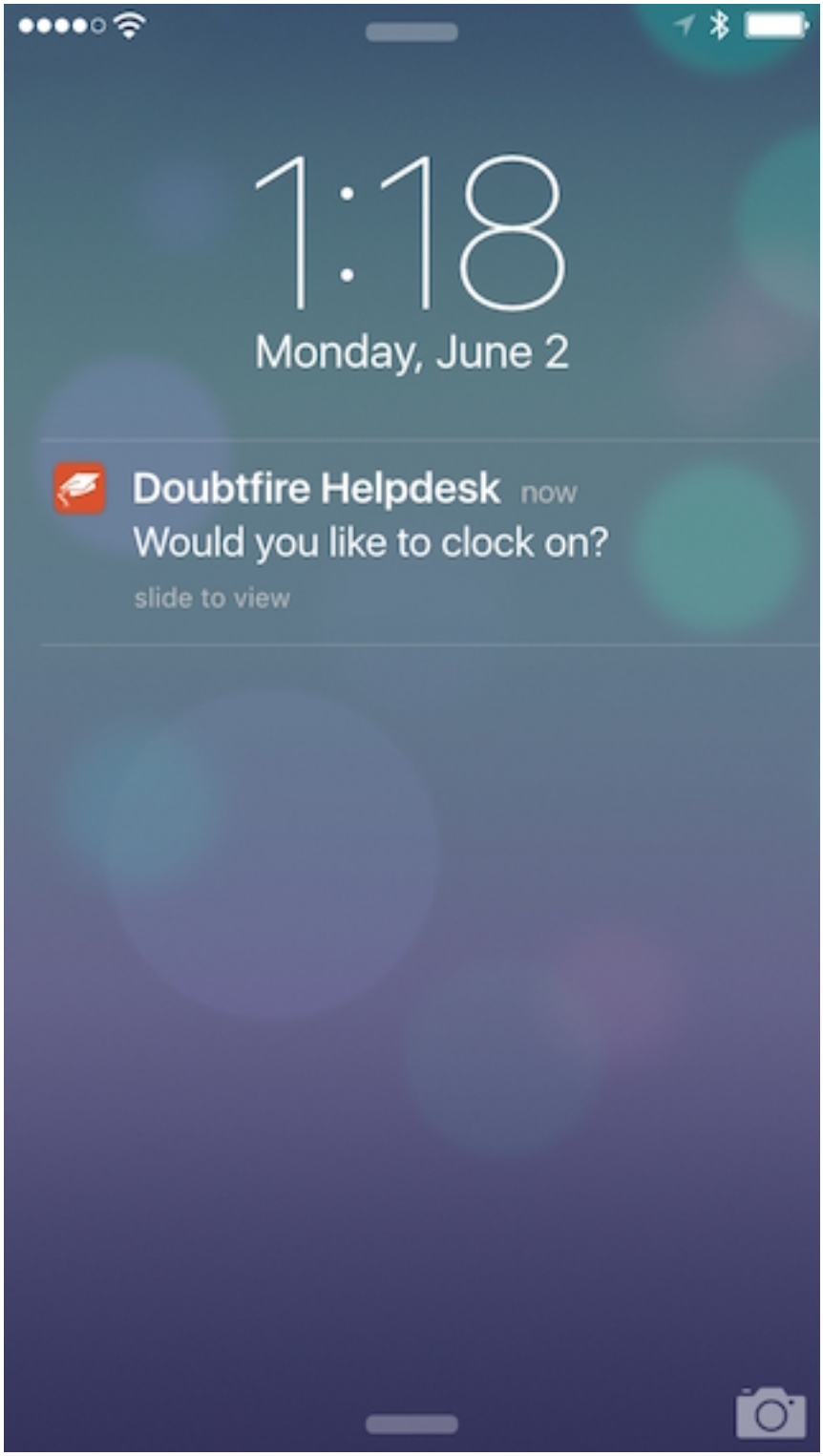


Figure 1: Push notification to clock on

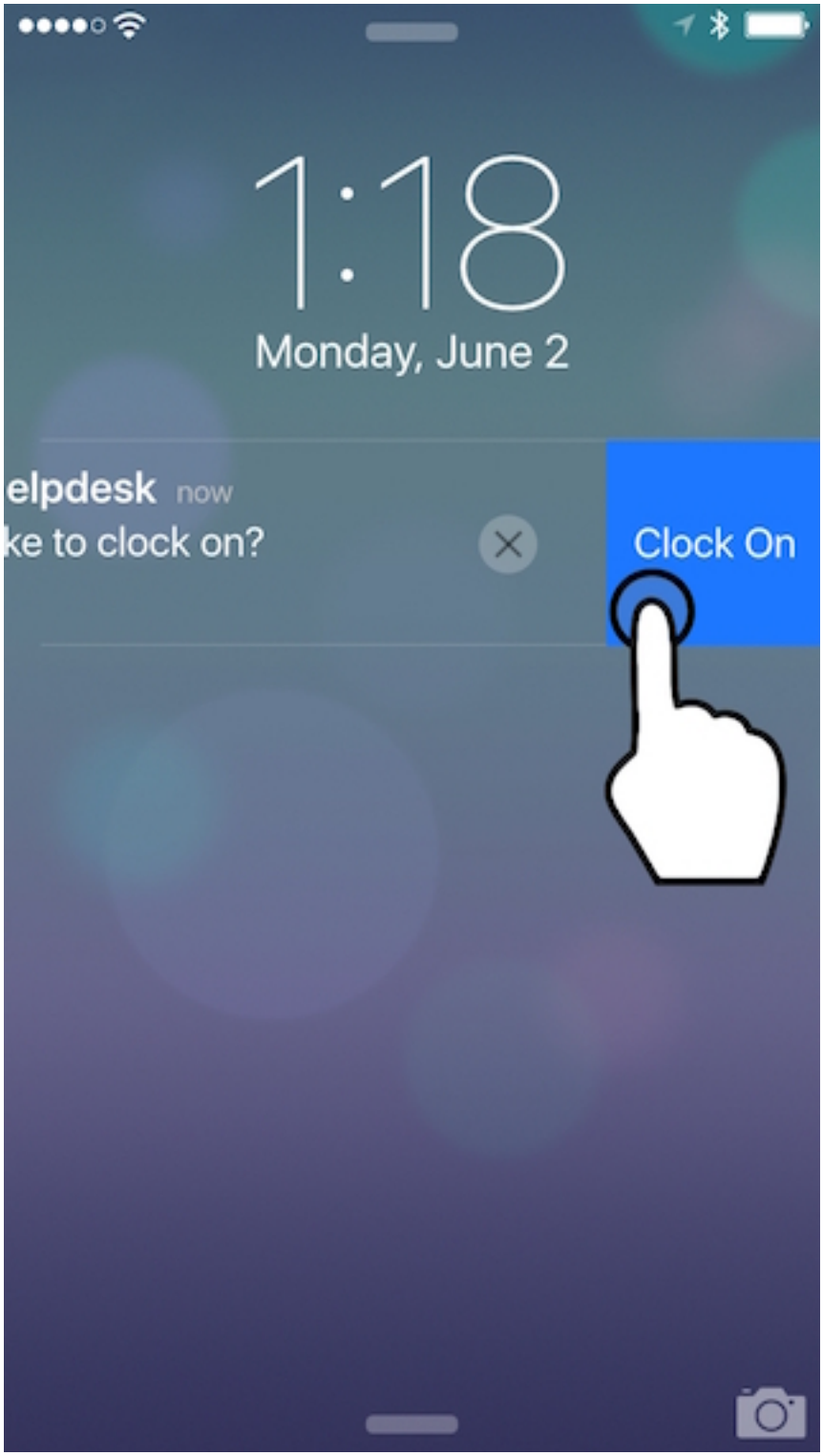


Figure 2: Clock on accept via notification

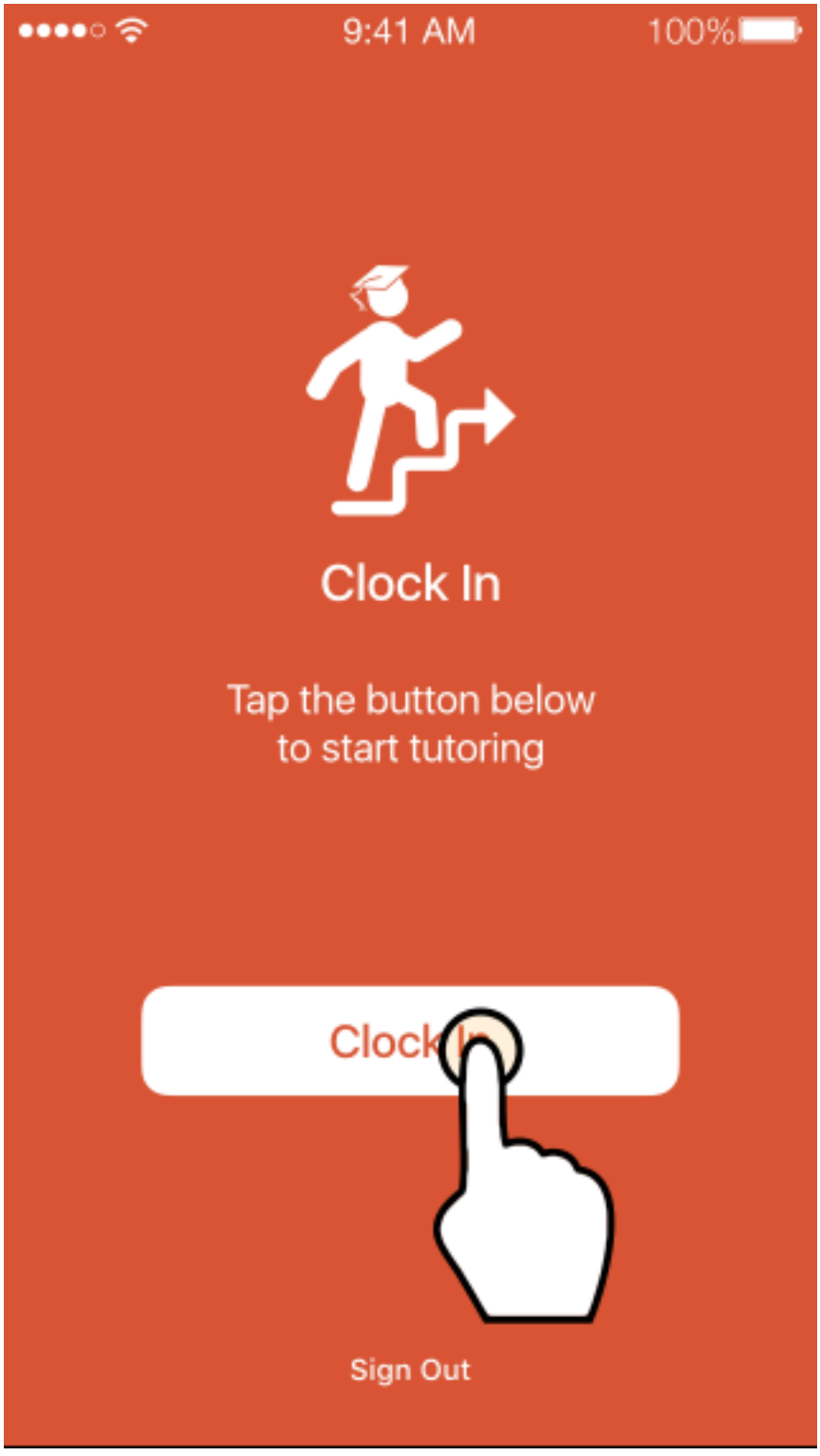


Figure 3: Clock on manually

4 High Level Architecture Diagram