

DayDesign

PROJECT DESCRIPTION

DayDesign will allow individuals and communities to better plan their days. Users will be able to create specific tasks for themselves and, using the dynamic calendar, will be able to set aside time to work on these tasks. Furthermore, users will be able to interact with other users.

Communities and groups can use the dynamic calendar in order to ensure that members will better be capable of attending events; by selecting a list of members, they can view a calendar showing available time slots which will best accommodate these members. Users themselves can join and create groups.

For the hardware side of the project, we would like to allow event planners to create an event in DayDesign, choosing information to be sent to event participants through the Raspberry Pi with NFC functionality. They will then bring their phone close to the Raspberry Pi in order to “program” it, and now, when event-goers arrive, they can wave their phone over the module in order to receive the information.

MAJOR SOFTWARE COMPONENTS

The app will be the most software-intensive part of the project. We envision the DayDesign app having multiple possible screens that the user can interact with. The screens include: login/account, lists of tasks, dynamic calendar, and profile/settings. Due to the storage of all this data, we’ll also be implementing an online database to store user information; specifically, we will be using Firebase.

PROTOTYPE PLAN

Our first prototype will be an example of an experimental, vertical prototype. We will build the physical side of the project, meaning the Raspberry Pi will be equipped with NFC functionality; smartphones will be capable of communicating a URL to be stored on the Raspberry Pi for future transmission to event-goers. To achieve this functionality, we will build a simple smartphone application that will allow event planners to set the desired information to be transmitted through NFC to event-goers. Likewise, the smartphone application will let participants receive the information by holding their phone at a certain distance from the Raspberry Pi.

SPECIFICATIONS

The following is the hardware we plan to acquire in order to build the DayDesign event system: Raspberry Pi Zero W and the PN532 NFC/RFID Controller Breakout Board

ANTICIPATED CHALLENGES

Aggregating many user calendars in order to find the available time slots could be a challenge. On a design level, figuring out how to best position elements may take quite some time. Making sure that users do not feel that their free will is harmed is important, and could be challenging. Also, we must ensure that users still feel that they are truly communicating with others. One of the technical challenges will be making the NFC compatible with all the various types of phones.