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**Neeley Business**

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**Open Planner  
Software Requirements Specification**

**Version 1.0**

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## Revision History

Date	Version	Description	Author
17/11/2022	0.1	Initial Draft	Shawn Fahimi
03/04/2023	1.0	Final Draft	Thuong Hoang

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# Software Requirements Specification

## 1. Introduction

### 1.1 The Purpose of Open Planner

The purpose of Open Planner is to give university students an easy means of accessing major exam and assignment due dates (as well as any other major personal events) throughout a given semester through a single, easy to use interface. The application will provide this means by automatically parsing a student's uploaded syllabus for each course he/she is taking and adding these major dates for each course to a student's personalized calendar, which they will be able to access and modify upon account creation and/or log-in. As opposed to creating an Excel spreadsheet, this application will provide a unique value to students by automating the burden of work in creating a personal calendar the student would naturally assume upon receiving syllabi from his/her professors.

### 1.2 The Purpose of this Document

The purpose of this document is to describe the functional and nonfunctional requirements for software release 1.0 of Open Planner. Its role is to describe the problem to be solved, not the solution: what the system must do, not how. This document is intended to be used by the members of the project team who will implement and verify the correct functioning of the system. Unless otherwise noted, all requirements specified here are committed for release 1.0.

### 1.3 Document Conventions

Dates are specified using the notation DD/MM/YYYY. Aside from this, no special document conventions have been specified in the construction of this document along with all other documents pertaining to version 1.0 of OpenPlanner.

### 1.4 Product Scope

Open Planner will permit college students (locally and gradually nationwide) to access a personalized and modifiable calendar that contains all major exam and assignment due dates (assuming that they have uploaded their syllabi upon account creation or anytime after). Version 1.0 is intended solely for use among TCU students, with the software intended to eventually roll out to college students nationwide.

### 1.5 Definitions, Acronyms, and Abbreviations

See Glossary for any pertinent definition, acronyms, and abbreviations used in this document.

### 1.6 References

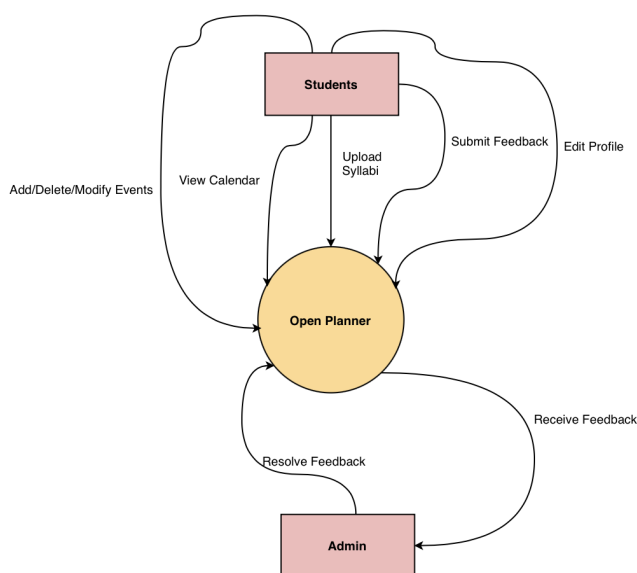
1. The Easy Approach to Requirements Syntax (EARS) <https://alistairmavin.com/ears/>
2. Process Impact Internet Application User Interface Standard, Version 2.0, [www.processimpact.com/corporate/standards/PI Internet UI Standard.pdf](http://www.processimpact.com/corporate/standards/PI%20Internet%20UI%20Standard.pdf)
3. React - A JavaScript Library for Building User Interfaces <https://reactjs.org>
4. Django REST Framework <https://www.django-rest-framework.org>
5. PostgreSQL - The World's Most Advanced Open Source Database <https://www.postgresql.org>

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## 2. Overall Description

### 2.1 Product Perspective

Open Planner is a new software system that intends to replace the current manual process college students endure of creating a personal calendar on Excel or Google Calendar with all major exam and assignment due dates in a given semester. The context diagram in Figure C-2 illustrates the external entities and system interfaces for release 1.0. Note that Open Planner is denoted as a circle in the middle. The system is expected to evolve over several releases, ultimately providing a means for college students nationwide to upload syllabi for their courses and have access to a personalized calendar with all major exam and assignment due dates extracted from their syllabi.



*Above: System-Context Diagram for Iteration 1*

### 2.2 User Classes and Characteristics

User class	Description
Student	The primary users of Open Planner. Students shall be able to make accounts on the Open Planner web application, upload syllabi to their account and subsequently access a personalized calendar containing all major exam and assignment due dates. Students will also be able to modify information pertaining to an event on their personal calendar, add and delete new personal events to their calendar, and customize their calendar. Students can also raise feedback/support tickets for admin users to respond to (as described in the next user class).
Admin	Users on Open Planner with administrative privileges. One of the admin's primary responsibilities is addressing feedback tickets raised by students and handling routine maintenance as well as evolution of the front-end and back-end frameworks of Open Planner. Another admin responsibility is examining a syllabi that does not parse with the parser and giving the system a list of events that are associated with the syllabi that does not parse.

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### 2.3 Operating Environment

OE-1: Open Planner shall operate correctly with the following web browsers: Windows Edge versions  $\geq 91$ ; Firefox versions  $\geq 78$ ; Google Chrome versions  $\geq 90$ ; and Apple Safari versions  $\geq 14$ .

OE-2: All related databases, servers, and websites for Open Planner shall be hosted and deployed on AWS.

OE-3: Open Planner shall permit user access from a VPN Internet connection, via Microsoft and Apple laptops/PC's, as well as from Android and iOS smartphones and tablets.

### 2.4 Design and Implementation Constraints

CO-1: The system's design, code, and maintenance documentation shall conform to the Process Impact Intranet Development Standard, Version 1.3 [6].

CO-2: Python must be used as the backend programming language and DJANGO Rest Framework as the backend framework.

CO-3: Javascript must be used as the front-end programming language.

CO-4: Database management must be done using PostgreSQL.

CO-5: Version control is maintained via the Open Planner GitHub organization.

CO-6: Figma must be used in prototyping for the purpose of generating effective front-end code.

### 2.5 Assumptions and Dependencies

AS-1: Students using Open Planner will have syllabi provided to them by their course instructors to upload in order to generate their personalized master calendar.

DE-1: The successful operation of Open Planner depends on successful deployment of the website's front-end and back-end on AWS.

DE-2: The successful operation of Open Planner depends on the ability to add and retrieve information from a PostgreSQL database.

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### **3. Specific Requirements**

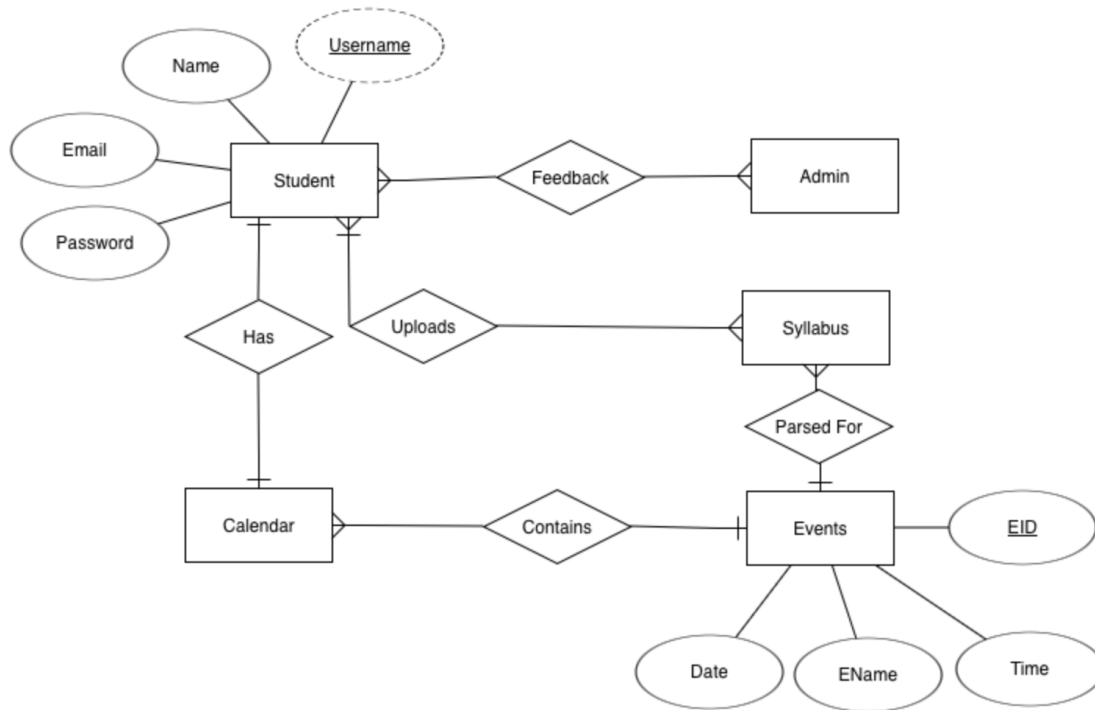
See Use Case document for a comprehensive list of Specific Requirements pertaining to Open Planner.

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## 4. Data Requirements

See the next page for the logical data model.

### 4.1 Logical Data Model



Above: Partial data model (ER diagram) for version 1.0 of Open Planner.

See the next page for the data dictionary.



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## 4.2 Data Dictionary

Element or value display name	Description	Data type	Character length	Acceptable values	Required?	Accepts null value?
Event Name	The Name of the Event	Alphanumeric	Any	Any	Yes	No
Event Time	The Event's scheduled time	Time	5	hh:mm, where hh is 00-23 and mm is 00-59	Yes	No
Event Date	The Event's date/due date	Date	10	dd-mm-yyyy, where dd is 01-31, mm is 01-12, and yyyy is 0000-2023	Yes	No
Event ID	The Event's automatically generated ID/hash key	Alphanumeric	16	Any alphanumeric string no more than 16 characters	Yes	No
First Name	The first name of the Student	Alphabetic	Any	Any	Yes	No
Last Name	The last name of the Student	Alphabetic	Any	Any	Yes	No
Email	The Student's email address	Alphanumeric	Any	Must be of the format [a-z0-9]+@web site.com	Yes	No
Password	The Student's login password	Alphanumeric	Any	Any alphanumeric string at least 8 characters	Yes	No
Username	The Student's generated username (not generated by the student)	Alphanumeric	16	Any alphanumeric string no more than 16 characters	Yes	No

## 4.3 Reports

Open Planner will not generate any data reports in its first iteration.

## 4.4 Data Acquisition, Integrity, Retention, and Disposal

DI-1: Open Planner shall hold onto past events in a student's personal calendar until the student deletes it.

DI-2: Open Planner shall delete all information associated with a user upon account deletion.

DI-3: Open Planner shall delete all information associated with an event upon event deletion in a student's personal calendar.

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## 5. External Interface Requirements

### 5.1 User Interfaces

UI-1: Open Planner's displays shall conform to the Process Impact Internet Application User Interface Standard, Version 2.0 [7].

UI-2: The webpages shall permit complete navigation by using the keyboard alone, in addition to using mouse and keyboard combinations.

UI-3: Every user will be greeted with the option to either log into his/her personal account or create a new account upon successful loading of Open Planner.

UI-4: Logged in Students shall be directed to a main page containing their master calendar, along with the ability to add/modify events in their calendar, edit their calendar information, upload new syllabi, and log out via buttons.

### 5.2 Software Interfaces

SI-1: Amazon Web Services

SI-1.1: Open Planner shall be deployed via Amazon Web Services

SI-2: PostgreSQL

SI-2.1: Open Planner shall add Student accounts along with all associated information to a PostgreSQL database.

SI-2.2: Open Planner shall add Events along with all associated information to a PostgreSQL database.

SI-2.3: Open Planner shall add Syllabi along with all associated information to a PostgreSQL database.

SI-2.4: Open Planner shall add Calendar along with all associated information to a PostgreSQL database.

SI-2.5: Open Planner shall add Admin accounts along with all associated information to a PostgreSQL database.

### 5.3 Hardware Interfaces

No hardware interfaces have been identified for the first iteration.

### 5.4 Communications Interfaces

CI-1: Open Planner shall send an email to Admin users to notify them when a feedback ticket has been opened by a student.

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## 6. Quality Attributes

### 6.1 Usability

USE-1: 100% of new users shall be able to successfully generate a master calendar upon account creation.

USE-2: 80% of new users shall be able to successfully generate a master calendar with successful incorporation of exam and assignment due dates upon uploading syllabi and creating an account.

### 6.2 Performance

PER-1: 95% of web pages generated by Open Planner shall download completely within 4 seconds from the time the user requests the page over a 20 Mbps or faster Internet connection.

PER-2: The system shall display confirmation messages to users within an average of 3 seconds and a maximum of 6 seconds after the user submits information to the system.

### 6.3 Security

SEC-1: Users (Students and Admin) shall be required to log on to Open Planner for all operations.

SEC-2: Only admin users will be permitted to respond to feedback tickets and to add syllabi events to unparsed syllabi.

SEC-3: Students may only access his/her own master calendar.

### 6.4 Safety

No necessity for safety requirement implementation has been considered with the first iteration of this product.

### 6.5 Availability

AVL-1: Open Planner shall be available at least 98% of the time between 5:00 A.M. and midnight local time and at least 90% of the time between midnight and 5:00 A.M. local time, excluding scheduled maintenance windows.

### 6.6 Robustness

ROB-1: If the connection between the Student and Open Planner is broken prior to a new event being either confirmed or deleted, as well as the submission of a feedback ticket, Open Planner shall enable the Student to recover the incomplete form upon reloading the page successfully.

ROB-2: If the connection between the Admin and Open Planner is broken prior to the resolving of a feedback ticket or adding an event to an unparsed syllabi, Open Planner shall enable the admin user to recover the incomplete form upon reloading the page successfully and adding the events to the unparsed syllabi.

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## 7. **Internationalization and Localization Requirements**

As this program is expected to slowly roll out in the U.S. exclusively first, no considerations have been made for internationalization and localization requirements.

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## 8. Other Requirements

No other requirements have been specified for version 1.0 of Open Planner