

## Activity #2: Analysis of An Application Using the Design Principals

### **Prompt**

Your goal is to apply the design principles of visibility, feedback, constraints, consistency, affordance (we covered them in Module 1)

- Select any software that already existed. It could be something you have helped to write (e.g., for a class or work), but any other commercial or open source software is ok too. It can have a very simple or very complex user interface. Include one or more screenshots of the user interface.
- For each design principle provide a concrete example of how the software's UI **supports** that principle. Be sure to justify why you are saying that the example supports that principle (3-5 sentences per principle). You can also include screenshot of the UI that shows how it supports the principal. If nothing about your UI at all supports a design principle, you can say so, but you must write a justification for that as well.
- For each design principle, provide a concrete example of how the software violates that principle (with justifications: 3-5 sentences per principle). You can also include screenshot of the UI that shows how it violates the principal. If nothing about your UI at all violates a design principle, you can say so, but you must write a justification for that as well. Any suggestion for improvement?

You should be able to come up with at least 2 pages, feel free to include images if you wish. Please submit a .pdf file to Canvas for Activity 2.

### **Response**

Software Selected: Greenhouse Software. <https://www.greenhouse.io/>.


Summary: Greenhouse is a Recruiting Software & Applicant Tracking System SaaS product. The following screenshots I'm using are from what I see at work as my company uses Greenhouse as our ATS. I'll include one screenshot from the employee / ATS side and one from the non-company / applicant side.

Dashboard Screenshot

Application Screenshot / Workflow: <https://boards.greenhouse.io/c3iot/jobs/4056606002>  
5 Screenshots over the next 2-3 pages.

## Image 1 - Job Posting Page P1

<https://boards.greenhouse.io/c3iot/jobs/4056606002>

 **C3.ai**

[Apply Now](#)

### Forward Deployed Engineer

at C3.ai ([View all jobs](#))

Chicago, IL, Redwood City, CA, Houston, TX

C3.ai is a leading enterprise AI software provider for accelerating digital transformation. The comprehensive and proven C3 AI Suite uses a model-driven abstraction layer to enable organizations to develop, deploy, and operate enterprise scale AI applications 40x to 100x faster than alternative approaches. [www.c3.ai](http://www.c3.ai)

Our customers – many of the largest, most complex organizations in the world – build applications on the C3.ai Platform to solve their most challenging, never-before-solved business problems, such as:

- **Aircraft Predictive Maintenance:** predict aircraft system failures before they occur; empower flight engineers to more effectively manage fleet-wide flight plans and proactively schedule inspections and maintenance.
- **Electricity Theft Detection:** detect anomalous electricity consumption patterns, across millions of smart meters, indicative of energy theft; empower operators to more effectively prevent theft, prioritize field investigations, and recover lost revenue.
- **Supply Chain Inventory Optimization:** recommend safety stock levels to optimize inventory for thousands of SKUs across hundreds of distribution centers; empower plant managers to more effectively minimize costs while meeting service level targets.

As a Forward Deployed Engineer, you will be working with customers to design, develop, and deploy AI-based enterprise applications on the C3.ai Platform. An ideal candidate possesses strategic and analytical aptitude, software development expertise and excellent interpersonal skills.

**Responsibilities:**

- Engage directly with customers to design, develop, and deploy AI enterprise applications on the C3.ai Platform
- Become an expert in application design and development on the C3.ai Platform; lead design and code reviews of end-to-end customer applications
- Perform enhancement, testing, and troubleshooting, of applications with and on behalf of customers
- Continuously identify technical risks and gaps; devise mitigation strategies in anticipation of customer needs
- Write specifications, documentation, and user guides for customer applications

**Required Qualifications:**

- Bachelor's degree in a Science, Technology, Engineering or Math (STEM) field
- 2+ years professional experience in a customer-facing role building enterprise cloud software applications
- Solid understanding of cloud computing concepts
- Solid understanding of databases types and trade-offs
- Demonstrated proficiency in JavaScript and/or similar programming languages
- Working knowledge of Agile software development methodology
- Strong analytical ability and problem-solving techniques
- Strong organizational skills with high attention to detail
- Excellent interpersonal skills with the ability to work effectively in a cross-functional team

**Preferred Qualifications:**

- Bachelor's degree in Computer Science or equivalent field; graduate degree in complimentary STEM or Business field
- Experience building and deploying AI-based enterprise applications
- Solid understanding of common machine learning techniques, model training, and trade-offs

[View site information](#)

## Image 2 - Job Posting Page P2

<https://boards.greenhouse.io/c3iot/jobs/4056606002>

on the basis of any legally protected characteristics, including disabled and veteran status.

### Apply for this Job

\* Required

First Name \*

Last Name \*

Email \*

Phone

Resume/CV \* [Attach](#), [Dropbox](#), [Google Drive](#), [Paste](#)

Cover Letter [Attach](#), [Dropbox](#), [Google Drive](#), [Paste](#)

Which location(s) would you consider for this role? \*

☐ Chicago, Illinois

☐ Redwood City, California

☐ Houston, TX

LinkedIn Profile

How did you hear about this job?

Data Consent \*

By clicking the "I Accept" button you expressly make the following representations and warranties and give your consents as described below:

C3 collects your personal data for the purposes of managing C3's recruitment related activities as well as for organizational planning purposes globally. Consequently, C3 may use your personal data in relation to the evaluation and selection of applicants including for example setting up and conducting interviews and tests, evaluating and assessing the results thereto and as is otherwise needed in the recruitment processes including the final recruitment.

Image 3 - Job Posting Page P3. Since it is clear the following two images are back to back, consider the pair as image 3.

https://boards.greenhouse.io/c3iot/jobs/4056606002

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C3 does not disclose your personal data to unauthorized third parties. However, as a global corporation consisting of multiple affiliated companies in various countries, C3 has international sites and C3 uses resources located throughout the world. C3 may from time to time also use third parties to act on C3's behalf. You agree to the fact that to the extent necessary your personal data may be transferred and/or disclosed to any company within C3 group of companies as well as to third parties acting on C3's behalf, including also transfers to servers and databases outside the country where you provided C3 with your personal data. Such transfers may include for example transfers and/or disclosures outside the European Economic Area and in the United States of America.

☐ I Accept

Sponsorship Question \*

Do you now or will you in the future, require immigration sponsorship to work at C3?

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**U.S. Equal Opportunity Employment Information (Completion is voluntary)**


Individuals seeking employment at C3.ai are considered without regards to race, color, religion, national origin, age, sex, marital status, ancestry, physical or mental disability, veteran status, gender identity, or sexual orientation. You are being given the opportunity to provide the following information in order to help us comply with federal and state Equal Employment Opportunity/Affirmative Action record keeping, reporting, and other legal requirements.


Completion of the form is entirely **voluntary**. Whatever your decision, it will not be considered in the hiring process or thereafter. Any information that you do provide will be recorded and maintained in a confidential file.

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Gender  

Are you Hispanic/Latino?  

**Race & Ethnicity Definitions**


If you believe you belong to any of the categories of protected veterans listed below, please indicate by making the appropriate selection. As a government contractor subject to Vietnam Era Veterans Readjustment Assistance Act (VEVRAA), we request this information in order to measure the effectiveness of the outreach and positive recruitment efforts we undertake pursuant to VEVRAA. Classification of protected categories is as follows:

A "disabled veteran" is one of the following: a veteran of the U.S. military, ground, naval or air service who is entitled to compensation (or who but for the receipt of military retired pay would be entitled to compensation) under laws administered by the Secretary of Veterans Affairs; or a person who was discharged or released from active duty because of a service-connected disability.

A "recently separated veteran" means any veteran during the three-year period beginning on the date of such veteran's discharge or release from active duty in the U.S. military, ground, naval, or air service.

An "active duty wartime or campaign badge veteran" means a veteran who served on active duty in the U.S. military, ground, naval or air service during a war, or in a campaign or expedition for which a campaign badge has been authorized under the laws administered by the Department of Defense.

An "Armed forces service medal veteran" means a veteran who, while serving on active duty in the U.S. military, ground, naval or air service, participated in a United States military operation for which an Armed Forces service medal was awarded pursuant to Executive Order 12985.

Veteran Status  

Form CC-305  
OMB Control Number 1250-0005  
Expires 1/31/2020

**Voluntary Self-Identification of Disability**

**Why are you being asked to complete this form?**

Because we do business with the government, we must reach out to, hire, and provide equal opportunity to qualified people with disabilities<sup>1</sup>. To help us measure how well we are doing, we are asking you to tell us if you have a disability or if you ever had a disability. Completing this form is voluntary, but we hope that you will choose to fill it out. If you are applying for a

## Image 4 - Job Posting Page P4 + Submission Butto

https://boards.greenhouse.io/c3ai/jobs/4096606002

Disabilities include, but are not limited to:

- Blindness
- Deafness
- Cancer
- Diabetes
- Epilepsy
- Autism
- Cerebral palsy
- HIV/AIDS
- Schizophrenia
- Muscular dystrophy
- Bipolar disorder
- Major depression
- Multiple sclerosis (MS)
- Missing limbs or partially missing limbs
- Post-traumatic stress disorder (PTSD)
- Obsessive compulsive disorder
- Impairments requiring the use of a wheelchair
- Intellectual disability (previously called mental retardation)

Disability Status  Please select

**Reasonable Accommodation Notice**

Federal law requires employers to provide reasonable accommodation to qualified individuals with disabilities. Please tell us if you require a reasonable accommodation to apply for a job or to perform your job. Examples of reasonable accommodation include making a change to the application process or work procedures, providing documents in an alternate format, using a sign language interpreter, or using specialized equipment.

<sup>1</sup>Section 503 of the Rehabilitation Act of 1973, as amended. For more information about this form or the equal employment obligations of Federal contractors, visit the U.S. Department of Labor's Office of Federal Contract Compliance Programs (OFCCP) website at [www.dol.gov/ofccp](http://www.dol.gov/ofccp).

**PUBLIC BURDEN STATEMENT:** According to the Paperwork Reduction Act of 1995 no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. This survey should take about 5 minutes to complete.

[Submit Application](#)

Powered by **greenhouse**

[Read our Privacy Policy](#)

## Image 5 – Employer Facing Dashboard / ATS

8 Recruiting | **My Dashboard** | All Jobs | All Candidates

Hi Arthur

### My Dashboard


#### My Interviews

[See Past Interviews >](#)

You have no upcoming interviews.


#### Add a Referral

[View Referral Program at C3.ai](#)

 **Add a new referral for any open job**  
Not sure which job? Pick the closest option and make sure to leave a note for the hiring team!

[+ Add a referral.](#)

OR

 **Share your link with people interested in working at your company**  
Every time someone clicks on your link and applies for a job, your hiring team can track you as a source.

Choose a job...

[COPY](#)

#### My Referrals

Showing 4 of 30 [See All >](#)

Name	Referred for	Stage
[REDACTED]	Software Engineer, Applications - Intern [REDACTED]	Skills Assessment 2 of 9
[REDACTED]	Software Engineer, Applications - Early Professional [REDACTED]	Hired! starts on [REDACTED]
[REDACTED]	Software Engineer, Professional Services [REDACTED]	Hired! starts on [REDACTED]
[REDACTED]	Software Engineer, Professional Services (2019) (118)	Rejected on [REDACTED]

#### People I'm Following

[REDACTED]

[REDACTED]


[REDACTED]


[REDACTED]


[REDACTED]

[REDACTED]

#### Helpful Links

 Wondering what roles are open at your company?  
[View Internal Jobs](#)

 Questions about jobs or permissions?  
[Email Your In-House Contacts](#)

 Still have questions?  
[Visit Our Help Center](#)

[Personalize Dashboard](#)

## Design Principals

1. Visibility – Can I see the functions and interactions?
  - a. Screenshot – See Image 5 Above
  - b. Example
    - i. Dashboard
  - c. Justification
    - i. This is a good example of visibility because at each point in the dashboard, “My Dashboard, All Jobs, My Candidates”, Add a Referral, My Referrals, My Interviews” is very clear about the possible functions and interaction, it is clear what the function of this application consists of and what interactions a user may have in each section. For example, across the header / top, there are a few links for the main functions / interactions I would want as an employer user. In the center, I have two primary sections that I would want as an employee: my upcoming interviews, and section to add referrals. Most of the links on the page are light blue or green (Greenhouse’s color) so it is visible for a user like myself to tell apart links.
  - d. Violation Example
    - i. “My Referrals” Names
  - e. Violation Justification Example
    - i. This is a good violation example of visibility because as I have blacked out the names under “My Referrals”, you will not be able to see this interaction, but the names listed there are not linked. Conversely in the “People I’m Following” section in the top right, the names are linked to the candidate profile. This violates the Visibility example because most users would expect that a name. While it is in line with the non light blue or green I mentioned in the previous section, why are some other links, such the links in the header not also similarly colored? It could be because they are obvious links, but in in the body / section it is not as apparent.
2. Feedback – What’s the object or device doing right now?
  - a. Screenshot – See Image 5 Above
  - b. Example
    - i. On the employee’s dashboard, the software (object/device) displays the quick view / summary of the important information and links to what a user might want to do.
  - c. Justification
    - i. This is a good example of feedback because the application shows you the high level information from all different parts of the application – referrals / adding referrals, jobs, candidates, candidates I follow, my interviews, and helpful links, along with a section that allows the user to personalize the dashboard.
  - d. Violation Example
    - i. I am unable to find a violation of this design principle.
  - e. Violation Justification Example
    - i. This is difficult to determine a violation because this is like proving a negative or try to prove something doesn’t exist when there is no evidence

to support that because it doesn't exist, so there is nothing to justify the violation of the constraints design principle. A violation here would be to find an object/device that does not work as intended (ie a bug). That is something that has not happened with Greenhouse; I've used their software for far too many years and have not encountered a Production bug on their application yet.

ii.

### 3. Constraints – What can't I do that

#### a. Screenshot

The screenshot shows a job application form titled "Apply for this Job" with a red asterisk indicating required fields. The form includes the following sections:

- First Name \***: A text input field with a red error message "First Name is required." below it.
- Last Name \***: A text input field with a red error message "Last Name is required." below it.
- Email \***: A text input field with a red error message "Email is required." below it.
- Phone**: A text input field.
- Resume/CV \***: A section with a red error message "Resume/CV is required." and links for "Attach", "Dropbox", "Google Drive", and "Paste".
- Cover Letter**: A section with links for "Attach", "Dropbox", "Google Drive", and "Paste".
- LinkedIn Profile**: A text input field.
- How did you hear about this job?**: A text input field.
- Data Consent \***: A section with a red asterisk and a paragraph of text explaining the data collection policy.

i.

#### b. Example

- i. If I try to submit an application without filling out one of the input boxes that are marked with a red asterisk, then the application fails to go through.

#### c. Justification

- i. This is a good example of constraints because it shows that I, as the user, cannot do on the application / software. The application distinctly tells me that XYZ section is required or a box must be checked.

#### d. Violation Example

- i. I am unable to find a violation of this design principle.

#### e. Violation Justification Example

- i. This is difficult to determine a violation because this is like proving a negative or try to prove something doesn't exist when there is no evidence to support that because it doesn't exist, so there is nothing to justify the violation of the constraints design principle. Trying to find a violation example of "What I can't do that". That is something that has not happened with Greenhouse; I've used their software for far too many years and have not encountered a Production bug on their application yet.

### 4. Consistency – Is this familiar?

#### a. Screenshot – Images 1-4 – Job Post Page

#### b. Example

- i. The job post page is very familiar and consistent for most customers / companies that use Greenhouse.

- c. Justification
    - i. This is a good example of consistency because the job post page is very familiar and consistent for most customers / companies that use Greenhouse. Most of these job applications are in a consistent format, having name, email, phone number, resume, optional cover letter, work authorization, optional candidate info, “why this job”, or some kind of the combination of (or in addition to) the above.
    - ii. Examples:
      - [https://boards.greenhouse.io/venmo/jobs/1663433?gh\\_jid=1663433](https://boards.greenhouse.io/venmo/jobs/1663433?gh_jid=1663433)
    - iii. [https://www.hubspot.com/jobs/apply?gh\\_jid=86940](https://www.hubspot.com/jobs/apply?gh_jid=86940) (Doesn’t explicitly say Hubspot uses Greenhouse, but they are a Greenhouse customer).
  - d. Violation Example
    - i. Not each company that uses Greenhouse has the same type of application.
  - e. Violation Justification Example
    - i. This is a good violation example of consistency because the Hubspot and Venmo application forms in the link above are way shorter than the C3.ai job posted in the screenshots above. Since each application has a different set of questions (but based on the items I mentioned in the Justification section above), as an applicant, it’s a mild annoyance as I won’t get a consistent user experience across different companies. For example, sometimes the application form is short and sweet but other times it is very long.
5. Affordance – How do I use it?
- a. Screenshot – Images 1-4 – Job Post Page
  - b. Example
    - i. As an applicant, I know how to use the application form and can easily fill it out and submit.
  - c. Justification
    - i. This is a good example of affordance because I essentially fill out the all the areas on the form, especially the ones with the red asterisk, until I get to the end and hit the submit form. It is easy to fill out since it’s a “start at the top, end at the bottom” type of form with a nice green “Submit Application” button at the end.
  - d. Violation Example
    - i. It isn’t clear where to submit the application until you get to the bottom of the page.
  - e. Violation Justification Example
    - i. This is a good violation example of affordance because when one first navigates to the page / arrives at the application, a user unfamiliar with Greenhouse or modern job applications might not figure out where to submit the application, the most important part of the application from the applicant’s perspective. Especially since this particular application is very lengthy top-down, the affordance isn’t great as the user will have to scroll all the way down before figuring out that the “Submit Application” button is at the very bottom.