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Instructions

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The Software Development Life Cycle (SDLC)

And how to apply it.

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1st	Planning & Information Gathering
2nd	Analysis
3rd	Design
4th	Implementation or Coding
5th	Testing
6th	Deployment
7th	Maintenance

1st	Ask family what they'd like
2nd	Choose a recipe
3rd	Gather & prepare ingredients
4th	Cook
5th	Adjust Seasonings
6th	Serve and Eat!
7th	Clean the dishes

High-Quality - Cost-Effective - Safe and Secure

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TIME TO BREAK IT DOWN

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Phase 1 : Planning & Information Gathering

(Ask your family what they'd like)

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The Planning & Information Gathering Phase lays the foundation for a successful project.

1. Defines Project scope and objectives
2. Establishes requirements
3. Identifies risks and constraints
4. Allocates resources and timelines
5. Creates a roadmap for development

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Phase 1.a : Planning ~~& Information Gathering~~

(Ask your family what they'd like... for a year)

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Mr. Han D. Man has been working at Craftsman State University as the lead dormitory maintenance technician for several years.

Wright Place – the on campus residential building for student housing – has been his only building. Housing 150 students, the building doesn't contain any shared amenities or common areas, so the maintenance needs have been minimal.

The University has experienced a sudden boom in enrollment due to a viral TikTok trend, and the existing dormitory is no longer able to accommodate the growing student population.

The construction of Wrong Time is nearing completion, and the grand opening is scheduled for the start of the second semester in January 2026.

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Mr. Man admits that he is nervous about keeping the maintenance tasks and schedules organized for both buildings while also onboarding his new assistant. With the grand opening soon approaching and limited time remaining, the University and Mr. Man have contacted Kayleigh and Winsupply for help.

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Planning

- Activities:
  - Cost-Benefit Analysis
  - Scheduling
  - Resource Estimation
  - Evaluate and select:
    - Tools
    - Technology
    - Languages

- Deliverables:
  - *Communication plan*
  - *Project work plan*

MR.FIX IT
fixitlist
MR.FIX IT

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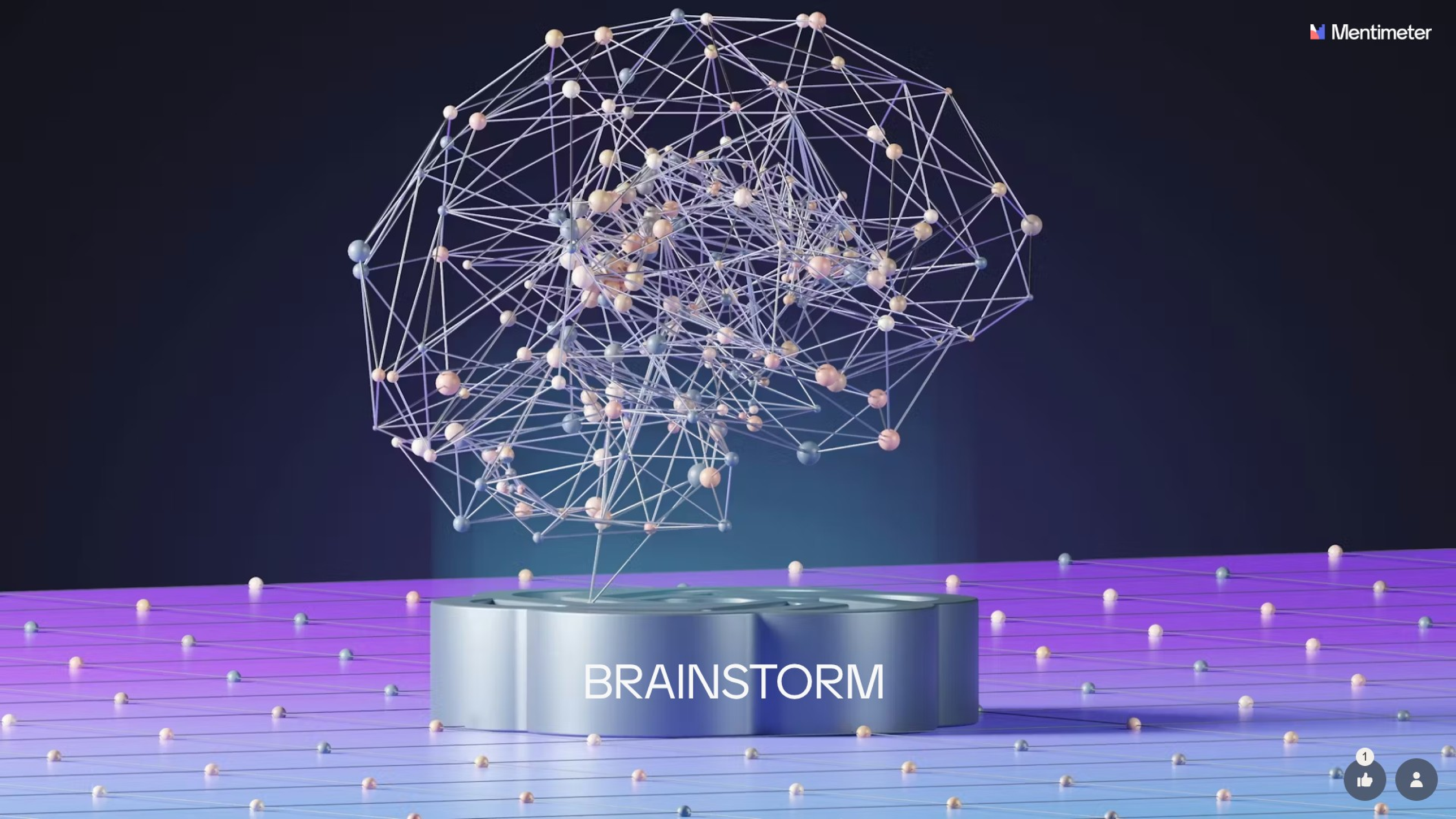
Phase 1.b : ~~Planning &~~ Information Gathering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BRAINSTORM
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- Interviews
- Workshops
- Brainstorming
- Role-Playing
- Focus Groups
- User Observation
- Prototyping
- Surveys
- Questionnaires
- Document analysis
- Benchmarking
- Competitor research

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Building your User Personas

/pərˈsōnə/ - the aspect of someone's character that is presented to or perceived by others

What is a User Persona?

- Fictional but research-based profile that represents a specific segment of your target audience, detailing their goals, behaviors, needs, pain points, and demographics

Why a User Persona?

- Foster empathy and provide a clear, user-centric guide for developing products and services that truly resonate with your customers

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The Foundational Questions

Answered

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Who - Who is Mr. Fix-It for? Who will use it?

- Technicians
- Residents
- The random guy who can't fix something themselves.
- Residents of the building
- students & staff with problems to be fixed
- Repairmen
- Suppliers
- The building's managers

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Who - Who is Mr. Fix-It for? Who will use it?

- residents
- People who fixing XD
- Landlords
- Building management
- Landlords
- Someone that needs their toilet fixed
- People who do repairs
- Residents

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Who - Who is Mr. Fix-It for? Who will use it?

Han D. Man

The under-qualified technician

Residents, Floor Managers, the University

Administrators

Remy from Rattatoullie

Request response

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WHO:

- Operations Managers
- Resident Advisors
- Technicians

WHO NOT:

- School Administrators
- Accounting
- Support Services
- Other Campus Staff
- Other Campus Students
- Visitors
- Guests
- Residents
- Professors

Who is Mr. Fix-It for? Who will use it?

Why isn't Mr. Han D. Man on either list?

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Target Audience: Operations Manager

Name: Han D. Person
Age: 35
Location: Craftsman State University
Education: High School
Job Title: Lead Maintenance Technician

Target Audience: Resident Advisors

Name: Gen E. Fir
Age: 21
Location: Craftsman State University
Education: Pursuing Accounting Bachelors
Job Title: Resident Advisor

Target Audience: Technicians

Name: Will E. Makeit
Age: 25
Location: Craftsman State University
Education: Trade School
Job Title: Apprentice Maintenance Tech

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Rock Paper Scissor!
1

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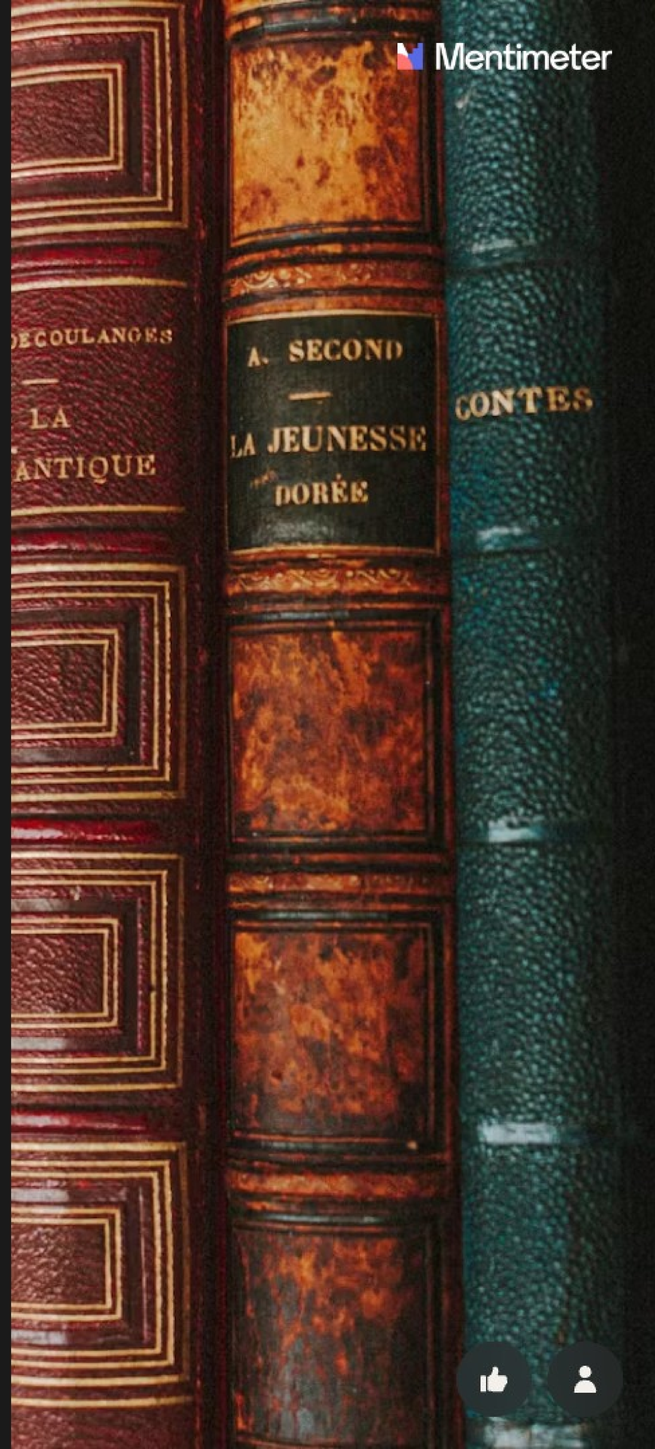
CHAT GPT

First Place:

Create a Bio for your User!

Han D. Person is a sixth-generation maintenance technician at Craftsman State University. For the first time, CSU is expanding its' campus, and Han refuses to allow any missteps to potentially tarnish the legacy his family has built. He is bringing on an apprentice to help ensure nothing falls through the cracks, but Han has never had this much responsibility or someone to mentor before, let alone at the same time.



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Second Place:

What are your users Goals?

Third Place:

What Pain Points does your user experience?

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Fourth Place (If Applicable)

Generate an AI picture of your user

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Honors:

What are some other attributes we should have for your user?

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Hold on to your first draft response for later.

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What - What is Mr. Fix-It going to do? What actions are represented?

Find places for good priced toilets and give advice on how to fix toilet.

Having a set time for the fixing

It will keep track of the maintenance items that needs to be done.

Put in request for repairs

account will add a problem, mrfix it sees it, goes to place where problem is and fix it

Mr. Fix-it is going to have dates and times set for customers and techs to go out and have a schedule of times

Generate RO for necessary parts

Track maintenance requests and what is broken

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What - What is Mr. Fix-It going to do? What actions are represented?

Provide a dashboard that tracks the real time status of different maintenance requests

Allow work order requests, real-time tracking of maintenance orders, history & records, and a feedback system

I meant fair time

Generate ticket for fix requests

Provide an easy way for residents, technicians, and managers to put in requests for maintenance tasks, as well as presenting the information *to* the technician in an easy-to-understand format.

Scheduling, requests, inventory management

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WHAT:

- Requested Maintenance
- Track Status
- Assign Worker

WHAT NOT:

- Scheduled Maintenance
- Emergency Maintenance
- Technician Schedules
- Track Inventory
- Invoicing
- Purchasing
- Generate Emails
- Confirm Appointments
- Pay Invoices

What is Mr. Fix-It going to do? What actions are represented?

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Where - Where does Mr. Fix-It fit into the maintenance process?

Weekly or Monthly property check up

Dashboard and overview, weekly

Status of specific users*

Technician overview/dashboard

Showing what maintenance to do for a technician

Designated Administration overview for target user or location

Showing status/requests for maintenance to Technicians

Support for maintenance workers, showing active work orders & if anyone is assigned to them

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Where - Where does Mr. Fix-It fit into the maintenance process?

Showing the jobs for a technician to do

When Technician get into work and when they finish requests

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WHERE:

- At initial request:
  - Creating
- Scheduling:
  - Customer
  - Technician
- Upon Completion:
  - Summary of Work

WHERE NOT:

- At initial request:
  - Submitting
- Scheduling:
  - Reoccurring
  - Availability
- Purchasing
  - Create Purchase Order
  - Receive Inventory Purchased
- Inventory
  - Counts
  - Levels
  - Usage
  - Cost
- Financial Transactions
  - Received
  - Sent

Where does Mr. Fix-It fit into the maintenance process?

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When - When is Mr. Fix-It the right tool?

Planning daily route for maintenance

Planning/scheduling

When hearing about a new need

A technician would use it to find what maintenance they need to do.

Assign a worker to a requested maintenance job

In the morning to check when they have appointments

Bob the builder was busy

In between maintenance orders to head to the next one

1

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When - When is Mr. Fix-It the right tool?

In the morning, they check requests that are new/pending

Submitting requests to put on the calendar and assigning tasks

When the user notices something wrong and needs to create a request

Gives a scope of duties and expectations applied.

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WHEN:

- Request Received
  - Non-Emergency
- Scheduling
  - Add to Request
- Inventory
  - Add to Request
- History
  - Issue
  - Location
  - Customer
  - Dates

WHEN NOT:

- Request Received
  - Emergency
  - Scheduled
- Scheduling
  - Checking Availability
  - Rescheduling
  - Follow-Ups
  - Automatic Scheduling
- Inventory
  - Counting
  - Replenishment
- Communication
  - Residents
  - RA
  - School Staff
  - Campus
  - Confirmation of Request Receipt

When is Mr. Fix-It the right tool?

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Why - Why Mr. Fix-It?

Its convenient and saves time

convenient way to organize

management/organization

It makes management of maintenance needs and scheduling far easier and more organized

Ease of life

Simple app to quickly give workers notice that there is a problem that they can fix

Provides structure to work

An organized method of record keeping of maintenance tasks and schedules

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Why - Why Mr. Fix-It?

Single point of access to organized maintenance tasks

Organization, can prevent communication issues

It has a value or a need

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Why Mr. Fix-It?

WHY:

- Single point of entry
- Easy to use and understand
- Visibility
  - Status - Technician

WHY NOT:

- Automation
  - Add
  - Organize
  - Edit
  - Delete
  - Communication
- Visibility
  - Status – Other
  - Schedules
- Invoicing
  - Creating
  - Receiving
  - Accounting
- Inventory Management
- Reporting
- Warranty Tracking

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CHAT GPT

Again

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Gen E. Fir - Add all Bio's generated.

1

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Will E. Makeit - Add all Bio's generated.

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Gen E. Fir - Add all Goals generated.

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Will E. Makeit - Add all Goals generated.

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Gen E. Fir - Add all Pain Points generated.

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Will E. Makeit - Add all Pain Points generated.

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Honors - What are the other attributes and who were they for?.

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Homework

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Information Gathering

- Understand the problem
- Define the scope
- Gather Requirements
- Document

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Let's recap - What do you think the Fix-It Development Life Cycle looks like?

1st Close maintenance request

2nd Confirm date & time with resident, assign technician

3rd Check inventory and gather equipment

4th Test results of maintenance performed

5th Perform maintenance

6th Receive maintenance request

7th Inform resident maintenance completed

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The Analysis Phase is the bridge between the Planning and Design phase, translating high-level plans into actionable ideas.

1. Business
2. Technology
3. Execution

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Mr. Fix It

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What questions would you ask Mr. Man?

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Here's what Mr. Man said

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Who Not - Who is Mr. Fix-It *not* for? Who won't be using it?

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What Not - What is Mr. Fix-It *not* going to do? What actions will it *not* represent?

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Where Not - Where does Mr. Fix-It *not* fit into the maintenance process?

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When Not - When is Mr. Fix-It *not* the right tool?

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Why Not - Why *not* Mr. Fix-It?

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Analysis

(Choose a Recipe)

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Design

(Gather Ingredients)

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Please don't try to prove me wrong.

There are no dumb questions.

0 questions

0 upvotes

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Step 2 : Analysis

(Choose a Recipe)