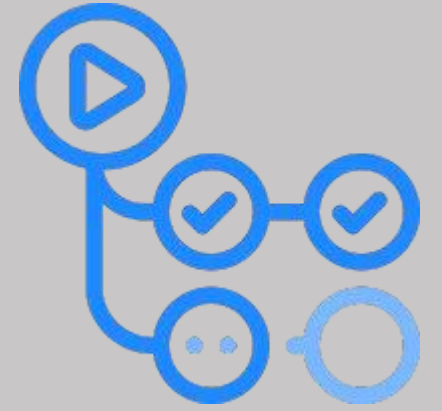




GitHub



Vezzal

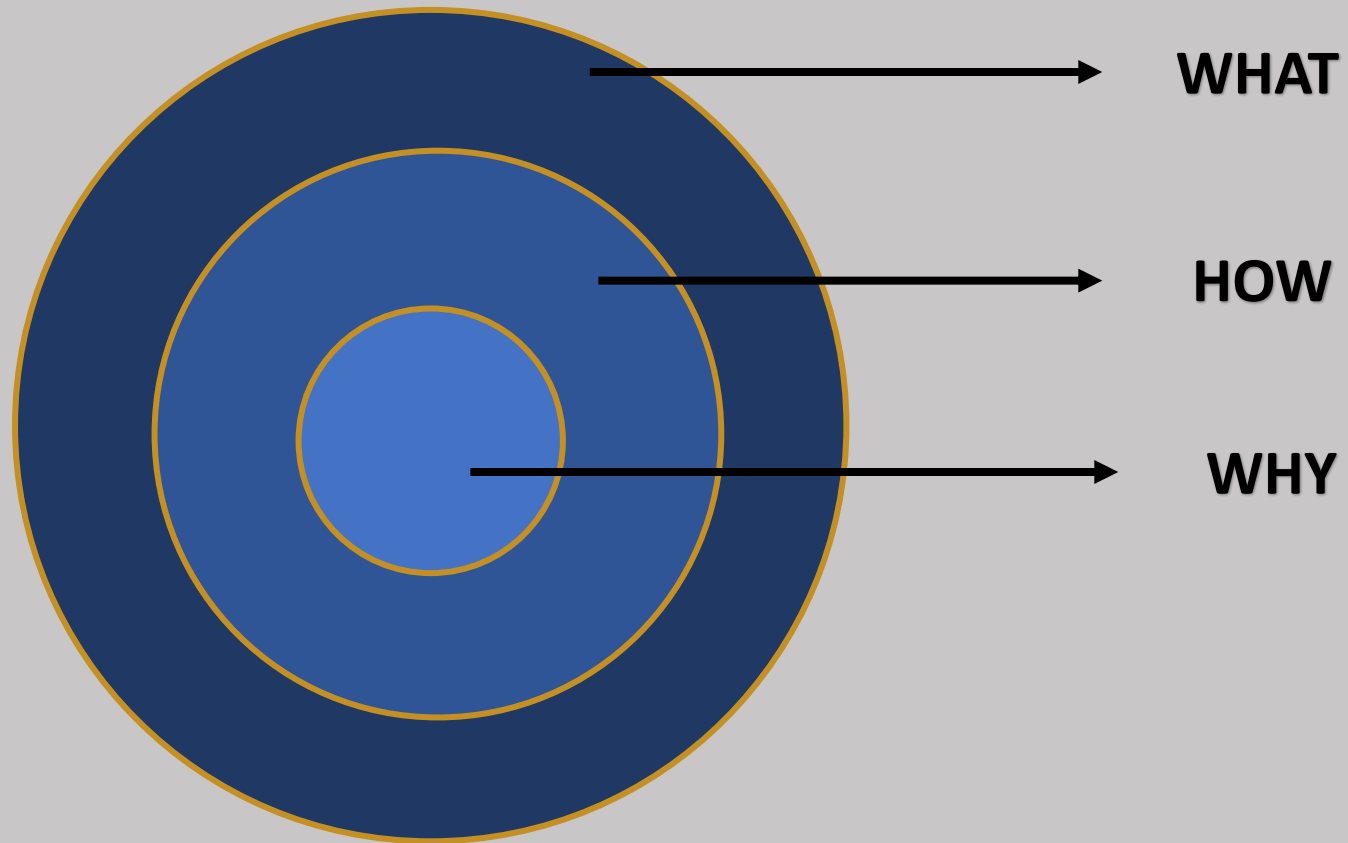
a containerized tool to use and test
open source EDA tools

- Sai Charan

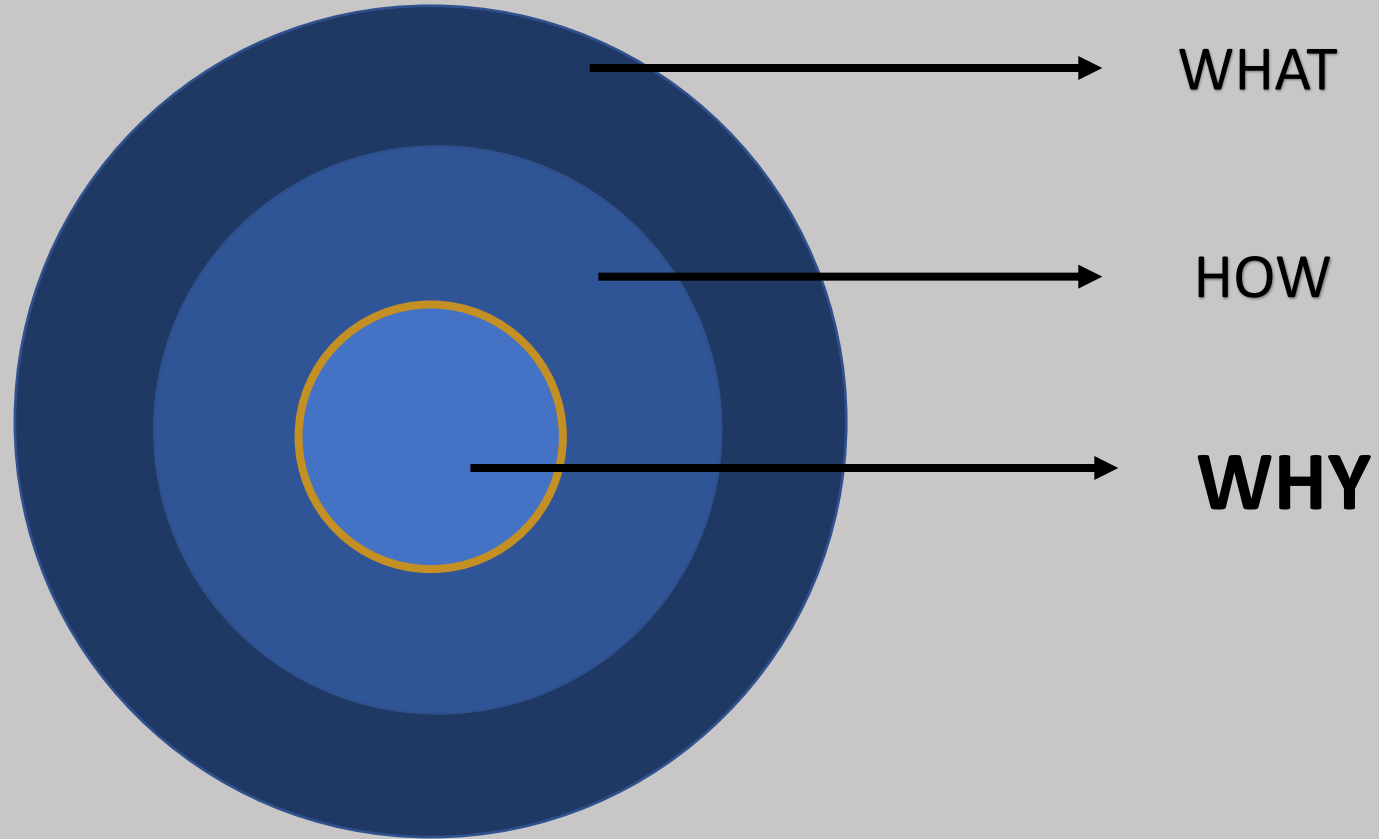


docker

Building Vezzal

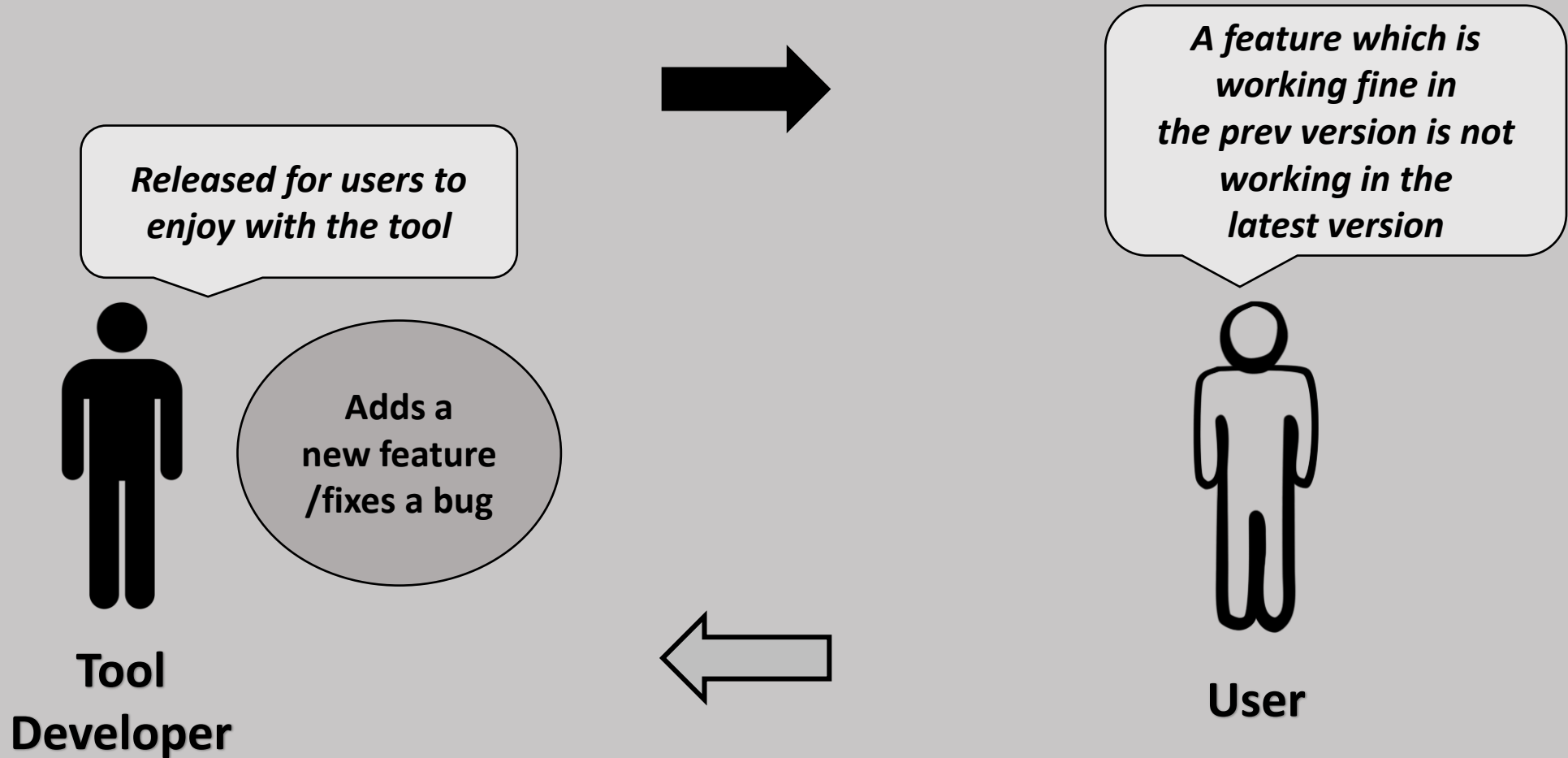


Building Vezzal



WHY

1.



WHY

2.

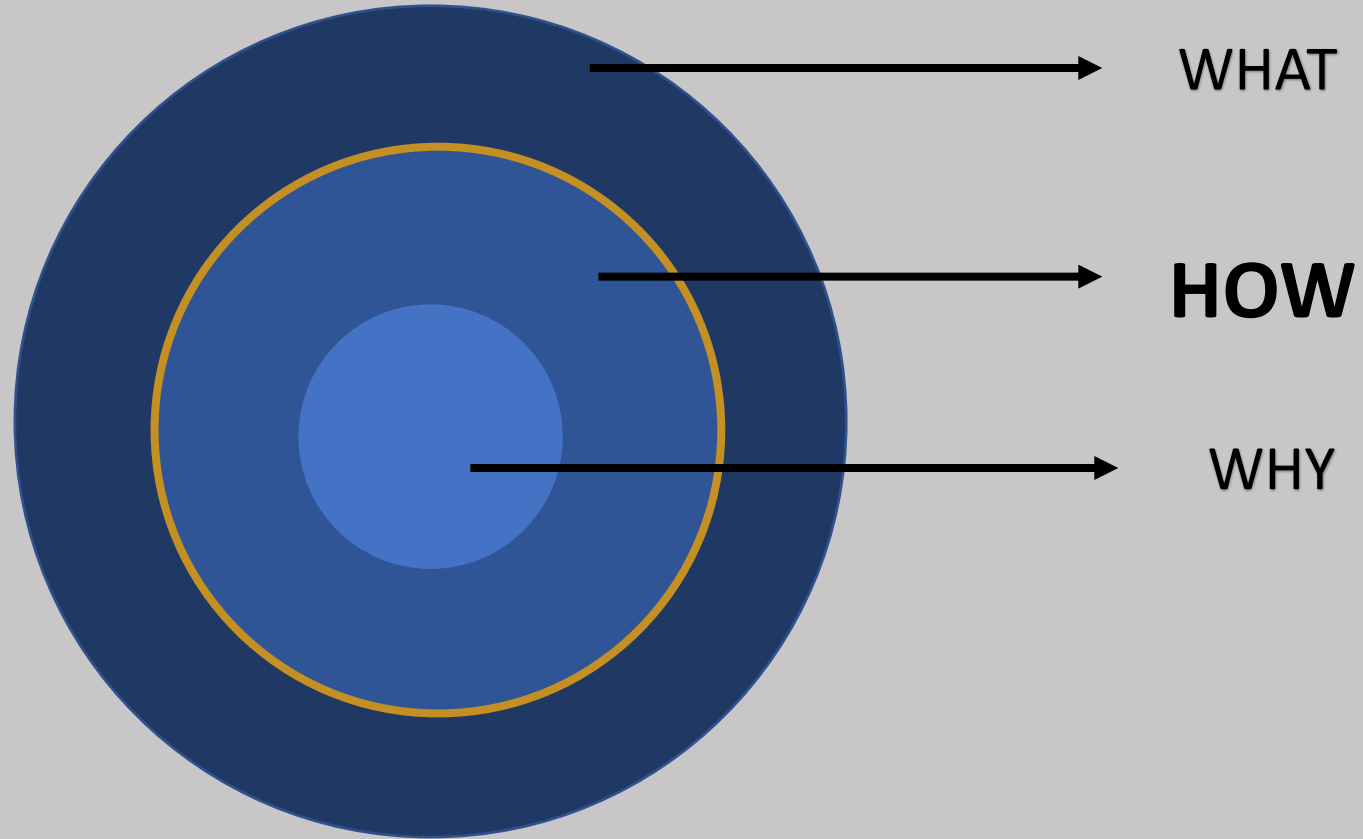
*There are many tool dependencies.
First, I must prepare the
environment to use any of the tools.
And also, I need to update my tools
and PDK to be on the track.*

*What if someone can
setup and provide a
stable design
environment so that I
could call whatever tool I
want and focus on my
design*



User

Building Vezzal



HOW

1.

Pull the code

Build the tool

Launch and test
some designs on
the tool

If the output
from the tool is
as expected, the
tool is working
fine.

If the output from
the tool is not as
expected, inform
the developer
about the bug

Ready to use

Developer
needs to work
on the issue

**Continuous
Integration
(CI)**

*Environment with all
library dependencies and
technology information*

2.

HOW



User

→ Build the requested tool

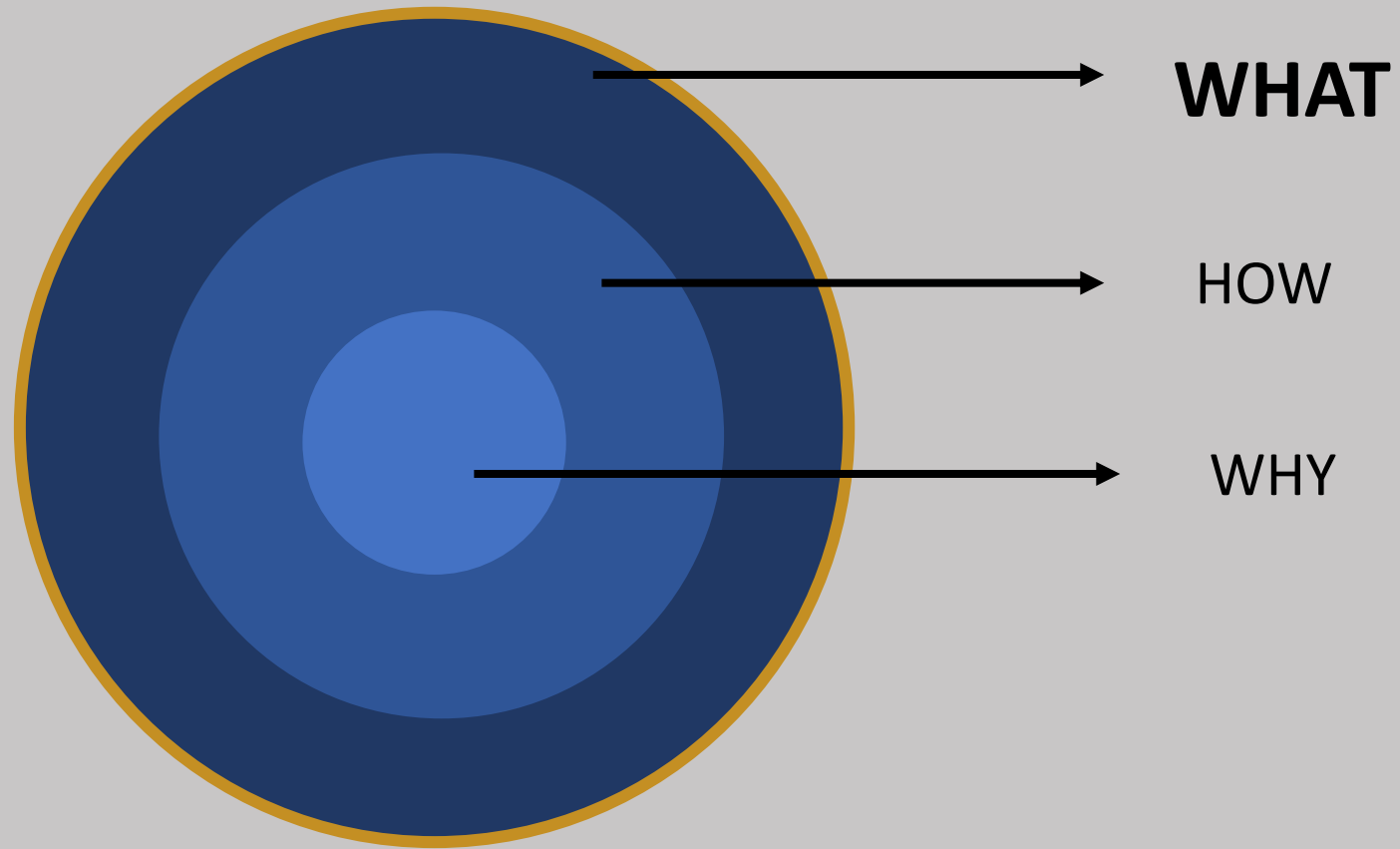
- User can selectively use the required tools for their project.
- User can understand the tool by using the examples already present in the environment.
- User can build and launch another tool and use combined tools in the same container.
-

→ Save your work

Exit the environment

Pre-built environment with all library dependencies and technology information

Building Vezzal

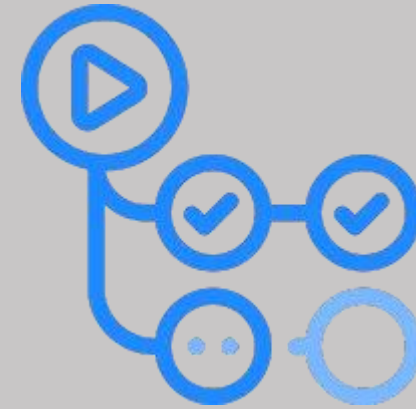


WHAT

Technologies used



Environment



**Triggering of
CI workflow**

1.

WHAT

```
docker pull vezzal/vezzal:latest  
docker exec test_<toolname>.sh
```

Continuous Integration workflow

Tool is updated and pushed to the Github repo

Latest docker image of Vezzal is pulled and launched

test.yml is triggered via Github actions

Contributor

Notifications are sent with pass/fail message

Vezzal

Updated repo is pulled and the tool is installed

The tool performs simulations on the circuits present in test cases database

"test -<tool_name>" command is triggered

Verified whether the tool is installed or not

Custom Reports are generated

optional

The reports are stored in their respective directories in the repo

Reports are compared with previous success reports present in the test cases database

"Post Analysis" script is triggered

Pass/Fail

WHAT

User mode of Vezzal

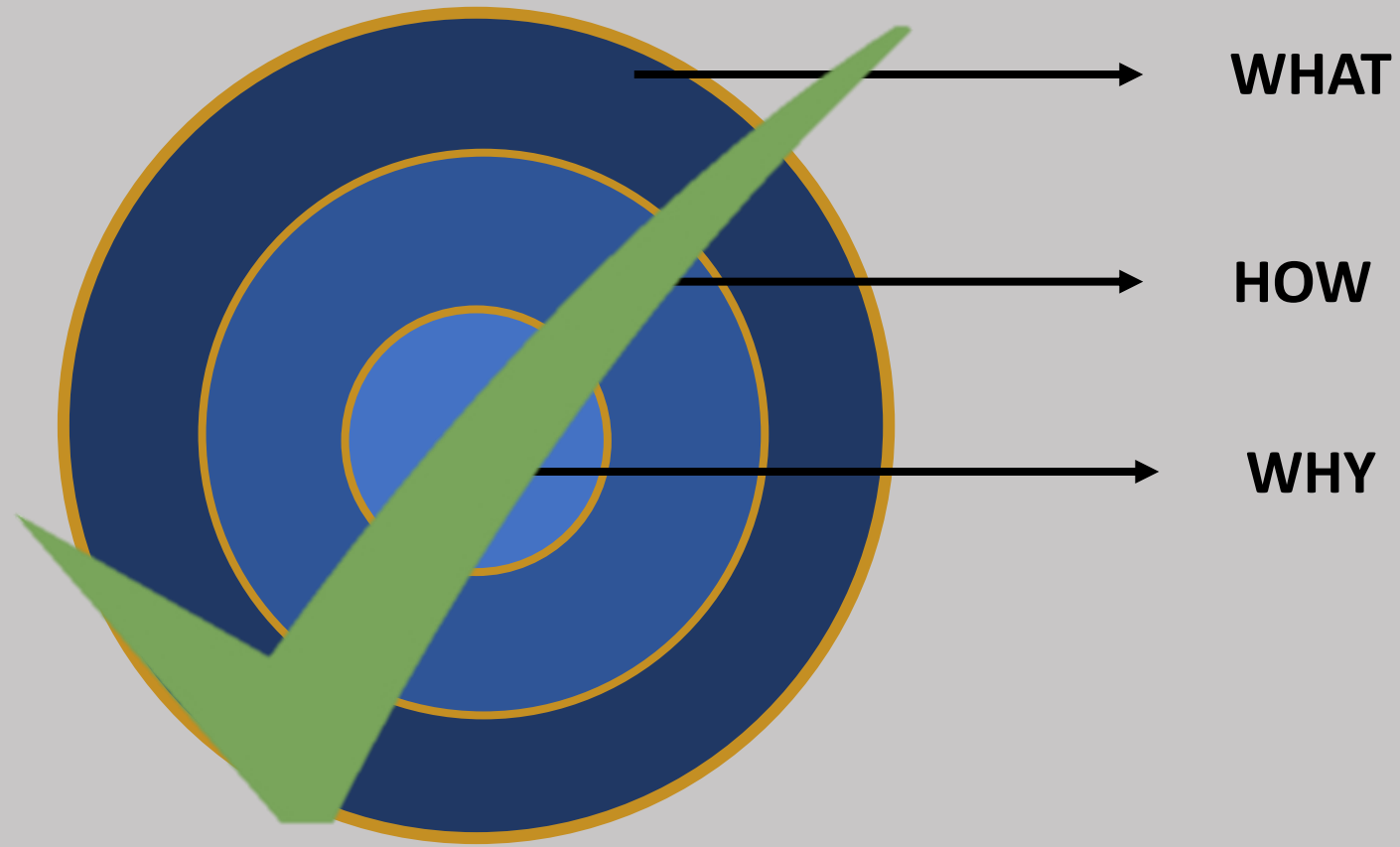
2.

Vezzal

- Tcl/tk
- GCC
- Python3
- m4
-
- OpenGL
- git
- PDKs
- Test cases database

Scripts to launch tools and build PDKs

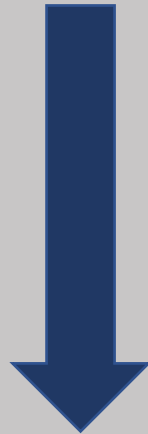
Building Vezzal



Vezzal Docker image

1.

vezzal:v1

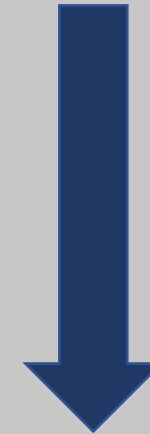


hub.docker.com/r/vezzal/vezzal

**Solution to problem statement 1
(Providing CI to opensource EDA tools)**

2.

vezzal:v2



**Solution to problem statement 2
(Providing a stable and updated
design environment for opensource
EDA tools)**

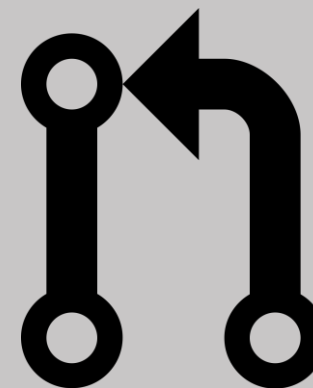
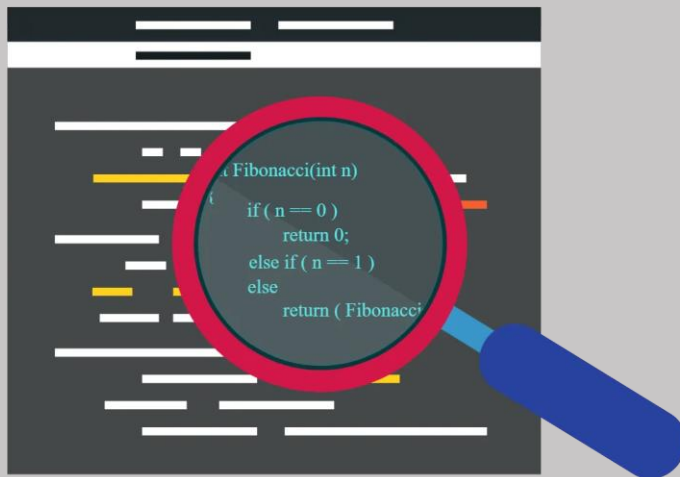
Goals

- **Maintaining a stable yet updated tools and PDK information (not only for *sky130A tech node*).**
- **Add more potential testcases and enhance the analysis of the test results reporting process.**
- **Provide a comfortable environment for entry-level learners to use Vezzal in interactive mode.**
- **Add more features to support learning and exercising open source chip development process.**

Support

github.com/lankasaicharan/vezzal

- Suggestions/feedback on the concept of Vezzal
- Code quality improvement.
- Helping hand to add more features to the Vezzal.





Thank you



I would love to have a chat regarding Vezzal and on open source chip development . Feel free to reach out to me at -



lankasaicharan@ieee.org



[lankasaicharan](#)

