

MICHIGAN STATE

UNIVERSITY

Beta Presentation

Integration & Testing Suite for ADAS Sensors

The Capstone Experience

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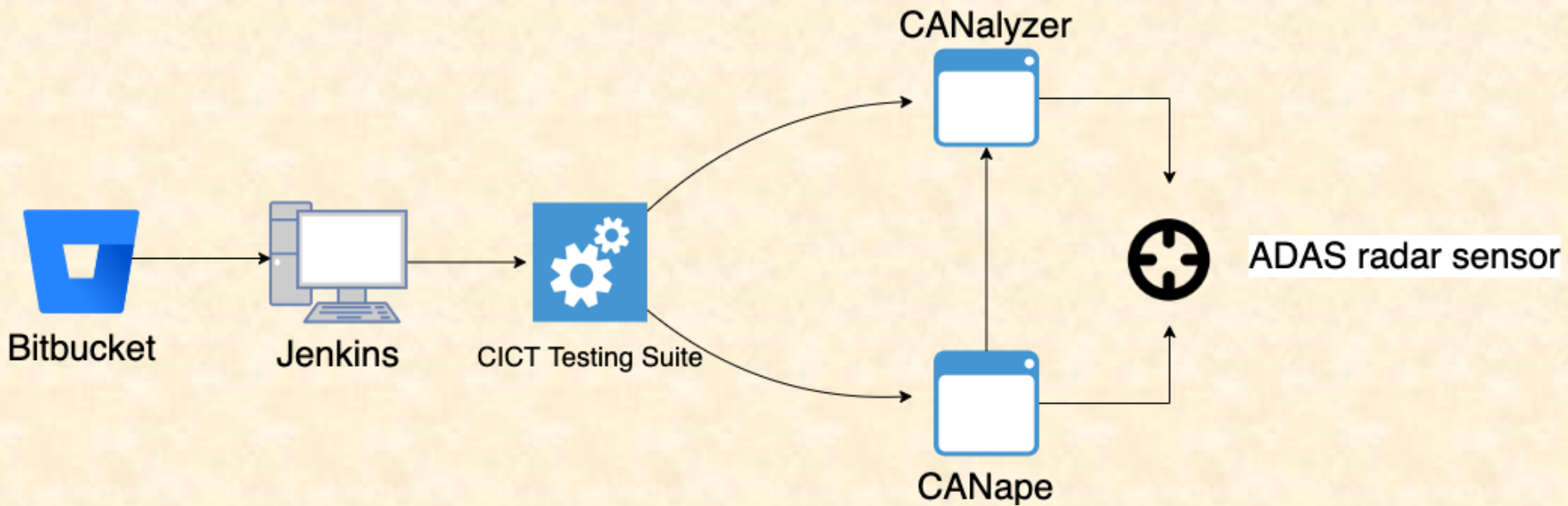
*From Students...
...to Professionals*

Project Overview

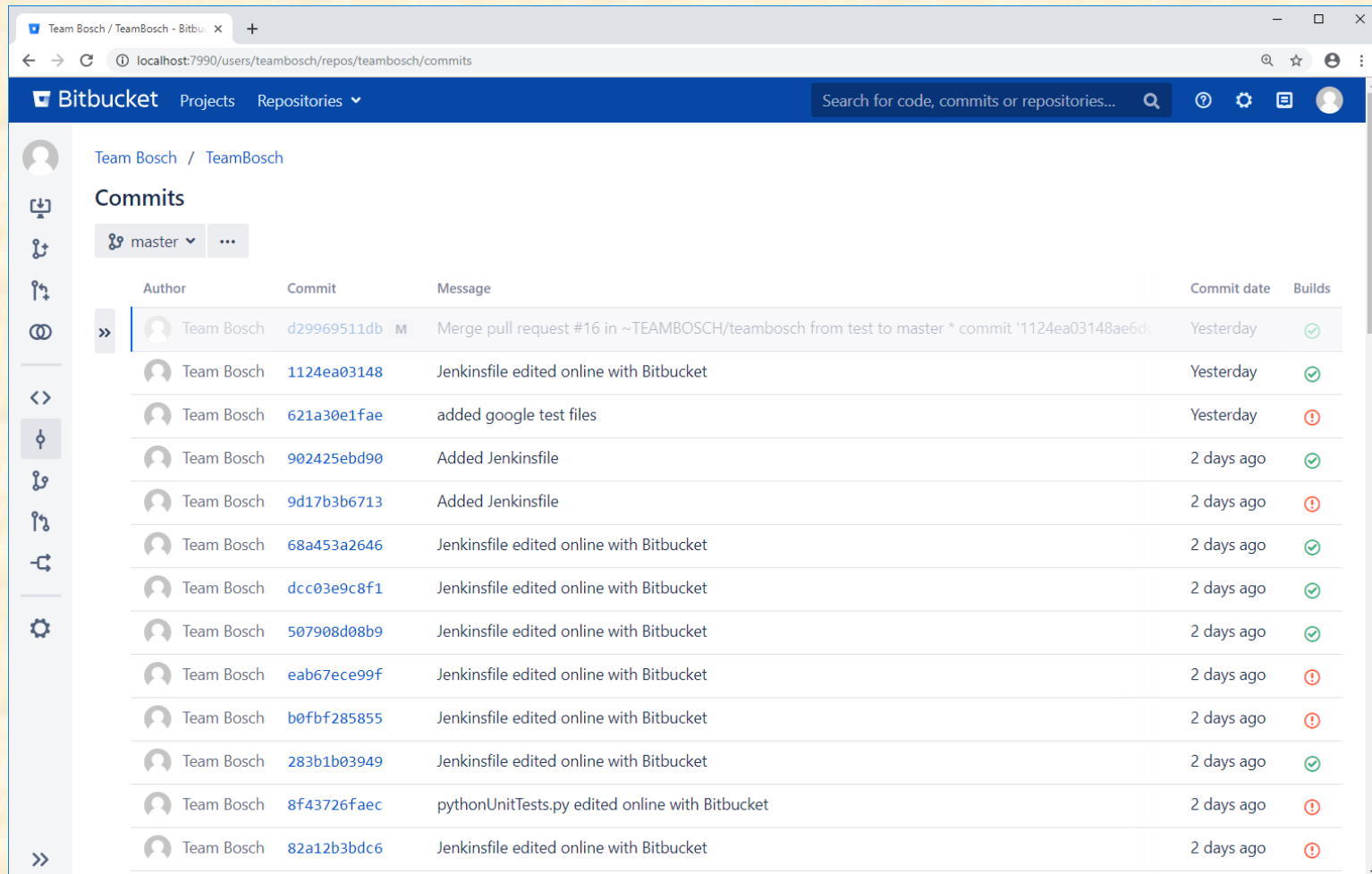
- Bosch developers are working on code for their Advanced Driver Assistance System radars
- We are building a testing suite that will automate flashing of new hexcode onto radars
- Certain hardware tests will run in testing suite before a sensor gets to a vehicle
- Saves crucial time in development process



System Architecture



Bitbucket Build Statuses



The screenshot shows the Bitbucket interface for the 'Team Bosch' repository. The 'Commits' page is displayed for the 'master' branch. A table lists recent commits, each with an author, commit ID, message, commit date, and build status. The build status is indicated by a green checkmark for successful builds and a red exclamation mark for failed builds.

Author	Commit	Message	Commit date	Builds
Team Bosch	d29969511db	Merge pull request #16 in ~TEAMBOSCH/teambosch from test to master * commit '1124ea03148bae6d...	Yesterday	✓
Team Bosch	1124ea03148	Jenkinsfile edited online with Bitbucket	Yesterday	✓
Team Bosch	621a30e1fae	added google test files	Yesterday	!
Team Bosch	902425ebd90	Added Jenkinsfile	2 days ago	✓
Team Bosch	9d17b3b6713	Added Jenkinsfile	2 days ago	!
Team Bosch	68a453a2646	Jenkinsfile edited online with Bitbucket	2 days ago	✓
Team Bosch	dcc03e9c8f1	Jenkinsfile edited online with Bitbucket	2 days ago	✓
Team Bosch	507908d08b9	Jenkinsfile edited online with Bitbucket	2 days ago	✓
Team Bosch	eab67ece99f	Jenkinsfile edited online with Bitbucket	2 days ago	!
Team Bosch	b0fbf285855	Jenkinsfile edited online with Bitbucket	2 days ago	!
Team Bosch	283b1b03949	Jenkinsfile edited online with Bitbucket	2 days ago	✓
Team Bosch	8f43726faec	pythonUnitTests.py edited online with Bitbucket	2 days ago	!
Team Bosch	82a12b3bdc6	Jenkinsfile edited online with Bitbucket	2 days ago	!



Successful Jenkins Build

The screenshot displays a Jenkins pipeline build interface. At the top, the browser address bar shows the URL: localhost:8080/blue/organizations/jenkins/bosch_multibranch_pipeline/detail/test/8/pipeline. The Jenkins header includes the user 'teambosch' and navigation tabs for Pipeline, Changes, Tests, and Artifacts. The build information shows 'Branch: test' and 'Commit: 068d238', with a duration of 14s and a timestamp of 'a day ago'. The pipeline graph shows a linear flow from Start to Build, then a parallel split into Python Tests and Google Tests, followed by an End node. The Python Tests stage contains three sub-steps: Python Tests, Radar Test 1, and Radar Test 2. The Google Tests stage contains two sub-steps: Google Test 1 and Google Tests. All steps are marked with green checkmarks, indicating a successful build. Below the graph, the console output for the 'Google Tests / Google Tests' step is visible, showing a message: 'Running Google Tests - Print Message'.



Failed Jenkins Build

jenkins / bosch_multibranch_pip | Pull Request #37: Beta Presenta | +

localhost:8080/blue/organizations/jenkins/bosch_multibranch_pipeline/detail/test/5/pipeline

teambosch < 5 > Pipeline Changes Tests Artifacts Logout

Branch: test 2m 40s Changes by teambosch498

Commit: e3a95cc 2 hours ago Branch event

Start Build Python Tests Modulation Test Google Tests End

Python Tests
Radar Test 1
Radar Test 2

Modulation Test - 3s [Restart Modulation Test](#)

- python modulationCheck.py — Windows Batch Script 2s
- Notify Bitbucket Instance <1s



Bitbucket Blocked Pull Request

The screenshot shows a Bitbucket pull request page. At the top, the browser address bar shows the URL: `localhost:7990/users/teambosch/repos/teambosch/pull-requests/37/overview`. The Bitbucket header includes the logo, navigation links for 'Projects' and 'Repositories', and a search bar. The pull request is titled 'Beta Presentation Show Automated Commenting' and is in the 'test' branch, targeting 'master'. It is currently 'OPEN'. A 'Merge' button is visible in the top right. The 'Details' section shows that 'Team Bosch' created the pull request 39 minutes ago. The changes include: 'changes to show reviewer', 'failing test for pull request reviewer', and 'Pulled Flashing out of Parallel'. On the right side of the details, it indicates '2 builds failed' with a red error icon and a 'Learn more' link. Below the details is an 'Activity' section with a text input field asking 'What do you want to say?'. The activity feed shows that 'Team Bosch' updated the reviewers 39 minutes ago, and 'Team Bosch' (as 'testreviewer1') should review this pull request 39 minutes ago. At the bottom of the page, there is a footer with the Atlassian logo and text: 'Git repository management for enterprise teams powered by Atlassian Bitbucket', 'Atlassian Bitbucket v6.7.0', and links for 'Documentation', 'Request a feature', 'About', and 'Contact Atlassian'.



What's left to do?

- Fix CANalyzer launch bug
- Create command for hexcode input
- Modularize checksum function



Questions?

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