```
\lceil \langle 7d8b50a \rangle :: \langle 2017-08-04, by Robert \rangle :: \langle Initial commit \rangle
\cline{1.5} 
Beta >
\mid \langle d922861 \rangle :: \langle 2017-08-04, by Rob A \rangle :: \langle fixing submodule issue.
Removed toTC.sh >
\downarrow < 0bf0f57 \rangle :: < 2017-08-04, by Rob A \rangle :: < Fixed submodule issue \rangle
| ⟨ a10c785 ⟩ :: ⟨ 2017-08-05, by Rob A ⟩ :: ⟨ lol notes ⟩ | ⟨ a426297 ⟩
:: \langle 2017-08-06, \text{ by Rob A} \rangle :: \langle \text{Added enum for bot actions and the bot} \rangle
class to be filled in. \rightarrow \downarrow \langle c16594f \rangle :: \langle 2017-08-06, by Rob A \rangle :: \langle
testing for slack integration \rightarrow \mid \langle ab6379d \rangle :: \langle 2017-08-07, by Rob A \rangle
:: \langle removed slack test file \rangle \downarrow \langle bdfb595 \rangle :: \langle 2017-08-07, by Rob A
> :: \langle \text{slight improvements to bot class} \rangle \mid \langle \text{e77f0d9} \rangle :: \langle 2017-08-07,
by Wen P \rangle :: \langle Added some basic enums; we should add more as we figure
out the bot's hardware > \nmid < 51efa9d > :: < 2017-08-07, by Rob A > :: <
minor updates to bot actions for future us to fill in (actions enum). > \nmid
\langle 255bb0e \rangle :: \langle 2017-08-07, by Rob A \rangle :: \langle updates to bot class \rangle \nmid \langle
775db69 \rangle :: \langle 2017-08-18, by Rob A \rangle :: \langle update to bot \rangle \downarrow \langle 17319a8 \rangle
:: \langle 2017-08-29, by Rob A \rangle :: \langle updated gitignore \rangle \nmid \langle 12ad864 \rangle :: \langle
2017-09-09, by Wen P \rangle :: \langle Updated sdk? \rangle \nmid \langle a3c0292 \rangle :: \langle 2017-09-09,
by Wen P \rangle :: \langle Updated sdk \rangle \nmid \langle c2e111a \rangle :: \langle 2017-09-09, by Wen P
> :: < Finish updating > \not < 94f2f8b > :: < 2017-09-09, by Wen P > ::
\langle Created standalone package for enums \rangle \nmid \langle c2165f3 \rangle :: \langle 2017-09-10,
by Rob A \gt :: \lt added telebop class and 2 auton classes — unfilled \gt \blacktriangleright
\langle 13b7c9e \rangle :: \langle 2017-09-11, by Rob A \rangle :: \langle Added PDFs \rangle \blacktriangleright \langle d1bcac3

angle :: \langle 2017-09-14, by Rob A 
angle :: \langle Learning rev stuff and making robot
do things for activities fair > \nmid < 4c17073 > :: < 2017-09-15, by Rob A
> :: < Finished tester bot > 
ightharpoonup < 75f169e > :: < 2017-09-16, by Rob A

angle::\ ig< moved test bot stuff into a seperate folder and made some minor
adjustments to the bot class. \rangle \mid \langle 2f7d080 \rangle :: \langle 2017-09-18, \text{ by Rob A} \rangle
> :: ⟨ Some changes to telebop — started wrok on field centric drive > ▶

⟨ b8f69d2 ⟩ :: ⟨ 2017-09-20, by Rob A ⟩ :: ⟨ Split field centric drive

work into a seperate class \rangle \downarrow \langle f707fe1 \rangle :: \langle 2017-09-22, by Rob A \rangle
:: \langle lol field centric drive in 2017 \rangle \nmid \langle 0d28392 \rangle :: \langle 2017-09-22, by
Wen P \rangle :: \langle bzzt bzzt \rangle \mid \langle 35327ec \rangle :: \langle 2017-09-22, by Wen P \rangle ::
\langle Made better readme for teamcode \rangle \downarrow \langle be64251 \rangle :: \langle 2017-09-22, by
Wen P \rangle :: \langle added motor related stuff to Bot class, made init function
have arguments \rightarrow \nmid \langle 110b66e \rangle :: \langle 2017-09-22, by Wen P \rangle :: \langle hyperlul
fixed that interesting drive orientation \rightarrow \vdash \uparrow \uparrow 7f16776 \rightarrow :: \langle
2017-09-22, by Wen P \rangle :: \langle Worked on enums. Migrated movement enum to
ADT to allow for Angle and easier drive function maker > | | | | | | | | | | | | | | 97ebcb4 > ::
\langle 2017-09-22, by Wen P \rangle :: \langle removed impo from Bot.java \rangle \mid \mid \langle 9ca949b
> :: ⟨ 2017-09-22, by Rob A > :: ⟨ Worked on Field Centric Driving, NOTE:
problem with setting negative powers on wheels >
\downarrow \langle fb7d18d \rangle :: \langle 2017-09-22, by Rob A \rangle :: \langle Merge branch 'master' of
```

https://github.com/0207-Critical-Mass/0207-Relic-Recovery > ┡ ⟨ a91f55b angle :: \langle 2017-09-22, by Rob A angle :: \langle fixed the field centric drive (I think) \rightarrow \blacktriangleright \langle ebfe628 \rangle :: \langle 2017-09-22, by Rob A \rangle :: \langle commented the field centric drive code - requires testing still. > ┡ < 9dc5483 > :: \langle 2017-09-22, by Rob A \rangle :: \langle Moved around old testbot opmodes \rangle \nmid \langle 686665b > :: \langle 2017-09-22, by Rob A \rangle :: \langle Minor changes to the field centric drive opmode \rangle \downarrow \langle 6a16c6b \rangle :: \langle 2017-09-22, by Robert \rangle :: \langle Update README.md \rightarrow \downarrow \langle bfedca0 \rangle :: \langle 2017-09-23, by Rob A \rangle :: \langle minor change to bot class and bug fixes in Field Centric $> \not$ \langle 0fd860a $> :: \langle$ 2017-09-25, by Wen P \rangle :: \langle made it lowercase folder \rangle \nmid \langle 7c3b8c8 \rangle :: \langle 2017-09-25, by Wen P \gt :: < Added some comments \gt \vdash \vdash \vdash < 033b1f4 \gt :: \langle 2017-09-26, by Rob A \rangle :: \langle Added OpMode for calibration of the gyro. \rightarrow \mid \mid \langle 8dac403 \rangle :: \langle 2017-09-26, by Rob A \rangle :: \langle Minor changes to Field Centric so that we can effectively test the new CalibrateGyro opmode > ▶ | \langle 990d96c \rangle :: \langle 2017-09-29, by Wen P \rangle :: \langle Worked on bot clas, added imu related code, added simple example drive function > $ightharpoonup \langle$ c0f39f7 \rangle :: \langle 2017-09-29, by Wen P \rangle :: \langle Merge branch 'master' of https://github.com/0207-Critical-Mass/0207-Relic-Recovery > | < 322df22 > :: < 2017-09-29, by Wen P > :: < created the teleopautobalance teleop \rightarrow brack \langle 9d6d133 angle :: \langle 2017-09-29, by Wen P brack :: \langle removed extra created by comment \rightarrow \downarrow \leftarrow a8bc827 \rightarrow :: \leftarrow 2017-09-29, by Wen P \rightarrow :: \leftarrow added a comment, but finishing yp for the day so logging it even though its small \rightarrow brack \langle 7a8e6f5 angle :: \langle 2017-10-08, by Rob A angle :: \langle field centric thing \rightarrow brack \leftarrow 72abd86 \rightarrow :: < 2017-10-08, by Rob A \rightarrow :: < stuff for workshop \rightarrow ightharpoonup \langle d97f8be \rangle :: \langle 2017-10-08, by Wen P \rangle :: \langle Added basic tank drive stuff, pushing so wen can fix natural log \downarrow \downarrow \langle 531dfd7 \rangle :: \langle 2017-10-20, by Rob A \rangle :: \langle updates from work session 10/20/17 \rangle \nmid \langle ac631b8 \rangle :: \langle 2017-10-20, by Rob A \rangle :: \langle updates from work session 10/20/17 \rangle \langle feb2bf9 \rangle :: \langle 2017-10-23, by Rob A \rangle :: \langle Bot class updates \rangle \not 95786bf > :: < 2017-10-23, by Rob A > :: < bot changes + vuforia test >ightharpoonup \langle d3a3a12 \rangle :: \langle 2017-10-23, by Rob A \rangle :: \langle updates to autons and bot class > \nmid < 34ea701 > :: < 2017-10-23, by Rob A > :: < Added subclass removed constructor from bot class $\rangle \mid \langle 55404b0 \rangle :: \langle 2017-10-23, by$ Rob A \rangle :: \langle removed the autonbot and telebopbot classes to make room for wen's new system \rangle \downarrow \langle 101441f \rangle :: \langle 2017-10-27, by Rob A \rangle :: \langle updated to 3.0-> gradles etx change \rightarrow \uparrow < e0ac1bd \rightarrow :: < 2017-10-27, by Rob A \rightarrow :: \langle PUSH \rangle \nmid \langle a7e7e08 \rangle :: \langle 2017-10-30, by Rob A \rangle :: \langle edits to bot class and telebop $\rangle \mid \langle \text{cab994f} \rangle :: \langle 2017-10-30, \text{ by Rob A} \rangle :: \langle \text{removed} \rangle$ field centric drive opmode > \nmid < 8897bf7 > :: < 2017-10-31, by Rob A > :: \langle Added more functions and motors to bot class, cleaned autons up using improved class. \rangle \nmid \langle 8e9a547 \rangle :: \langle 2017-11-01, by Wen P \rangle :: \langle updated sdk to 3.5 \rangle \downarrow \langle 501e3f7 \rangle :: \langle 2017-11-01, by Wen P \rangle :: \langle added arm servo stuff to bot, hopefully it works \downarrow \downarrow \langle 5f64187 \rangle :: \langle 2017-11-01, by Wen P \gt :: < idk possibly added arm stuff \gt \blacktriangleright \blacktriangleright \leftarrow b5daab5 \gt :: <

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2017-11-02, by Wen P \rangle :: \langle added comments for burto \rangle | \rightarrow | \rightarrow
>:: \langle 2017-11-02, by Rob A >:: \langle telebop update > \vdash
 \mid \cdot \mid \langle 3e66963 \rangle :: \langle 2017-11-02, \text{ by Rob A} \rangle :: \langle Merge branch 'master' of 
https://github.com/Dwight-Englewood-Robotics/0207-Relic-Recovery > | | | <
24d0854 \rangle :: \langle 2017-11-03, by Wen P \rangle :: \langle added more comment: \rangle | | \langle
844d263 \rangle :: \langle 2017-11-03, by Wen P \rangle :: \langle added OneButtonMan Teleop for
 testing motor and configuration \downarrow | \downarrow < 93b6c0a \downarrow :: \langle 2017-11-03, by Wen
P > :: < chagned some stuff in bot and teleop to make other stuff work >
\mid \cdot \mid \langle 52c710f \rangle :: \langle 2017-11-03, \text{ by Wen P} \rangle :: \langle \text{added start of system} \mid \cdot \mid \langle 52c710f \rangle :: \langle 52c710
for the ASM based robot/subsystem design: \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ fc1f16e \cdot :: \ \
2017-11-03, by Wen P \rangle :: \langle fixed a type making the armBottomExtendyServo
not work properly \rightarrow | | \langle 8de32d8 \rangle :: \langle 2017-11-03, by Rob A \rangle :: \langle
rob bot stuff > ⊢□-
  \mid \cdot \mid \langle 3a80428 \rangle :: \langle 2017-11-03, \text{ by Rob A} \rangle :: \langle \text{Merge branch 'master'} \rangle
of https://github.com/Dwight-Englewood-Robotics/0207-Relic-Recovery > h |
  \mid \cdot \mid \langle 1c4c1a9 \rangle :: \langle 2017-11-03, \text{ by Wen P} \rangle :: \langle \text{Merge branch 'master' of} \mid \langle 1c4c1a9 \rangle :: \langle 1c4c1a9
https://github.com/Dwight-Englewood-Robotics/0207-Relic-Recovery > ┡ │ ⟨
788023e \rangle :: \langle 2017-11-03, by Rob A \rangle :: \langle Random crap \rangle \biguplus

ightharpoonup \langle 3aee82b \rangle :: \langle 2017-11-03, by Rob A \rangle :: \langle Merge branch 'master'
of https://github.com/Dwight-Englewood-Robotics/0207-Relic-Recovery \gt \vdash
 \mid \cdot \mid \langle 749bdff \rangle :: \langle 2017-11-03, by Wen P \rangle :: \langle changed onebuttonman \mid \cdot \mid \langle 749bdff \rangle :: \langle
 so it doesn't have the bad releaseTheKraken \rangle | \neg | \rightarrow | | | \langle 607df86 \rangle :: \langle
 2017-11-03, by Rob A \gt :: \lt changed to range clip \gt \nvdash \mid
  ├ | ⟨ 3a01764 ⟩ :: ⟨ 2017-11-03, by Rob A ⟩ :: ⟨ Merge branch 'master'
of https://github.com/Dwight-Englewood-Robotics/0207-Relic-Recovery > | |
 \mid \cdot \mid \langle 8c73387 \rangle :: \langle 2017-11-03, \text{ by Wen P} \rangle :: \langle \text{Merge branch 'master' of} \mid \cdot \mid \langle 8c73387 \rangle :: \langle 8c7387 \rangle :: \langle 8c73387 \rangle :: \langle 8c7387 \rangle :: \langle 8c738 \rangle 
https://github.com/Dwight-Englewood-Robotics/0207-Relic-Recovery > | | <
ce687d2 > :: ⟨ 2017-11-03, by Rob A > :: ⟨ idk > ⊢

ightharpoonup \langle ff04520 \rangle :: \langle 2017-11-03, by Rob A \rangle :: \langle asd \rangle \langle 8922528 \rangle :: \langle
2017-11-03, by Wen P \gt :: \langle chjanged arm extendy values to make them work

ightharpoonup  4347415  > ::  < 2017-11-03, by Rob A  > ::  < k         fc14508    ::
\langle 2017-11-03, by Rob A \rangle :: \langle Minor fix to gyro turns \rangle | \cdot \rangle \langle 95a13fd \rangle
 :: \langle 2017-11-05, \text{ by Rob A} \rangle :: \langle \text{pre match pushes} \rangle \mid \langle 12b75b4 \rangle :: \langle
2017-11-05, by Wen P \gt :: < lots of natural log from today from rob/wen
teleops made in competition, made them more readable \rangle \mid \langle 65994f9 \rangle :: \langle
2017-11-06, by Wen P \rangle :: \langle added intellij templates - must be manually
added to intellij, allows for super easy new teleop/auton creation > |
\langle e6dbe58 \rangle :: \langle 2017-11-08, by Wen P \rangle :: \langle Removed Useless comment
and added a newline to readme \rightarrow \uparrow \langle 32c3e3c \rangle :: \langle 2017-11-09, by Rob
A \rangle :: \langle Finished the test bench code. Began adding new servos to the
bot class for the flipper and two release servos (now tested). TODO:
 find equilibrium distance for two release servos, find correct points for
```

release and flip actions. \rightarrow \blacktriangleright < 6c68edf \rightarrow :: < 2017-11-09, by Rob A \rightarrow \cdot : \langle Commented out end game servos from bot class and teleop. \rangle \nmid \langle $4e0d78f > :: \langle 2017-11-09, by Rob A \rangle :: \langle Cleaned up different opmodes$ into respective packages (Auton, Teleop, Testing, etc.) for cleanliness > brack < 69b994a > :: < 2017-11-09, by Rob A > :: < cleaned the bot class by removing unnecessary comments and adding functions for things that could be automated. \rangle | \langle 977d79d \rangle :: \langle 2017-11-09, by Rob A \rangle :: \langle Moved hardware mapping to the bot class constructor to make loading times faster when pressing init on the drivers station. \rightarrow \nmid \langle 905902e \rangle :: \langle 2017-11-09, by Rob A \rangle :: \langle Changed the inputs to the constructor of the bot class to take over the role of setting hardwaremap references to motor, servo, sensor etc objects. Also moved telemetry to the bot class. Each of these now have references within the bot class to eleviate the need for passing them in the future for other methods. This has the additional effect of making our init function faster (Also removed the ∠ Added an invert drive mode to the bot class' tank drive function. ∠ ► \langle b6265f9 \rangle :: \langle 2017-11-10, by Rob A \rangle :: \langle Minor change to ordering of declarations in bot class to make more sense. $\rangle \nmid \langle 7ab27f4 \rangle :: \langle$ 2017-11-13, by Rob A \gt :: \lt Renamed wen's wip bot class for confusion reasons. Also added the Enderbot's closable vuforia localizer so that we can use both vuforia and OpenCV in our code. \rightarrow \downarrow < 9b77560 \rightarrow :: <2017-11-13, by Rob A \rangle :: \langle added enderbot's default exception handler for if the bot randomly crashes while on the field. Will auto restart the app. > └─[HEAD]─[master]─[remotes/origin/HEAD]─[remotes/origin/master]─ falla29 > :: < 2017-11-13, by Wen P > :: < Added script which pretty prints our git history >